

July 1, 2016

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: 160-17805-1

TestAmerica Sample Delivery Group: SL2219
Client Project/Site: F13-002

For:

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

Attn: Mr. Scot Fitzgerald



Authorized for release by:
7/1/2016 1:41:29 PM

Jayna Awalt, Project Manager II
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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Job ID: 160-17805-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2M Hill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
July 1, 2016
Attention: Scot Fitzgerald

SDG : SL2219
Number of Samples : 2 samples
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : June 15, 2016

II. Introduction

On September 24, 1 samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and receipt checklists for documentation of any variations on receipt conditions and temperature. Upon receipt, 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: F13-002

Per SIR16-435, Alkalinity was added to the analyte list for method 310.1.

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 an LCS/LCS duplicate.

Note: For Metals analyses, per standard practice, all 6020 water and soil samples are initially prepared at 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate flagging unless otherwise noted in the case narrative.

For solid matrices, all Metals analyses (including Hg) use a Standard Reference Material for the Laboratory Control Sample (LCS). Certificate for this source material may be obtained from TASL.

For Anion analysis, samples have been started at a 2x dilution per CHPRC direction. The samples are flagged accordingly with a "D" flag if sample concentration is above the MDL/RL. Non-conformance will be included in the below section only if dilution is greater than 2x.

For WTPH methods, the lab utilizes method 8015B. Per CHPRC direction, the method name in the electronic data has been modified to read WTPH in the place of 8015B.

Per CHPRC direction (June 2014), Boron will be reported for Metals using method 6010. Boron will no longer be reported by method 6020.

Per CHPRC direction, due to the short hold times for Nitrate, Nitrite and Phosphate by IC (48 hours) as well as pH analysis (24 hours), a SIR request is not needed when samples are run outside 1x hold but within 2x hold. A narrative comment will be included below if a



Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Job ID: 160-17805-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

sample is run outside the lab-specified hold time for waters.

For extractable and volatile organic analyses, several analytes are considered poor performers and will not meet CHPRC QC limits. Per CHPRC direction, the lab's statistical limits have been reported. Excursions outside these statistical limits will include a non-conformance in the sections below.

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 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. For Metals analyses, per standard practice, all solid samples are initially prepared at a 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate qualification unless otherwise noted in the case narrative.
- **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.

Volatiles

Batch: 257078

The matrix spike (MS) recoveries for analytical batch 160-257078 were outside control limits for Chloroform and Trichloroethene. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS/LCSD recoveries. These analytes have been qualified accordingly with a "T" flag in the associated samples.

The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with batch 257078 were performed at a 5X dilution. Due to the high level of Carbon Tetrachloride present in the parent sample, the concentration of Carbon Tetrachloride in the MS/MSD was also above the instrument calibration range. There are no MS/MSD recoveries for Carbon Tetrachloride calculated, however a LCS/LCSD was performed to demonstrate accuracy and replicate precision for Carbon Tetrachloride. The data has been reported and qualified. (160-17822-B-4 MS) and (160-17822-C-4 MSD)

The following samples were analyzed at reduced volume due to high concentrations of target analytes: (160-17822-B-4 MS) and (160-17822-C-4 MSD). The reporting limits have been elevated by the appropriate factor. These analytes have been qualified accordingly with a "D" flag in the associated samples.

TIC

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Job ID: 160-17805-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Batch: 258894

The following samples in TIC batch 160-258894 were diluted to bring the concentrations of the target analyte within the calibration range: B35JT6 (160-17805-1) and B35K10 (160-17805-2). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

There were no observations or non-conformances associated with the following methods:

TDS
Alkalinity
Cyanide
TOC

We certify that this data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager or designee and the laboratory's client services representative as verified by their signature on this report.

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager





SAMPLE ISSUE RESOLUTION	SIR NUM	SIR16-435
	REV NUM	0
	DATE INITIATED	6/22/2016

SAMPLE EVENT INFORMATION

SAF NUM(S) F13-002
OPERABLE UNIT(S) 200-ZP-1
PROJECT(S) 200W P&T EXTRAC
SAMPLE EVENT TITLE(S) 200W Pump & Treat Extraction Wells
LABORATORY TestAmerica St. Louis

SAMPLING INFORMATION

NUMBER OF SAMPLES 2
SAMPLE NUMBERS B35JT6, B35K10
SAMPLE MATRIX WATER
COLLECTION DATE 6/14/2016 - 6/14/2016
SDG NUM SL2219

ISSUE BACKGROUND

CLASS Sample Management Issues
TYPE Addition of Analyses
DESCRIPTION The project is requesting to have the 2320_ALKALINITY: GW 01 service list reported for Alkalinity. This would include Alkalinity, Bicarbonate, Carbonate alkalinity and Hydroxylion.

DISPOSITION

DESCRIPTION Add the appropriate constituents to the samples listed above.
JUSTIFICATION Final Disposition: Add the analysis as discribed. Accepted per telecon.
 SUBMITTED BY: Scot Fitzgerald DATE: 06/22/2016
 ACCEPTED BY: Jayna Awalt DATE: 06/22/2016

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-17805-1

SDG Number: SL2219

Login Number: 17805

List Number: 1

Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	1.6°
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F13-002-2068	PAGE 1 OF 1
COLLECTOR Barb Briggs JCHPRC	SL2219	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 299-E33-344, YE28 Wk 4		PROJECT DESIGNATION 200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F13-002	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. GWS-471		FIELD LOGBOOK NO. HNF-N-491-15	ACTUAL SAMPLE DEPTH N/A	COA 303111	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL
SHIPPED TO TestAmerica St. Louis	N/A	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO. 77652007 0359	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME	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	*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HCl or H2SO4 to pH <2/Cool 14 Days	7 Days	aGS*	1	60mL	9060_TIC: COMMON;	JUN 14 2016	1039	WATER
		Cool <=6C	28 Days	aG	1	60mL	9060_TIC: COMMON;			
		Cool <=6C	7 Days	G/P	1	125mL	160.1_TDS: COMMON;			
		Cool <=6C	14 Days	G/P	1	60mL	310.1_ALKALINITY: COMMON (Add-on);			
		NaOH to pH >=12/Cool <=6C	14 Days	G/P	1	60mL	9012_CYANIDE: COMMON;			

SAMPLE NO.	MATRIX*	RECEIVED BY/STORED IN	DATE/TIME
B35JT6	WATER	SSU-1	JUN 14 2016 1215
		Lesly Walcott	JUN 14 2016 1320
		FEDEX	JUN 14 2016 1400
		JILL CLARKE	JUN 14 2016 0915

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM Barb Briggs		SSU-1	JUN 14 2016 1215
RELINQUISHED BY/REMOVED FROM SSU-1		Lesly Walcott	JUN 14 2016 1320
RELINQUISHED BY/REMOVED FROM Lesly Walcott		FEDEX	JUN 14 2016 1400
RELINQUISHED BY/REMOVED FROM FEDEX		JILL CLARKE	JUN 14 2016 0915
RELINQUISHED BY/REMOVED FROM			
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		F13-002-2123	PAGE 1 OF 1
COLLECTOR Barb Briggs JCHPRC	SL2219	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7C
SAMPLING LOCATION 299-E33-350, YE29 Wk 4		PROJECT DESIGNATION 200W Pump & Treat - Extraction Well Water Sampling		SAF NO. F13-002	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. 6W05-471		FIELD LOGBOOK NO. HNF-N-491-15	ACTUAL SAMPLE DEPTH N/A	COA 303111	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. 17765 2007 0389	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	COOL <=6C	HCl or H2SO4 to pH <2/Cool	COOL <=6C	HCl or H2SO4 to pH <2/Cool	COOL <=6C	NaOH to pH >=12/Cool <=6C
A=Air DL=Drum L=Liquid DS=Drum S=Solids L=Liquid O=Oil S=Soil SF=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HOLDING TIME	28 Days	28 Days	7 Days	14 Days	14 Days	14 Days
		TYPE OF CONTAINER	aG	aG	G/P	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	60mL	60mL	125mL	60mL	60mL	60mL
		SAMPLE ANALYSIS	9060_TIC; COMMON;	9060_TOC; COMMON;	160_1_TDS; COMMON;	310_1_ALKALINITY; COMMON INSTRUCTIONS (Add-on);	9012_CYANIDE; COMMON;	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B35K10	WATER	JUN 14 2016	1131

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM Barb Briggs JCHPRC	DATE/TIME JUN 14 2016 1215	RECEIVED BY/STORED IN SSU-1	DATE/TIME JUN 14 2016 1215	TRVL-16-137 (1) 8260_VOA_GCMS: CH 01 {Chloromethane}; 8260_VOA_GCMS: COMMON {Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride}; 8260_VOA_GCMS: COMMON (Add-on); {cis-1,2-Dichloroethylene};	
RELINQUISHED BY/REMOVED FROM Lesly West JCHPRC	DATE/TIME JUN 14 2016 1320	RECEIVED BY/STORED IN Jill Clark	DATE/TIME JUN 14 2016 1320		
RELINQUISHED BY/REMOVED FROM Lesly West JCHPRC	DATE/TIME JUN 14 2016 1400	RECEIVED BY/STORED IN Jill Clark	DATE/TIME JUN 14 2016 1400		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	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		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	
PRINTED ON 5/5/2016		FSR ID = FSR32147		TRVL NUM = TRVL-16-137	



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Ship date:

Tue 6/14/2016

RICHLAND, WA US

Actual delivery:

Wed 6/15/2016 9:15 am

EARTH CITY, MO US

Delivered

Signed for by: J. CLARKE

Travel History

Date/Time	Activity	Location
6/15/2016 - Wednesday		
9:15 am	Delivered	EARTH CITY, MO
7:17 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:11 am	At local FedEx facility	EARTH CITY, MO
5:05 am	At destination sort facility	BERKELEY, MO
4:21 am	Departed FedEx location	MEMPHIS, TN
12:44 am	Arrived at FedEx location	MEMPHIS, TN
6/14/2016 - Tuesday		
5:02 pm	Left FedEx origin facility	PASCO, WA
3:26 pm	Shipment information sent to FedEx	
3:04 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	776520070359	Service	FedEx Standard Overnight
Weight	15 lbs / 6.8 kgs	Dimensions	13x10x15 in.
Delivered To	Shipping/Receiving	Total pieces	1
Total shipment weight	15 lbs / 6.8 kgs	Terms	Recipient
Shipper reference	GWS-471	Packaging	Your Packaging
Special handling section	Deliver Weekday, Additional Handling Surcharge		



Search or tracking number | Sub

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Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
T	MS, MSD: 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.

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL
D	The reported value is from a dilution.

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)

Method Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
 SDG: SL2219

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
9012B	Cyanide, Total and/or Amenable	SW846	TAL SL
9060	Organic Carbon, Total (TOC)	SW846	TAL SL
9060	Carbon, Total and Total Inorganic	SW846	TAL SL

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



July 1, 2016

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-17805-1	B35JT6	Water	06/14/16 10:39	06/15/16 09:15
160-17805-2	B35K10	Water	06/14/16 11:31	06/15/16 09:15

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

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 8260C - Volatile Organic Compounds (GC/MS)

Client Sample ID: B35JT6
Date Collected: 06/14/16 10:39
Date Received: 06/15/16 09:15

Lab Sample ID: 160-17805-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			06/20/16 15:45	1
Chloroform	0.39	J T	1.0	0.10	ug/L			06/20/16 15:45	1
Chloromethane	0.10	U	2.0	0.10	ug/L			06/20/16 15:45	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			06/20/16 15:45	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			06/20/16 15:45	1
Trichloroethene	0.25	U T	1.0	0.25	ug/L			06/20/16 15:45	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			06/20/16 15:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					06/20/16 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		81 - 130		06/20/16 15:45	1
Dibromofluoromethane (Surr)	100		81 - 124		06/20/16 15:45	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 129		06/20/16 15:45	1
Toluene-d8 (Surr)	113		87 - 128		06/20/16 15:45	1

Client Sample ID: B35K10
Date Collected: 06/14/16 11:31
Date Received: 06/15/16 09:15

Lab Sample ID: 160-17805-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			06/20/16 16:08	1
Chloroform	0.32	J T	1.0	0.10	ug/L			06/20/16 16:08	1
Chloromethane	0.10	U	2.0	0.10	ug/L			06/20/16 16:08	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			06/20/16 16:08	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			06/20/16 16:08	1
Trichloroethene	0.25	U T	1.0	0.25	ug/L			06/20/16 16:08	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			06/20/16 16:08	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					06/20/16 16:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		81 - 130		06/20/16 16:08	1
Dibromofluoromethane (Surr)	99		81 - 124		06/20/16 16:08	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 129		06/20/16 16:08	1
Toluene-d8 (Surr)	107		87 - 128		06/20/16 16:08	1

General Chemistry

Client Sample ID: B35JT6
Date Collected: 06/14/16 10:39
Date Received: 06/15/16 09:15

Lab Sample ID: 160-17805-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	1810		10.0	7.0	mg/L			06/21/16 09:23	1
Bicarbonate Alkalinity as CaCO3	310		5.0	0.54	mg/L			06/20/16 23:32	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			06/20/16 23:32	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			06/20/16 23:32	1
Alkalinity	310		5.0	0.54	mg/L			06/20/16 23:32	1
Cyanide, Total	4.0	B	10.0	3.1	ug/L		06/24/16 18:15	06/24/16 20:30	1
Total Organic Carbon	1.8		1.0	0.72	mg/L			06/18/16 00:15	1

TestAmerica St. Louis

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
 Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
 SDG: SL2219

Client Sample ID: B35K10
 Date Collected: 06/14/16 11:31
 Date Received: 06/15/16 09:15

Lab Sample ID: 160-17805-2
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	2770		10.0	7.0	mg/L			06/21/16 09:23	1
Bicarbonate Alkalinity as CaCO3	402		5.0	0.54	mg/L			06/20/16 23:44	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			06/20/16 23:44	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			06/20/16 23:44	1
Alkalinity	402		5.0	0.54	mg/L			06/20/16 23:44	1
Cyanide, Total	4.3	B	10.0	3.1	ug/L		06/24/16 18:15	06/24/16 20:34	1
Total Organic Carbon	2.6		1.0	0.72	mg/L			06/18/16 00:27	1

General Chemistry - DL

Client Sample ID: B35JT6
 Date Collected: 06/14/16 10:39
 Date Received: 06/15/16 09:15

Lab Sample ID: 160-17805-1
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Inorganic Carbon	56.5	D	10.0	2.2	mg/L			06/30/16 17:53	10

Client Sample ID: B35K10
 Date Collected: 06/14/16 11:31
 Date Received: 06/15/16 09:15

Lab Sample ID: 160-17805-2
 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Inorganic Carbon	68.5	D	10.0	2.2	mg/L			06/30/16 19:05	10

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 160-257078/9

Matrix: Water

Analysis Batch: 257078

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			06/20/16 12:36	1
Chloroform	0.10	U	1.0	0.10	ug/L			06/20/16 12:36	1
Chloromethane	0.10	U	2.0	0.10	ug/L			06/20/16 12:36	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			06/20/16 12:36	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			06/20/16 12:36	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			06/20/16 12:36	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			06/20/16 12:36	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					06/20/16 12:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		81 - 130		06/20/16 12:36	1
Dibromofluoromethane (Surr)	95		81 - 124		06/20/16 12:36	1
1,2-Dichloroethane-d4 (Surr)	91		75 - 129		06/20/16 12:36	1
Toluene-d8 (Surr)	107		87 - 128		06/20/16 12:36	1

Lab Sample ID: LCS 160-257078/6

Matrix: Water

Analysis Batch: 257078

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	10.0	10.4		ug/L		104	83 - 125
Chloroform	10.0	10.3		ug/L		103	80 - 120
Chloromethane	10.0	10.7		ug/L		107	72 - 124
cis-1,2-Dichloroethylene	10.0	9.94		ug/L		99	80 - 120
Methylene Chloride	10.0	9.71		ug/L		97	80 - 120
Trichloroethene	10.0	10.5		ug/L		105	80 - 120
Vinyl chloride	10.0	10.7		ug/L		107	77 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		81 - 130
Dibromofluoromethane (Surr)	100		81 - 124
1,2-Dichloroethane-d4 (Surr)	97		75 - 129
Toluene-d8 (Surr)	100		87 - 128

Lab Sample ID: LCSD 160-257078/7

Matrix: Water

Analysis Batch: 257078

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	10.0	10.2		ug/L		102	83 - 125	2	20
Chloroform	10.0	10.2		ug/L		102	80 - 120	0	20
Chloromethane	10.0	10.4		ug/L		104	72 - 124	3	20
cis-1,2-Dichloroethylene	10.0	10.0		ug/L		100	80 - 120	1	20
Methylene Chloride	10.0	9.76		ug/L		98	80 - 120	1	20
Trichloroethene	10.0	10.3		ug/L		103	80 - 120	2	20

TestAmerica St. Louis

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 160-257078/7

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

Matrix: Water

Analysis Batch: 257078

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	10.0	10.5		ug/L		105	77 - 122	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	102		81 - 130
Dibromofluoromethane (Surr)	102		81 - 124
1,2-Dichloroethane-d4 (Surr)	95		75 - 129
Toluene-d8 (Surr)	103		87 - 128

Lab Sample ID: 160-17822-B-4 MS

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 257078

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	190	D T	50.0	273	D T	ug/L		158	80 - 120
Chloromethane	0.51	U	50.0	56.3	D	ug/L		113	62 - 132
cis-1,2-Dichloroethylene	0.50	U	50.0	51.7	D	ug/L		103	80 - 120
Methylene Chloride	1.4	U	50.0	50.2	D	ug/L		100	80 - 120
Trichloroethene	180	D T	50.0	259	D T	ug/L		159	81 - 125
Vinyl chloride	0.97	U	50.0	50.2	D	ug/L		100	70 - 129

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	106		81 - 130
Dibromofluoromethane (Surr)	108		81 - 124
1,2-Dichloroethane-d4 (Surr)	100		75 - 129
Toluene-d8 (Surr)	103		87 - 128

Lab Sample ID: 160-17822-C-4 MSD

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 257078

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	190	D T	50.0	247	D	ug/L		106	80 - 120	10	20
Chloromethane	0.51	U	50.0	56.6	D	ug/L		113	62 - 132	0	20
cis-1,2-Dichloroethylene	0.50	U	50.0	49.0	D	ug/L		98	80 - 120	5	20
Methylene Chloride	1.4	U	50.0	49.1	D	ug/L		98	80 - 120	2	20
Trichloroethene	180	D T	50.0	240	D	ug/L		121	81 - 125	8	20
Vinyl chloride	0.97	U	50.0	52.4	D	ug/L		105	70 - 129	4	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	100		81 - 130
Dibromofluoromethane (Surr)	102		81 - 124
1,2-Dichloroethane-d4 (Surr)	95		75 - 129
Toluene-d8 (Surr)	103		87 - 128

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-257261/1
Matrix: Water
Analysis Batch: 257261

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			06/21/16 09:23	1

Lab Sample ID: LCS 160-257261/2
Matrix: Water
Analysis Batch: 257261

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	504.0		mg/L		101	90 - 110

Lab Sample ID: 160-17805-1 DU
Matrix: Water
Analysis Batch: 257261

Client Sample ID: B35JT6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	1810		1816		mg/L		0.2	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-257173/1
Matrix: Water
Analysis Batch: 257173

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			06/20/16 20:55	1
Carbonate Alkalinity as CaCO3	0.54	U	5.0	0.54	mg/L			06/20/16 20:55	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			06/20/16 20:55	1
Alkalinity	0.54	U	5.0	0.54	mg/L			06/20/16 20:55	1

Lab Sample ID: HLCS 160-257173/3
Matrix: Water
Analysis Batch: 257173

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bicarbonate Alkalinity as CaCO3	400	379.0		mg/L		95	90 - 110
Alkalinity	400	379.0		mg/L		95	90 - 110

Lab Sample ID: LCS 160-257173/2
Matrix: Water
Analysis Batch: 257173

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bicarbonate Alkalinity as CaCO3	200	188.0		mg/L		94	90 - 110
Alkalinity	200	188.0		mg/L		94	90 - 110

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 160-17760-E-5 MS
Matrix: Water
Analysis Batch: 257173

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
Bicarbonate Alkalinity as CaCO3	114		100	207.0		mg/L		93	80 - 120
Alkalinity	114		100	207.0		mg/L		93	80 - 120

Lab Sample ID: 160-17760-E-5 DU
Matrix: Water
Analysis Batch: 257173

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	114		112.0		mg/L		2	20
Carbonate Alkalinity as CaCO3	0.54	U	0.54	U	mg/L		NC	20
Hydroxide Alkalinity	0.54	U	0.54	U	mg/L		NC	20
Alkalinity	114		112.0		mg/L		2	20

Method: 9012B - Cyanide, Total and/or Amenable

Lab Sample ID: MB 160-257945/1-A
Matrix: Water
Analysis Batch: 258019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257945

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.1	U	10.0	3.1	ug/L		06/24/16 18:15	06/24/16 20:06	1

Lab Sample ID: HLCS 160-257945/3-A
Matrix: Water
Analysis Batch: 258019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257945

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	400	385.7		ug/L		96	85 - 115

Lab Sample ID: LCS 160-257945/2-A
Matrix: Water
Analysis Batch: 258019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257945

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	191.7		ug/L		96	85 - 115

Lab Sample ID: 160-17786-A-2-C MS
Matrix: Water
Analysis Batch: 258019

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 257945

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	3.2	B	200	207.0		ug/L		102	66 - 120

Lab Sample ID: 160-17786-A-2-B DU
Matrix: Water
Analysis Batch: 258019

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 257945

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	3.2	B	3.1	U	ug/L		NC	20

TestAmerica St. Louis

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 160-257090/25
Matrix: Water
Analysis Batch: 257090

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.72	U	1.0	0.72	mg/L			06/17/16 22:32	1

Lab Sample ID: LCS 160-257090/26
Matrix: Water
Analysis Batch: 257090

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.68		mg/L		97	90 - 110

Lab Sample ID: 160-17818-A-1 MS
Matrix: Water
Analysis Batch: 257090

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
Total Organic Carbon	0.86	B	5.00	5.63		mg/L		96	76 - 120

Lab Sample ID: 160-17818-A-1 DU
Matrix: Water
Analysis Batch: 257090

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	0.86	B		0.810	B	mg/L		6	20

Method: 9060 - Carbon, Total and Total Inorganic

Lab Sample ID: MB 160-258894/4
Matrix: Water
Analysis Batch: 258894

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Inorganic Carbon	0.22	U	1.0	0.22	mg/L			06/30/16 17:20	1

Lab Sample ID: LCS 160-258894/5
Matrix: Water
Analysis Batch: 258894

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Inorganic Carbon	10.0	9.99		mg/L		100	85 - 129

Method: 9060 - Carbon, Total and Total Inorganic - DL

Lab Sample ID: 160-17805-1 MS
Matrix: Water
Analysis Batch: 258894

Client Sample ID: B35JT6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Inorganic Carbon - DL	56.5	D	50.1	106.8	D	mg/L		100	76 - 120

July 1, 2016

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 9060 - Carbon, Total and Total Inorganic - DL (Continued)

Lab Sample ID: 160-17805-1 DU

Matrix: Water

Analysis Batch: 258894

Client Sample ID: B35JT6

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Inorganic Carbon - DL	56.5	D	55.25	D	mg/L		2	20

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

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
 SDG: SL2219

GC/MS VOA

Analysis Batch: 257078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17805-1	B35JT6	Total/NA	Water	8260C	
160-17805-2	B35K10	Total/NA	Water	8260C	
160-17822-B-4 MS	Matrix Spike	Total/NA	Water	8260C	
160-17822-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
LCS 160-257078/6	Lab Control Sample	Total/NA	Water	8260C	
LCS 160-257078/7	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-257078/9	Method Blank	Total/NA	Water	8260C	

General Chemistry

Analysis Batch: 257090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17805-1	B35JT6	Total/NA	Water	9060	
160-17805-2	B35K10	Total/NA	Water	9060	
160-17818-A-1 DU	Duplicate	Total/NA	Water	9060	
160-17818-A-1 MS	Matrix Spike	Total/NA	Water	9060	
LCS 160-257090/26	Lab Control Sample	Total/NA	Water	9060	
MB 160-257090/25	Method Blank	Total/NA	Water	9060	

Analysis Batch: 257173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17760-E-5 DU	Duplicate	Total/NA	Water	310.1	
160-17760-E-5 MS	Matrix Spike	Total/NA	Water	310.1	
160-17805-1	B35JT6	Total/NA	Water	310.1	
160-17805-2	B35K10	Total/NA	Water	310.1	
HLCS 160-257173/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-257173/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-257173/1	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 257261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17805-1	B35JT6	Total/NA	Water	160.1	
160-17805-1 DU	B35JT6	Total/NA	Water	160.1	
160-17805-2	B35K10	Total/NA	Water	160.1	
LCS 160-257261/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-257261/1	Method Blank	Total/NA	Water	160.1	

Prep Batch: 257945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17786-A-2-B DU	Duplicate	Total/NA	Water	9010C	
160-17786-A-2-C MS	Matrix Spike	Total/NA	Water	9010C	
160-17805-1	B35JT6	Total/NA	Water	9010C	
160-17805-2	B35K10	Total/NA	Water	9010C	
HLCS 160-257945/3-A	Lab Control Sample	Total/NA	Water	9010C	
LCS 160-257945/2-A	Lab Control Sample	Total/NA	Water	9010C	
MB 160-257945/1-A	Method Blank	Total/NA	Water	9010C	

Analysis Batch: 258019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17786-A-2-B DU	Duplicate	Total/NA	Water	9012B	257945

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
 Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
 SDG: SL2219

General Chemistry (Continued)

Analysis Batch: 258019 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17786-A-2-C MS	Matrix Spike	Total/NA	Water	9012B	257945
160-17805-1	B35JT6	Total/NA	Water	9012B	257945
160-17805-2	B35K10	Total/NA	Water	9012B	257945
HLCS 160-257945/3-A	Lab Control Sample	Total/NA	Water	9012B	257945
LCS 160-257945/2-A	Lab Control Sample	Total/NA	Water	9012B	257945
MB 160-257945/1-A	Method Blank	Total/NA	Water	9012B	257945

Analysis Batch: 258894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-17805-1 - DL	B35JT6	Total/NA	Water	9060	
160-17805-1 DU - DL	B35JT6	Total/NA	Water	9060	
160-17805-1 MS - DL	B35JT6	Total/NA	Water	9060	
160-17805-2 - DL	B35K10	Total/NA	Water	9060	
LCS 160-258894/5	Lab Control Sample	Total/NA	Water	9060	
MB 160-258894/4	Method Blank	Total/NA	Water	9060	



July 1, 2016

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F13-002

TestAmerica Job ID: 160-17805-1
SDG: SL2219

Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	12DCE	TOL
		(81-130)	(81-124)	(75-129)	(87-128)
160-17805-1	B35JT6	113	100	96	113
160-17805-2	B35K10	107	99	96	107
160-17822-B-4 MS	Matrix Spike	106	108	100	103
160-17822-C-4 MSD	Matrix Spike Duplicate	100	102	95	103
LCS 160-257078/6	Lab Control Sample	101	100	97	100
LCSD 160-257078/7	Lab Control Sample Dup	102	102	95	103
MB 160-257078/9	Method Blank	112	95	91	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)