NOVEMBER 19, 2012

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: 160-876-1
TestAmerica Sample Delivery Group: SL1329
Client Project/Site: F & P SAFS - 2012/2013

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

Attn: General Mailbox

Authorized for release by:
11/19/2012 3:39:21 PM

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

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.

Table of Contents

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
MS B3-60
Richland, Washington 99352
November 19, 2012
Attention: Scot Fitzgerald

TestAmerica Laboratories, Inc.

SDG	: SL1329
Number of Samples	: 1 sample
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: November 8, 2012

II. Introduction

On November 8, 2012, 1 water sample was 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: F12-028

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.

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THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company
November 19, 2012
SDG: SL1329

TestAmerica Laboratories, Inc.

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.
- **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 recoveries are outside QC limits.

Volatiles

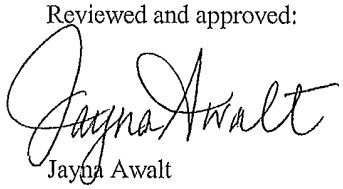
Batch: 16791

The following analyte recovered outside control limits for the LCS associated with batch 16791: Methylene chloride. This analyte was not indicative of a systematic problem and was within the Marginal Exceedance Limits; therefore, the results have been reported and qualified. This analyte has been qualified accordingly with an "O" flag in the associated sample.

The sample, B2N208 (160-876-1), was analyzed at a dilution due to high concentrations of Carbon Tetrachloride. The reporting limit has been adjusted to reflect the dilution.

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 following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:



Jayna Awalt
St. Louis Project Manager

CH2MHill Plateau Remediation Company	CWP 877 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F12-028-334	PAGE 1 OF 1
COLLECTOR SU329 Fulton KAUGER	**COMPANY CONTACT** EVANS, RT	**TELEPHONE NO.** 373-7924	**PROJECT COORDINATOR** EVANS, RT	**PRICE CODE** 7C	**DATA TURNAROUND**
SAMPLING LOCATION 289-T, Influent Tank, Valve V05-Y30 -- SPLIT	**PROJECT DESIGNATION** 200W Pump & Treat - Treatment Plant Water Sampling		**SAF NO.** F12-028	**AIR QUALITY** ☐	15 Days / 15 Days
ICE CHEST NO. GWS-042	**FIELD LOGBOOK NO.** PS50 HNF-N-499-9	**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 7940 2461 7171		

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.

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HCl or H2SO4 to pH <2/Cool~4C
HOLDING TIME	14 Days
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2N208	WATER	11-7-12	0906	✓

Page 5 of 18

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauger Ed Kauger	11-7-12 1140	SSU #1	11-7-12 1120
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
SSU #1	11-7-12 1135	Ed Kauger Ed Kauger	11-7-12 1135
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kauger Ed Kauger	11-7-12 1400	FED-X	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Fed Ex		Steven Claxton Steven Claxton	11-8-120925
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

SPECIAL INSTRUCTIONS

☐

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(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};

TRVL-12-107

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

11/19/2012

PRINTED ON 10/29/2012

A-6003-618 (REV 2)

NOVEMBER 19, 2012

IMPORTANT!
FedEx returns to normal operations in the Northeast. Learn More

FedEx

794024617171

Ship (P/U) date :
Wed 11/07/2012 3:37 pm
RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery :
Thur 11/08/2012 9:22 am
EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 11/08/2012 - Thursday		
9:22 am	Delivered	EARTH CITY, MO
6:44 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:39 am	At local FedEx facility	EARTH CITY, MO
5:03 am	At destination sort facility	BERKELEY, MO
4:16 am	Departed FedEx location	MEMPHIS, TN
12:24 am	Arrived at FedEx location	MEMPHIS, TN
- 11/07/2012 - Wednesday		
5:14 pm	Left FedEx origin facility	PASCO, WA
3:37 pm	Picked up	PASCO, WA
2:40 pm	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts

Tracking number	794024617171	**Service**	FedEx Priority Overnight
Weight	125 lbs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	125 lbs / 56.7 kgs
Shipper reference	GWS-042	**Packaging**	Your Packaging
Special handling section	Deliver Weekday		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CUR Form #: 3 7 7

Lot #(s): 160-876, 160-877, 160-878, 160-879, 160-880, 160-881

CONDITION UPON RECEIPT FORM

Client: CHPRC

Quote No:

COC/RFA No: See Notes SC

Initiated By: _____ Date: 11-8-12 Time: 0925

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: (Y) N

Shipping # (s):*

1. 7940 2552 7202
2. 7940 2461 7171
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Sample Temperature (s):**

1. 2
2. 2
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid; Rad tests- Liquid or Solids; Perchlorate

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	(Y) N N/A	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N (N/A)	Containers for C-14, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y (N) N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N (N/A)	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX, Oil & Grease and soils.

Notes:

COCs I13-005-027
I13-007-006
I12-034-070
X13-002-004
F13-007-002
F12-028-334

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____

☐ Sample(s) processed "as is"

☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: Jayne Arnalt Date: 11-8-12

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004 rev13, REVISED 05/27/11 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-876-1
SDG Number: SL1329

Login Number: 876
List Number: 1
Creator: Claxton, Steven

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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
O	LCS, LCSD: Recovery exceeds upper or lower control limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
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)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL

Protocol References:

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

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-876-1	B2N208	Water	11/07/12 09:06	11/08/12 09:25

Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

Client Sample ID: B2N208

Lab Sample ID: 160-876-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon tetrachloride	650		50	6.5	ug/L	1		8260C	Total/NA
Chloroform	6.5		5.0	0.50	ug/L	1		8260C	Total/NA
Trichloroethene	5.0		5.0	1.3	ug/L	1		8260C	Total/NA

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

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

Client Sample ID: B2N208
Date Collected: 11/07/12 09:06
Date Received: 11/08/12 09:25

Lab Sample ID: 160-876-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	**650**		50	6.5	ug/L			11/14/12 18:43	1
Chloromethane	4.0	U	100	4.0	ug/L			11/14/12 18:43	1
Chloroform	**6.5**		5.0	0.50	ug/L			11/14/12 19:08	1
Methylene Chloride	1.4	U O	5.0	1.4	ug/L			11/14/12 19:08	1
Trichloroethene	**5.0**		5.0	1.3	ug/L			11/14/12 19:08	1
Vinyl chloride	0.40	U	10	0.40	ug/L			11/14/12 19:08	1
1,2-Dichloroethylene, cis-	0.45	U	5.0	0.45	ug/L			11/14/12 19:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/12 18:43*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/12 19:08*	*1*
Chloroform	*7.3*	*J*	*ug/L*		*8.28*	*67-66-3*		*11/14/12 18:43*	*1*
Chloroform	*6.5*		*ug/L*		*8.28*	*67-66-3*		*11/14/12 19:08*	*1*
Ethyl acetate	*32*	*J*	*ug/L*		*8.37*	*141-78-6*		*11/14/12 18:43*	*1*
Ethyl acetate	*32*	*J*	*ug/L*		*8.37*	*141-78-6*		*11/14/12 18:43*	*1*
Ethyl acetate	*1.6*	*J*	*ug/L*		*8.38*	*141-78-6*		*11/14/12 19:08*	*1*
Ethyl acetate	*1.6*	*J*	*ug/L*		*8.38*	*141-78-6*		*11/14/12 19:08*	*1*
Carbon tetrachloride	*650*		*ug/L*		*8.47*	*56-23-5*		*11/14/12 18:43*	*1*
Carbon tetrachloride	*620*	*E*	*ug/L*		*8.47*	*56-23-5*		*11/14/12 19:08*	*1*
Trichloroethene	*5.0*		*ug/L*		*9.42*	*79-01-6*		*11/14/12 19:08*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/12 18:43*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/12 19:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*79 - 125*		*11/14/12 18:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*79 - 125*		*11/14/12 18:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*79 - 125*		*11/14/12 19:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*79 - 125*		*11/14/12 19:08*	*1*
4-Bromofluorobenzene (Surr)	*96*		*84 - 118*		*11/14/12 18:43*	*1*
4-Bromofluorobenzene (Surr)	*96*		*84 - 118*		*11/14/12 18:43*	*1*
4-Bromofluorobenzene (Surr)	*99*		*84 - 118*		*11/14/12 19:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*84 - 118*		*11/14/12 19:08*	*1*
Dibromofluoromethane (Surr)	*96*		*85 - 120*		*11/14/12 18:43*	*1*
Dibromofluoromethane (Surr)	*99*		*85 - 120*		*11/14/12 19:08*	*1*
Dibromofluoromethane (Surr)	*96*		*85 - 120*		*11/14/12 18:43*	*1*
Dibromofluoromethane (Surr)	*99*		*85 - 120*		*11/14/12 19:08*	*1*
Toluene-d8 (Surr)	*95*		*85 - 121*		*11/14/12 18:43*	*1*
Toluene-d8 (Surr)	*95*		*85 - 121*		*11/14/12 19:08*	*1*
Toluene-d8 (Surr)	*95*		*85 - 121*		*11/14/12 18:43*	*1*
Toluene-d8 (Surr)	*95*		*85 - 121*		*11/14/12 19:08*	*1*

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

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

Lab Sample ID: MB 160-16791/2
Matrix: Water
Analysis Batch: 16791

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.13	U	1.0	0.13	ug/L			11/14/12 10:17	1
Chloromethane	0.080	U	2.0	0.080	ug/L			11/14/12 10:17	1
Chloroform	0.10	U	1.0	0.10	ug/L			11/14/12 10:17	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			11/14/12 10:17	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			11/14/12 10:17	1
Vinyl chloride	0.080	U	2.0	0.080	ug/L			11/14/12 10:17	1
1,2-Dichloroethylene, cis-	0.090	U	1.0	0.090	ug/L			11/14/12 10:17	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*11/14/12 10:17*	*1*
sec-Butylbenzene	*0.355*	*J*	*ug/L*		*13.94*	*135-98-8*		*11/14/12 10:17*	*1*
n-Nonyl Aldehyde	*1.12*	*J*	*ug/L*		*15.41*	*124-19-6*		*11/14/12 10:17*	*1*
1,2,4-Trichlorobenzene	*0.123*	*J*	*ug/L*		*16.15*	*120-82-1*		*11/14/12 10:17*	*1*
Naphthalene	*0.219*	*J*	*ug/L*		*16.51*	*91-20-3*		*11/14/12 10:17*	*1*
1,2,3-Trichlorobenzene	*0.130*	*J*	*ug/L*		*16.72*	*87-61-6*		*11/14/12 10:17*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*79 - 125*		*11/14/12 10:17*	*1*
4-Bromofluorobenzene (Surr)	*100*		*84 - 118*		*11/14/12 10:17*	*1*
Dibromofluoromethane (Surr)	*93*		*85 - 120*		*11/14/12 10:17*	*1*
Toluene-d8 (Surr)	*96*		*85 - 121*		*11/14/12 10:17*	*1*

Lab Sample ID: LCS 160-16791/4
Matrix: Water
Analysis Batch: 16791

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	8.97		ug/L		90	85 - 121
Chloromethane	10.0	10.6		ug/L		106	58 - 139
Chloroform	10.0	9.07		ug/L		91	85 - 115
Methylene Chloride	10.0	8.04	O	ug/L		80	81 - 115
Trichloroethene	10.0	9.86		ug/L		99	85 - 115
Vinyl chloride	10.0	10.5		ug/L		105	65 - 136
1,2-Dichloroethylene, cis-	10.0	9.23		ug/L		92	85 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*81*		*79 - 125*
4-Bromofluorobenzene (Surr)	*92*		*84 - 118*
Dibromofluoromethane (Surr)	*90*		*85 - 120*
Toluene-d8 (Surr)	*100*		*85 - 121*

Lab Sample ID: 160-880-C-1 MS
Matrix: Water
Analysis Batch: 16791

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
Carbon tetrachloride	0.13		10.0	8.48		ug/L		85	80 - 122

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

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

Lab Sample ID: 160-880-C-1 MS
Matrix: Water
Analysis Batch: 16791

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
Chloromethane	0.080	U	10.0	10.8		ug/L		108	58 - 139
Chloroform	0.10		10.0	9.38		ug/L		94	85 - 115
Methylene Chloride	0.64		10.0	9.13		ug/L		85	80 - 115
Trichloroethene	0.25		10.0	9.72		ug/L		97	80 - 117
Vinyl chloride	0.080		10.0	10.0		ug/L		100	65 - 136
1,2-Dichloroethylene, cis-	0.090		10.0	9.23		ug/L		92	85 - 116

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*79 - 125*
4-Bromofluorobenzene (Surr)	*91*		*84 - 118*
Dibromofluoromethane (Surr)	*96*		*85 - 120*
Toluene-d8 (Surr)	*96*		*85 - 121*

Lab Sample ID: 160-880-D-1 MSD
Matrix: Water
Analysis Batch: 16791

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	0.13		10.0	8.28		ug/L		83	80 - 122	2	20
Chloromethane	0.080	U	10.0	11.0		ug/L		110	58 - 139	1	20
Chloroform	0.10		10.0	9.66		ug/L		97	85 - 115	3	20
Methylene Chloride	0.64		10.0	9.91		ug/L		93	80 - 115	8	20
Trichloroethene	0.25		10.0	9.31		ug/L		93	80 - 117	4	20
Vinyl chloride	0.080		10.0	10.4		ug/L		104	65 - 136	4	20
1,2-Dichloroethylene, cis-	0.090		10.0	9.86		ug/L		99	85 - 116	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*79 - 125*
4-Bromofluorobenzene (Surr)	*96*		*84 - 118*
Dibromofluoromethane (Surr)	*100*		*85 - 120*
Toluene-d8 (Surr)	*96*		*85 - 121*

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

GC/MS VOA

Analysis Batch: 16791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-876-1	B2N208	Total/NA	Water	8260C	
160-876-1	B2N208	Total/NA	Water	8260C	
160-880-C-1 MS	Matrix Spike	Total/NA	Water	8260C	
160-880-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
LCS 160-16791/4	Lab Control Sample	Total/NA	Water	8260C	
MB 160-16791/2	Method Blank	Total/NA	Water	8260C	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		12DCE	BFB	DBFM	TOL	DBFM	DBFM	TOL	TOL
Lab Sample ID	Client Sample ID	(79-125)	(84-118)	(85-120)	(85-121)	(85-120)	(85-120)	(85-121)	(85-121)
160-876-1	B2N208	97	96	96	95	96	96	95	95
160-876-1	B2N208	99	99	99	95	99	99	95	95
160-880-C-1 MS	Matrix Spike	90	91	96	96	96	96	96	96
160-880-D-1 MSD	Matrix Spike Duplicate	97	96	100	96	100	100	96	96
LCS 160-16791/4	Lab Control Sample	81	92	90	100	90	90	100	100
MB 160-16791/2	Method Blank	93	100	93	96	93	93	96	96

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F & P SAFS - 2012/2013

TestAmerica Job ID: 160-876-1
SDG: SL1329

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-876-1	B2N208	Water	11/07/12 09:06	11/08/12 09:25