

April 20, 2015

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: 160-11224-1

TestAmerica Sample Delivery Group: SL1781
Client Project/Site: F15-005

For:

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

Attn: General Mailbox



Authorized for release by:
4/20/2015 4:44:51 PM

Jayna Awalt, Project Manager II
(314)298-8566
jayna.awalt@testamericainc.com

LINKS

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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: 160-11224-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
April 20, 2015
Attention: Scot Fitzgerald

SDG : SL1781
Number of Samples : 7 samples
Sample Matrix : Water
Data Deliverable : Summary
Date SDG Closed : April 7, 2015

II. Introduction

On April 7, 7 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: F15-005

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 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.

IV. Definitions

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



Job ID: 160-11224-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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: 184445

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 184445: Acetone. A low level ccv was analyzed at the reporting limit (1ug/L) and the affected analytes were detected. Target analytes recovering above the reporting limit will be qualified and reported. (CCVIS 160-184445/6)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 184445 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. This analyte has been qualified accordingly with a "T" flag in the associated samples.

The following samples were analyzed at reduced volume due to high concentrations of target analytes: B310W8 (160-11224-4), B310V7 (160-11224-5) and B310Y2 (160-11224-6). The reporting limits have been elevated by the appropriate factor. These analytes have been qualified accordingly with a "D" flag in the associated samples.

Batch: 184432

The following compound did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 184432: Acetone. A low level ccv was analyzed at the reporting limit (1ug/L) and the affected analyte was detected. The associated samples were not detected above the reporting limit for the affected analyte. (CCVIS 160-184432/4) and (LOQV 160-184432/7)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 184432 were outside control limits for Trichloroethene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control samples (LCS/LCSD) recoveries were within acceptance limits. (160-11195-B-21 MS) and (160-11195-C-21 MSD) This analyte has been qualified accordingly with a "T" flag in the associated samples.

The following sample was analyzed at reduced volume due to high concentrations of target analytes: B310X3 (160-11224-3). The reporting

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Laboratory: TestAmerica St. Louis (Continued)

limits have been elevated by the appropriate factor. This analyte has been qualified accordingly with a "D" flag in the associated samples.

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

- TDS
- TSS
- Alkalinity
- 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

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-11224-1

SDG Number: SL1781

Login Number: 11224

List Number: 1

Creator: Clarke, Jill C

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	0.6, 1.1
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	

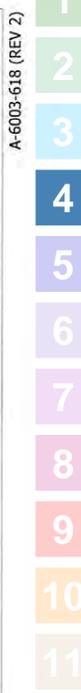
CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-132	PAGE 1 OF 1
COLLECTOR D.L. Floyd/CHPRC	SAFARI	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7H
SAMPLING LOCATION 289-T, Effluent Tank, Valve V07-Y80D -- FXR		PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling		SAF NO. F15-005	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. Gws-806		FIELD LOGBOOK NO. HNE-N-491-8/29	ACTUAL SAMPLE DEPTH N/A	COA 303700	METHOD OF SHIPMENT GOVERNMENT VEHICLE
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. 7973302633471	

MATRIX* A=Air DL=Drum L=Liquid S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION HCl or H2SO4 to pH <2/cool 14 Days	HOLDING TIME	TYPE OF CONTAINER aGs*	NO. OF CONTAINER(S) 4	VOLUME 40mL	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SPECIAL HANDLING AND/OR STORAGE N/A							
SAMPLE NO. CB310W3	MATRIX* WATER	SAMPLE DATE APR 06 2015	SAMPLE TIME 1225				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM D.L. Floyd/CHPRC	DATE/TIME APR 06 2015 1330	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME APR 06 2015 1330	** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-15-057	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME APR 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME APR 06 2015 1400	(1) 8260_VOA_GCMS: CH 01 {Chloromethane}; 8260_VOA_GCMS: COMMON {Acetone, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride}; 8260_VOA_GCMS: COMMON (Add-on) {cis-1,2-Dichloroethylene};	
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN Jill Clark	DATE/TIME 4-7-15	TRVL-15-057	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-131	PAGE 1 OF 1
COLLECTOR D.L. Floyd/CHPRC	COMPANY CONTACT EVANS, RT	TELEPHONE NO. 373-7924	PROJECT COORDINATOR EVANS, RT	PRICE CODE 7C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 289-T, Effluent Tank, Valve V07-Y80D	PROJECT DESIGNATION 200W Pump & Treat - Treatment Plant Water Sampling	FIELD LOGBOOK NO. HNP-N-481-9/49	SAF NO. F15-005	AIR QUALITY	<input type="checkbox"/>
ICE CHEST NO. GWS-806	ACTUAL SAMPLE DEPTH N/A	COA 303700	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL	
SHIPPED TO TestAmerica St. Louis	OFFSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. 7733 0263 3471			
MATRIX* A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation WI=Wipe X=Other	PRESERVATION HCl or H2SO4 to pH <2/Cool 14 Days	Cool <=6C	Cool <=6C	HCl or H2SO4 to pH <2/Cool 28 Days	
POSSIBLE SAMPLE HAZARDS/ REMARKS *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.	HOLDING TIME aGs*	14 Days	7 Days	7 Days	
SPECIAL HANDLING AND/OR STORAGE N/A	TYPE OF CONTAINER 4	G/P	G/P	G	
	NO. OF CONTAINER(S) 40mL	1	1	1	
	VOLUME 40mL	500mL	500mL	500mL	
	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS	310.1 ALKALINITY: COMMON;	160.1 TDS: COMMON;	160.2 TSS: COMMON;	415.1 TOC: COMMON (Total organic carbon);
SAMPLE NO. B310W2	MATRIX* WATER	APR 06 2015	1225	APR 06 2015	1300

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM D.L. Floyd/CHPRC	DATE/TIME APR 06 2015 1300	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME APR 06 2015 1300	** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-15-057	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME APR 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME APR 06 2015 1400	(1) 8260_VOA_GCMS: CH 01 {Chloromethane}; 8260_VOA_GCMS: COMMON {Acetone, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride}; 8260_VOA_GCMS: COMMON (Add-on) {cis-1,2-Dichloroethylene};	
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN Du Clarke Trilchark	DATE/TIME 4-7-15 0920	TRVL-15-057	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	
PRINTED ON 3/23/2015					



CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-142	PAGE 1 OF 1
COLLECTOR	D.L. Floyd/CHPRC	COMPANY CONTACT	EVANS, RT	PROJECT COORDINATOR	EVANS, RT
SAMPLING LOCATION	289-TA, Pre-Resin Tanks, Valve V05-Y20 -- DUP	PROJECT DESIGNATION	200W Pump & Treat - Treatment Plant Water Sampling	SAF NO.	F15-005
ICE CHEST NO.	605-417	FIELD LOGBOOK NO.	491-9/25	COA	303700
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7733 0091 5375
MATRIX*	A=Air DL=Drum L=Liquid S=Soil SF=Sediment T=Tissue V=Vegetation W=Water X=Other	PRESERVATION	HCl or H2SO4 to pH <2/ Cool 14 Days	METHOD OF SHIPMENT	FEDERAL EXPRESS
POSSIBLE SAMPLE HAZARDS/ REMARKS	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	HOLDING TIME	agS*		
SPECIAL HANDLING AND/OR STORAGE	N/A	NO. OF CONTAINER(S)	4		
		VOLUME	40mL		
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		

SAMPLE NO.	MATRIX*	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B310X3	WATER	APR 06 2015	L.D. Wall	APR 06 2015 1100
			RECEIVED BY/STORED IN	DATE/TIME
			FEDEX	APR 06 2015 1400
			RECEIVED BY/STORED IN	DATE/TIME
			J.P. Clarke J. In Clark	APR 06 2015 0920
			RECEIVED BY/STORED IN	DATE/TIME
				DATE/TIME

SPECIAL INSTRUCTIONS	
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-15-057 (1) 8260_VOA_GCMS: CH 01 {Chloromethane}; 8260_VOA_GCMS: COMMON {Acetone, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride}; 8260_VOA_GCMS: COMMON (Add-on) {cis-1,2-Dichloroethylene};	
TRVL-15- U57	
LABORATORY SECTION	RECEIVED BY
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD
TITLE	DATE/TIME
DISPOSED BY	DATE/TIME



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-137	PAGE 1 OF 1
COLLECTOR	D.L. Floyd/CHPRC	COMPANY CONTACT	EVANS, RT	PROJECT COORDINATOR	EVANS, RT
SAMPLING LOCATION	289-TA, Pre-Resin Tanks, Valve V05-Y20	PROJECT DESIGNATION	200W Pump & Treat - Treatment Plant Water Sampling	SAF NO.	F15-005
ICE CHEST NO.	6005-417	FIELD LOGBOOK NO.	481-8/25	COA	303700
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7733 0091 5375
MATRIX*	A=Air DL=Drum L=Liquid DS=Drum S=Soil O=Oil S=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRELIMINARY ANALYSIS	HCl or H2SO4 to pH <2/ Cool 14 Days aGs* 4 40mL SEE ITEM (1) IN SPECIAL INSTRUCTIONS	PRICE CODE	7C
POSSIBLE SAMPLE HAZARDS/ REMARKS	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	HOLDING TIME		AIR QUALITY	<input type="checkbox"/>
SPECIAL HANDLING AND/OR STORAGE	N/A	TYPE OF CONTAINER		METHOD OF SHIPMENT	FEDERAL EXPRESS
SAMPLE NO.	B310W8	SAMPLE DATE	APR 06 2015		
MATRIX*	WATER	SAMPLE TIME	0950		

SPECIAL INSTRUCTIONS	
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-15-057 (1) 8260_VOA_GCMS: CH 01 {Chloromethane}; 8260_VOA_GCMS: COMMON {Acetone, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride}; 8260_VOA_GCMS: COMMON (Add-on) {cis-1,2-Dichloroethylene};	
TRVL-15-057	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
D.L. Floyd/CHPRC	APR 06 2015 1100	L.D. Weil	APR 06 2015 1100
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
D.L. Weil	APR 06 2015 1400	CHPRC	FEDEX
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FEDEX		J. Clark	4-15-15 0920
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



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CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-151	PAGE 1 OF 1
COLLECTOR	D.L. Floyd/CHPRC	COMPANY CONTACT	EVANS, RT	PROJECT COORDINATOR	EVANS, RT
SAMPLING LOCATION	289-TA, Post-Resin Tanks, Valve V06-Y22	PROJECT DESIGNATION	200W Pump & Treat - Treatment Plant Water Sampling	SAF NO.	F15-005
ICE CHEST NO.	6005-417	FIELD LOGBOOK NO.	HNF-N-491-9/125	COA	303700
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7733 0091 5375
MATRIX*	A=Air DL=Drum L=Liquids DS=Drum S=Soil O=Oil S=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION	HCl or H2SO4 to pH <2/Cool 14 Days	METHOD OF SHIPMENT	FEDERAL EXPRESS
POSSIBLE SAMPLE HAZARDS/ REMARKS	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	HOLDING TIME	agS*	PRICE CODE	7C
SPECIAL HANDLING AND/OR STORAGE	N/A	NO. OF CONTAINER(S)	4	AIR QUALITY	<input type="checkbox"/>
		VOLUME	40mL		
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		

SAMPLE NO.	MATRIX*	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
B310Y2	WATER	APR 06 2015	0940	APR 06 2015	1100

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-151	PAGE 1 OF 1
COLLECTOR	D.L. Floyd/CHPRC	COMPANY CONTACT	EVANS, RT	PROJECT COORDINATOR	EVANS, RT
SAMPLING LOCATION	289-TA, Post-Resin Tanks, Valve V06-Y22	PROJECT DESIGNATION	200W Pump & Treat - Treatment Plant Water Sampling	SAF NO.	F15-005
ICE CHEST NO.	6005-417	FIELD LOGBOOK NO.	HNF-N-491-9/125	COA	303700
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7733 0091 5375
MATRIX*	A=Air DL=Drum L=Liquids DS=Drum S=Soil O=Oil S=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION	HCl or H2SO4 to pH <2/Cool 14 Days	METHOD OF SHIPMENT	FEDERAL EXPRESS
POSSIBLE SAMPLE HAZARDS/ REMARKS	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	HOLDING TIME	agS*	PRICE CODE	7C
SPECIAL HANDLING AND/OR STORAGE	N/A	NO. OF CONTAINER(S)	4	AIR QUALITY	<input type="checkbox"/>
		VOLUME	40mL		
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		

RELINQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
D.L. Floyd/CHPRC	APR 06 2015 1100	L.D. Wall	APR 06 2015 1100	APR 06 2015 1100
CHPRC	APR 06 2015 1400	L.D. Wall	APR 06 2015 1400	APR 06 2015 1400
FED EX		Jill Clarke	4.9.15 0920	

RELINQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME

FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 3/23/2015

A-6003-618 (REV 2)



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CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-152	PAGE 1 OF 1
COLLECTOR	D.L. Floyd/CHPRC	COMPANY CONTACT	EVANS, RT	PROJECT COORDINATOR	EVANS, RT
SAMPLING LOCATION	289-TA, Post-Resin Tanks, Valve V06-Y22 --FTB	PROJECT DESIGNATION	200W Pump & Treat - Treatment Plant Water Sampling	SAF NO.	F15-005
ICE CHEST NO.	GWS-417	FIELD LOGBOOK NO.	HNF-N-457-9/25	COA	303700
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7733 0091 5375
MATRIX*	A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION	HCl or H2SO4 to pH <2/cool 14 Days		
POSSIBLE SAMPLE HAZARDS/ REMARKS	*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.	HOLDING TIME			
		TYPE OF CONTAINER	aGs*		
		NO. OF CONTAINER(S)	4		
		VOLUME	40mL		
SPECIAL HANDLING AND/OR STORAGE	N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B310Y3	WATER	APR 06 2015	0815

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-005-152	PAGE 1 OF 1
COLLECTOR	D.L. Floyd/CHPRC	COMPANY CONTACT	EVANS, RT	PROJECT COORDINATOR	EVANS, RT
SAMPLING LOCATION	289-TA, Post-Resin Tanks, Valve V06-Y22 --FTB	PROJECT DESIGNATION	200W Pump & Treat - Treatment Plant Water Sampling	SAF NO.	F15-005
ICE CHEST NO.	GWS-417	FIELD LOGBOOK NO.	HNF-N-457-9/25	COA	303700
SHIPPED TO	TestAmerica St. Louis	OFFSITE PROPERTY NO.	N/A	BILL OF LADING/AIR BILL NO.	7733 0091 5375
MATRIX*	A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION	HCl or H2SO4 to pH <2/cool 14 Days		
POSSIBLE SAMPLE HAZARDS/ REMARKS	*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.	HOLDING TIME			
		TYPE OF CONTAINER	aGs*		
		NO. OF CONTAINER(S)	4		
		VOLUME	40mL		
SPECIAL HANDLING AND/OR STORAGE	N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM D.L. Floyd/CHPRC		L.D. Wall	APR 06 2015 1100
RELINQUISHED BY/REMOVED FROM L.D. Wall		FEDEX	
RELINQUISHED BY/REMOVED FROM CHPRC		Jill Clarke	APR 15 0920
RELINQUISHED BY/REMOVED FROM			
RECEIVED BY			
DISPOSAL METHOD			

SPECIAL INSTRUCTIONS
 ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. TRVL-15-057
 (1) 8260_VOA_GCMS: CH 01 {Chloromethane}; 8260_VOA_GCMS: COMMON {Acetone, Carbon tetrachloride, Chloroform, Methylene chloride, Trichloroethene, Vinyl chloride}; 8260_VOA_GCMS: COMMON (Add-on) {cis-1,2-Dichloroethylene};

TRVL-15-057



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Delivered

Tracking No. or Nickname	Shipper city, state	Origin Terminal	Ship (P/U) date	Status
773302633471	RICHLAND, WA	PASCO, WA	4/06/2015 3:24 pm	
773300915375	RICHLAND, WA	PASCO, WA	4/06/2015 3:24 pm	

Delivered

773302633471

Travel History

Date/Time	Activity
- 4/07/2015 - Tuesday	
9:15 am	Delivered
7:22 am	On FedEx vehicle for delivery
7:16 am	At local FedEx facility
5:21 am	At destination sort facility
4:34 am	Departed FedEx location
12:49 am	Arrived at FedEx location
- 4/06/2015 - Monday	
5:04 pm	Left FedEx origin facility
4:05 pm	Shipment information sent to FedEx
3:24 pm	Picked up

Shipment Facts

Tracking number	773302633471	Service	FedEx F
Weight	85 lbs / 38.56 kgs	Delivered To	Shipping
Total pieces	1	Total shipment weight	85 lbs / :
Shipper reference	gws-826	Packaging	Your Pa
Special			

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Delivered

Tracking No. or Nickname	Shipper city, state	Origin Terminal	Ship (P/U) date	Status
773302633471	RICHLAND, WA	PASCO, WA	4/06/2015 3:24 pm	
773300915375	RICHLAND, WA	PASCO, WA	4/06/2015 3:24 pm	

Delivered

773300915375

Travel History

Date/Time	Activity
- 4/07/2015 - Tuesday	
9:15 am	Delivered
6:59 am	On FedEx vehicle for delivery
6:54 am	At local FedEx facility
5:21 am	At destination sort facility
4:34 am	Departed FedEx location
12:49 am	Arrived at FedEx location
- 4/06/2015 - Monday	
5:04 pm	Left FedEx origin facility
3:24 pm	Picked up
2:46 pm	Shipment information sent to FedEx

Shipment Facts

Tracking number	773300915375	Service	FedEx F
Weight	70 lbs / 31.75 kgs	Delivered To	Shipping
Total pieces	1	Total shipment weight	70 lbs / ;
Shipper reference	GWS-417	Packaging	Your Pa
Special			

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
T	MS, MSD: Recovery exceeds upper or lower control limits.
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.
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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
160.2	Solids, Total Suspended (TSS)	MCAWW	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
415.1	TOC	MCAWW	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



April 20, 2015
Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-11224-1	B310W3	Water	04/06/15 12:25	04/07/15 09:20
160-11224-2	B310W2	Water	04/06/15 12:25	04/07/15 09:20
160-11224-3	B310X3	Water	04/06/15 09:50	04/07/15 09:20
160-11224-4	B310W8	Water	04/06/15 09:50	04/07/15 09:20
160-11224-5	B310V7	Water	04/06/15 08:54	04/07/15 09:20
160-11224-6	B310Y2	Water	04/06/15 09:40	04/07/15 09:20
160-11224-7	B310Y3	Water	04/06/15 08:15	04/07/15 09:20

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

April 20, 2015
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Client Sample ID: B310W3

Lab Sample ID: 160-11224-1

Date Collected: 04/06/15 12:25

Matrix: Water

Date Received: 04/07/15 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.34	U	2.0	0.34	ug/L			04/09/15 14:52	1
Carbon tetrachloride	0.13	U	1.0	0.13	ug/L			04/09/15 14:52	1
Chloroform	0.10	U	1.0	0.10	ug/L			04/09/15 14:52	1
Chloromethane	0.080	U	2.0	0.080	ug/L			04/09/15 14:52	1
cis-1,2-Dichloroethylene	0.090	U	1.0	0.090	ug/L			04/09/15 14:52	1
Methylene Chloride	12		1.0	0.27	ug/L			04/09/15 14:52	1
Trichloroethene	0.25	U T	1.0	0.25	ug/L			04/09/15 14:52	1
Vinyl chloride	0.080	U	2.0	0.080	ug/L			04/09/15 14:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		75 - 129					04/09/15 14:52	1
4-Bromofluorobenzene (Surr)	120		81 - 130					04/09/15 14:52	1
Dibromofluoromethane (Surr)	118		81 - 124					04/09/15 14:52	1
Toluene-d8 (Surr)	107		87 - 128					04/09/15 14:52	1

Client Sample ID: B310W2

Lab Sample ID: 160-11224-2

Date Collected: 04/06/15 12:25

Matrix: Water

Date Received: 04/07/15 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.7	J	2.0	0.34	ug/L			04/09/15 15:15	1
Carbon tetrachloride	0.13	U	1.0	0.13	ug/L			04/09/15 15:15	1
Chloroform	0.19	J	1.0	0.10	ug/L			04/09/15 15:15	1
Chloromethane	0.080	U	2.0	0.080	ug/L			04/09/15 15:15	1
cis-1,2-Dichloroethylene	0.090	U	1.0	0.090	ug/L			04/09/15 15:15	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			04/09/15 15:15	1
Trichloroethene	0.25	U T	1.0	0.25	ug/L			04/09/15 15:15	1
Vinyl chloride	0.080	U	2.0	0.080	ug/L			04/09/15 15:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 129					04/09/15 15:15	1
4-Bromofluorobenzene (Surr)	115		81 - 130					04/09/15 15:15	1
Dibromofluoromethane (Surr)	113		81 - 124					04/09/15 15:15	1
Toluene-d8 (Surr)	109		87 - 128					04/09/15 15:15	1

Client Sample ID: B310X3

Lab Sample ID: 160-11224-3

Date Collected: 04/06/15 09:50

Matrix: Water

Date Received: 04/07/15 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.7	U	10	1.7	ug/L			04/09/15 16:50	5
Carbon tetrachloride	700	D	50	6.5	ug/L			04/09/15 12:54	50
Chloroform	7.4	D	5.0	0.50	ug/L			04/09/15 16:50	5
Chloromethane	0.40	U	10	0.40	ug/L			04/09/15 16:50	5
cis-1,2-Dichloroethylene	0.45	U	5.0	0.45	ug/L			04/09/15 16:50	5
Methylene Chloride	1.4	U	5.0	1.4	ug/L			04/09/15 16:50	5
Trichloroethene	4.0	J D T	5.0	1.3	ug/L			04/09/15 16:50	5
Vinyl chloride	0.40	U	10	0.40	ug/L			04/09/15 16:50	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		75 - 129					04/09/15 12:54	50
1,2-Dichloroethane-d4 (Surr)	118		75 - 129					04/09/15 16:50	5

TestAmerica St. Louis

April 20, 2015
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Client Sample ID: B310X3
Date Collected: 04/06/15 09:50
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		81 - 130		04/09/15 12:54	50
4-Bromofluorobenzene (Surr)	116		81 - 130		04/09/15 16:50	5
Dibromofluoromethane (Surr)	112		81 - 124		04/09/15 12:54	50
Dibromofluoromethane (Surr)	123		81 - 124		04/09/15 16:50	5
Toluene-d8 (Surr)	105		87 - 128		04/09/15 12:54	50
Toluene-d8 (Surr)	109		87 - 128		04/09/15 16:50	5

Client Sample ID: B310W8
Date Collected: 04/06/15 09:50
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.7	U	10	1.7	ug/L			04/09/15 16:34	5
Carbon tetrachloride	610	D	50	6.5	ug/L			04/09/15 12:24	50
Chloroform	6.4	D	5.0	0.50	ug/L			04/09/15 16:34	5
Chloromethane	0.40	U	10	0.40	ug/L			04/09/15 16:34	5
cis-1,2-Dichloroethylene	0.45	U	5.0	0.45	ug/L			04/09/15 16:34	5
Methylene Chloride	1.4	U	5.0	1.4	ug/L			04/09/15 16:34	5
Trichloroethene	4.0	J D T	5.0	1.3	ug/L			04/09/15 16:34	5
Vinyl chloride	0.40	U	10	0.40	ug/L			04/09/15 16:34	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 129		04/09/15 12:24	50
1,2-Dichloroethane-d4 (Surr)	95		75 - 129		04/09/15 16:34	5
4-Bromofluorobenzene (Surr)	107		81 - 130		04/09/15 12:24	50
4-Bromofluorobenzene (Surr)	108		81 - 130		04/09/15 16:34	5
Dibromofluoromethane (Surr)	105		81 - 124		04/09/15 12:24	50
Dibromofluoromethane (Surr)	112		81 - 124		04/09/15 16:34	5
Toluene-d8 (Surr)	105		87 - 128		04/09/15 12:24	50
Toluene-d8 (Surr)	109		87 - 128		04/09/15 16:34	5

Client Sample ID: B310V7
Date Collected: 04/06/15 08:54
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.7	U	10	1.7	ug/L			04/09/15 16:59	5
Carbon tetrachloride	500	D	50	6.5	ug/L			04/09/15 12:49	50
Chloroform	5.7	D	5.0	0.50	ug/L			04/09/15 16:59	5
Chloromethane	0.40	U	10	0.40	ug/L			04/09/15 16:59	5
cis-1,2-Dichloroethylene	0.45	U	5.0	0.45	ug/L			04/09/15 16:59	5
Methylene Chloride	1.4	U	5.0	1.4	ug/L			04/09/15 16:59	5
Trichloroethene	2.9	J D T	5.0	1.3	ug/L			04/09/15 16:59	5
Vinyl chloride	0.40	U	10	0.40	ug/L			04/09/15 16:59	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 129		04/09/15 12:49	50
1,2-Dichloroethane-d4 (Surr)	95		75 - 129		04/09/15 16:59	5
4-Bromofluorobenzene (Surr)	108		81 - 130		04/09/15 12:49	50
4-Bromofluorobenzene (Surr)	108		81 - 130		04/09/15 16:59	5
Dibromofluoromethane (Surr)	107		81 - 124		04/09/15 12:49	50
Dibromofluoromethane (Surr)	112		81 - 124		04/09/15 16:59	5

TestAmerica St. Louis

April 20, 2015
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Client Sample ID: B310V7
Date Collected: 04/06/15 08:54
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-5
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		87 - 128		04/09/15 12:49	50
Toluene-d8 (Surr)	107		87 - 128		04/09/15 16:59	5

Client Sample ID: B310Y2
Date Collected: 04/06/15 09:40
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.7	U	10	1.7	ug/L			04/09/15 17:23	5
Carbon tetrachloride	590	D	50	6.5	ug/L			04/09/15 13:14	50
Chloroform	5.3	D	5.0	0.50	ug/L			04/09/15 17:23	5
Chloromethane	0.40	U	10	0.40	ug/L			04/09/15 17:23	5
cis-1,2-Dichloroethylene	0.45	U	5.0	0.45	ug/L			04/09/15 17:23	5
Methylene Chloride	1.4	U	5.0	1.4	ug/L			04/09/15 17:23	5
Trichloroethene	3.8	J D T	5.0	1.3	ug/L			04/09/15 17:23	5
Vinyl chloride	0.40	U	10	0.40	ug/L			04/09/15 17:23	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 129		04/09/15 13:14	50
1,2-Dichloroethane-d4 (Surr)	94		75 - 129		04/09/15 17:23	5
4-Bromofluorobenzene (Surr)	107		81 - 130		04/09/15 13:14	50
4-Bromofluorobenzene (Surr)	109		81 - 130		04/09/15 17:23	5
Dibromofluoromethane (Surr)	105		81 - 124		04/09/15 13:14	50
Dibromofluoromethane (Surr)	117		81 - 124		04/09/15 17:23	5
Toluene-d8 (Surr)	108		87 - 128		04/09/15 13:14	50
Toluene-d8 (Surr)	108		87 - 128		04/09/15 17:23	5

Client Sample ID: B310Y3
Date Collected: 04/06/15 08:15
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.34	U	2.0	0.34	ug/L			04/09/15 10:45	1
Carbon tetrachloride	0.13	U	1.0	0.13	ug/L			04/09/15 10:45	1
Chloroform	0.10	U	1.0	0.10	ug/L			04/09/15 10:45	1
Chloromethane	0.080	U	2.0	0.080	ug/L			04/09/15 10:45	1
cis-1,2-Dichloroethylene	0.090	U	1.0	0.090	ug/L			04/09/15 10:45	1
Methylene Chloride	5.9		1.0	0.27	ug/L			04/09/15 10:45	1
Trichloroethene	0.25	U T	1.0	0.25	ug/L			04/09/15 10:45	1
Vinyl chloride	0.080	U	2.0	0.080	ug/L			04/09/15 10:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 129		04/09/15 10:45	1
4-Bromofluorobenzene (Surr)	106		81 - 130		04/09/15 10:45	1
Dibromofluoromethane (Surr)	106		81 - 124		04/09/15 10:45	1
Toluene-d8 (Surr)	106		87 - 128		04/09/15 10:45	1

TestAmerica St. Louis

April 20, 2015
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

General Chemistry

Client Sample ID: B310W2
Date Collected: 04/06/15 12:25
Date Received: 04/07/15 09:20

Lab Sample ID: 160-11224-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	404		5.0	3.5	mg/L			04/13/15 09:48	1
Total Suspended Solids	4.0	U	4.0	4.0	mg/L			04/13/15 10:25	1
Alkalinity	84.0		5.0	0.54	mg/L			04/14/15 10:39	1
Total Organic Carbon	1.9		1.0	0.35	mg/L			04/14/15 16:42	1

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Lab Sample ID: MB 160-184432/8

Matrix: Water

Analysis Batch: 184432

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.34	U	2.0	0.34	ug/L			04/09/15 08:59	1
Carbon tetrachloride	0.13	U	1.0	0.13	ug/L			04/09/15 08:59	1
Chloroform	0.10	U	1.0	0.10	ug/L			04/09/15 08:59	1
Chloromethane	0.080	U	2.0	0.080	ug/L			04/09/15 08:59	1
cis-1,2-Dichloroethylene	0.090	U	1.0	0.090	ug/L			04/09/15 08:59	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			04/09/15 08:59	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			04/09/15 08:59	1
Vinyl chloride	0.080	U	2.0	0.080	ug/L			04/09/15 08:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		75 - 129		04/09/15 08:59	1
4-Bromofluorobenzene (Surr)	112		81 - 130		04/09/15 08:59	1
Dibromofluoromethane (Surr)	103		81 - 124		04/09/15 08:59	1
Toluene-d8 (Surr)	105		87 - 128		04/09/15 08:59	1

Lab Sample ID: LCS 160-184432/5

Matrix: Water

Analysis Batch: 184432

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10.0	11.8		ug/L		118	69 - 129
Carbon tetrachloride	10.0	11.2		ug/L		112	83 - 125
Chloroform	10.0	10.3		ug/L		103	80 - 120
Chloromethane	10.0	9.89		ug/L		99	72 - 124
cis-1,2-Dichloroethylene	10.0	9.67		ug/L		97	80 - 120
Methylene Chloride	10.0	9.11		ug/L		91	80 - 120
Trichloroethene	10.0	8.66		ug/L		87	80 - 120
Vinyl chloride	10.0	8.76		ug/L		88	77 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		75 - 129
4-Bromofluorobenzene (Surr)	104		81 - 130
Dibromofluoromethane (Surr)	110		81 - 124
Toluene-d8 (Surr)	103		87 - 128

Lab Sample ID: LCSD 160-184432/6

Matrix: Water

Analysis Batch: 184432

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
Acetone	10.0	11.3		ug/L		113	69 - 129	5	20
Carbon tetrachloride	10.0	11.0		ug/L		110	83 - 125	2	20
Chloroform	10.0	10.1		ug/L		101	80 - 120	2	20
Chloromethane	10.0	9.52		ug/L		95	72 - 124	4	20
cis-1,2-Dichloroethylene	10.0	9.55		ug/L		96	80 - 120	1	20
Methylene Chloride	10.0	9.04		ug/L		90	80 - 120	1	20
Trichloroethene	10.0	8.70		ug/L		87	80 - 120	1	20

TestAmerica St. Louis

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Lab Sample ID: LCSD 160-184432/6

Matrix: Water

Analysis Batch: 184432

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	
Vinyl chloride	10.0	8.55		ug/L		85	77 - 122	2	20	
Surrogate	%Recovery	LCSD Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)	100		75 - 129							
4-Bromofluorobenzene (Surr)	105		81 - 130							
Dibromofluoromethane (Surr)	108		81 - 124							
Toluene-d8 (Surr)	103		87 - 128							

Lab Sample ID: 160-11195-B-21 MS

Matrix: Water

Analysis Batch: 184432

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	RPD	RPD Limit
Acetone	0.34	U	10.0	9.03		ug/L		90	50 - 137		
Carbon tetrachloride	0.13	U	10.0	11.2		ug/L		112	77 - 131		
Chloroform	0.10	U	10.0	10.4		ug/L		104	80 - 120		
Chloromethane	0.080	U	10.0	9.63		ug/L		96	62 - 132		
cis-1,2-Dichloroethylene	0.090	U	10.0	9.60		ug/L		96	80 - 120		
Methylene Chloride	0.27	U	10.0	9.05		ug/L		91	80 - 120		
Trichloroethene	0.25	U T	10.0	7.88	T	ug/L		79	81 - 125		
Vinyl chloride	0.080	U	10.0	8.73		ug/L		87	70 - 129		
Surrogate	%Recovery	MS Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		75 - 129								
4-Bromofluorobenzene (Surr)	103		81 - 130								
Dibromofluoromethane (Surr)	112		81 - 124								
Toluene-d8 (Surr)	104		87 - 128								

Lab Sample ID: 160-11195-C-21 MSD

Matrix: Water

Analysis Batch: 184432

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
Acetone	0.34	U	10.0	9.13		ug/L		91	50 - 137	1	20
Carbon tetrachloride	0.13	U	10.0	10.7		ug/L		107	77 - 131	5	20
Chloroform	0.10	U	10.0	10.1		ug/L		101	80 - 120	3	20
Chloromethane	0.080	U	10.0	9.30		ug/L		93	62 - 132	4	20
cis-1,2-Dichloroethylene	0.090	U	10.0	9.69		ug/L		97	80 - 120	1	20
Methylene Chloride	0.27	U	10.0	8.82		ug/L		88	80 - 120	3	20
Trichloroethene	0.25	U T	10.0	7.51	T	ug/L		75	81 - 125	5	20
Vinyl chloride	0.080	U	10.0	8.45		ug/L		85	70 - 129	3	20
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	96		75 - 129								
4-Bromofluorobenzene (Surr)	102		81 - 130								
Dibromofluoromethane (Surr)	111		81 - 124								
Toluene-d8 (Surr)	102		87 - 128								

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Lab Sample ID: MB 160-184445/10
Matrix: Water
Analysis Batch: 184445

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.34	U	2.0	0.34	ug/L			04/09/15 10:20	1
Carbon tetrachloride	0.13	U	1.0	0.13	ug/L			04/09/15 10:20	1
Chloroform	0.10	U	1.0	0.10	ug/L			04/09/15 10:20	1
Chloromethane	0.080	U	2.0	0.080	ug/L			04/09/15 10:20	1
cis-1,2-Dichloroethylene	0.090	U	1.0	0.090	ug/L			04/09/15 10:20	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			04/09/15 10:20	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			04/09/15 10:20	1
Vinyl chloride	0.080	U	2.0	0.080	ug/L			04/09/15 10:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 129		04/09/15 10:20	1
4-Bromofluorobenzene (Surr)	107		81 - 130		04/09/15 10:20	1
Dibromofluoromethane (Surr)	100		81 - 124		04/09/15 10:20	1
Toluene-d8 (Surr)	106		87 - 128		04/09/15 10:20	1

Lab Sample ID: LCS 160-184445/7
Matrix: Water
Analysis Batch: 184445

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10.0	10.4		ug/L		104	69 - 129
Carbon tetrachloride	10.0	10.0		ug/L		100	83 - 125
Chloroform	10.0	10.1		ug/L		101	80 - 120
Chloromethane	10.0	10.1		ug/L		101	72 - 124
cis-1,2-Dichloroethylene	10.0	9.87		ug/L		99	80 - 120
Methylene Chloride	10.0	9.96		ug/L		100	80 - 120
Trichloroethene	10.0	8.51		ug/L		85	80 - 120
Vinyl chloride	10.0	11.3		ug/L		113	77 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		75 - 129
4-Bromofluorobenzene (Surr)	96		81 - 130
Dibromofluoromethane (Surr)	104		81 - 124
Toluene-d8 (Surr)	95		87 - 128

Lab Sample ID: LCSD 160-184445/8
Matrix: Water
Analysis Batch: 184445

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
Acetone	10.0	9.64		ug/L		96	69 - 129	8	20
Carbon tetrachloride	10.0	10.0		ug/L		100	83 - 125	0	20
Chloroform	10.0	10.0		ug/L		100	80 - 120	1	20
Chloromethane	10.0	9.57		ug/L		96	72 - 124	5	20
cis-1,2-Dichloroethylene	10.0	9.69		ug/L		97	80 - 120	2	20
Methylene Chloride	10.0	10.2		ug/L		102	80 - 120	3	20
Trichloroethene	10.0	8.39		ug/L		84	80 - 120	1	20

TestAmerica St. Louis

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Lab Sample ID: LCSD 160-184445/8

Matrix: Water

Analysis Batch: 184445

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
Vinyl chloride	10.0	11.0		ug/L		110	77 - 122	3	20
Surrogate									
	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	95		75 - 129						
4-Bromofluorobenzene (Surr)	94		81 - 130						
Dibromofluoromethane (Surr)	100		81 - 124						
Toluene-d8 (Surr)	96		87 - 128						

Lab Sample ID: 160-11224-7 MS

Matrix: Water

Analysis Batch: 184445

Client Sample ID: B310Y3

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.34	U	10.0	10.8		ug/L		108	50 - 137		
Carbon tetrachloride	0.13	U	10.0	9.86		ug/L		99	77 - 131		
Chloroform	0.10	U	10.0	10.1		ug/L		101	80 - 120		
Chloromethane	0.080	U	10.0	9.45		ug/L		95	62 - 132		
cis-1,2-Dichloroethylene	0.090	U	10.0	9.74		ug/L		97	80 - 120		
Methylene Chloride	5.9		10.0	15.0		ug/L		90	80 - 120		
Trichloroethene	0.25	U T	10.0	7.77	T	ug/L		78	81 - 125		
Vinyl chloride	0.080	U	10.0	10.6		ug/L		106	70 - 129		
Surrogate											
	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		75 - 129								
4-Bromofluorobenzene (Surr)	92		81 - 130								
Dibromofluoromethane (Surr)	102		81 - 124								
Toluene-d8 (Surr)	94		87 - 128								

Lab Sample ID: 160-11224-7 MSD

Matrix: Water

Analysis Batch: 184445

Client Sample ID: B310Y3

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.34	U	10.0	10.1		ug/L		101	50 - 137	7	20
Carbon tetrachloride	0.13	U	10.0	9.85		ug/L		98	77 - 131	0	20
Chloroform	0.10	U	10.0	10.3		ug/L		103	80 - 120	2	20
Chloromethane	0.080	U	10.0	9.49		ug/L		95	62 - 132	0	20
cis-1,2-Dichloroethylene	0.090	U	10.0	9.91		ug/L		99	80 - 120	2	20
Methylene Chloride	5.9		10.0	14.7		ug/L		88	80 - 120	2	20
Trichloroethene	0.25	U T	10.0	7.84	T	ug/L		78	81 - 125	1	20
Vinyl chloride	0.080	U	10.0	11.0		ug/L		110	70 - 129	3	20
Surrogate											
	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	96		75 - 129								
4-Bromofluorobenzene (Surr)	94		81 - 130								
Dibromofluoromethane (Surr)	108		81 - 124								
Toluene-d8 (Surr)	98		87 - 128								

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-185196/1
Matrix: Water
Analysis Batch: 185196

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			04/13/15 09:48	1

Lab Sample ID: LCS 160-185196/2
Matrix: Water
Analysis Batch: 185196

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	503.0		mg/L		101	90 - 110

Lab Sample ID: 160-11224-2 DU
Matrix: Water
Analysis Batch: 185196

Client Sample ID: B310W2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	404		410.0		mg/L		1	20

Method: 160.2 - Solids, Total Suspended (TSS)

Lab Sample ID: MB 160-185220/1
Matrix: Water
Analysis Batch: 185220

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			04/13/15 10:25	1

Lab Sample ID: LCS 160-185220/2
Matrix: Water
Analysis Batch: 185220

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	487.0		mg/L		97	78 - 124

Lab Sample ID: 160-11224-2 DU
Matrix: Water
Analysis Batch: 185220

Client Sample ID: B310W2
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: 310.1 - Alkalinity

Lab Sample ID: MB 160-185627/1
Matrix: Water
Analysis Batch: 185627

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			04/14/15 10:39	1

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: HLCS 160-185627/3
Matrix: Water
Analysis Batch: 185627

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	383.0		mg/L		96	90 - 110

Lab Sample ID: LCS 160-185627/2
Matrix: Water
Analysis Batch: 185627

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	190.0		mg/L		95	90 - 110

Lab Sample ID: 160-11163-A-5 MS
Matrix: Water
Analysis Batch: 185627

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
Alkalinity	103		100	198.0		mg/L		95	80 - 120

Lab Sample ID: 160-11163-A-5 DU
Matrix: Water
Analysis Batch: 185627

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	103			103.0		mg/L		0	20

Method: 415.1 - TOC

Lab Sample ID: MB 160-185798/5
Matrix: Water
Analysis Batch: 185798

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	0.35	U	1.0	0.35	mg/L			04/14/15 14:33	1

Lab Sample ID: LCS 160-185798/6
Matrix: Water
Analysis Batch: 185798

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	9.85		mg/L		99	90 - 110

Lab Sample ID: MRL 160-185798/4
Matrix: Water
Analysis Batch: 185798

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.00	1.19		mg/L		119	80 - 120

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

Method: 415.1 - TOC (Continued)

Lab Sample ID: 160-11224-2 MS
Matrix: Water
Analysis Batch: 185798

Client Sample ID: B310W2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.9		5.00	7.18		mg/L		106	76 - 120

Lab Sample ID: 160-11224-2 DU
Matrix: Water
Analysis Batch: 185798

Client Sample ID: B310W2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	1.9		1.92		mg/L		1	20



April 20, 2015
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

GC/MS VOA

Analysis Batch: 184432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11195-B-21 MS	Matrix Spike	Total/NA	Water	8260C	
160-11195-C-21 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
160-11224-1	B310W3	Total/NA	Water	8260C	
160-11224-2	B310W2	Total/NA	Water	8260C	
160-11224-3	B310X3	Total/NA	Water	8260C	
160-11224-3	B310X3	Total/NA	Water	8260C	
LCS 160-184432/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-184432/6	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-184432/8	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 184445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11224-4	B310W8	Total/NA	Water	8260C	
160-11224-4	B310W8	Total/NA	Water	8260C	
160-11224-5	B310V7	Total/NA	Water	8260C	
160-11224-5	B310V7	Total/NA	Water	8260C	
160-11224-6	B310Y2	Total/NA	Water	8260C	
160-11224-6	B310Y2	Total/NA	Water	8260C	
160-11224-7	B310Y3	Total/NA	Water	8260C	
160-11224-7 MS	B310Y3	Total/NA	Water	8260C	
160-11224-7 MSD	B310Y3	Total/NA	Water	8260C	
LCS 160-184445/7	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-184445/8	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 160-184445/10	Method Blank	Total/NA	Water	8260C	

General Chemistry

Analysis Batch: 185196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11224-2	B310W2	Total/NA	Water	160.1	
160-11224-2 DU	B310W2	Total/NA	Water	160.1	
LCS 160-185196/2	Lab Control Sample	Total/NA	Water	160.1	
MB 160-185196/1	Method Blank	Total/NA	Water	160.1	

Analysis Batch: 185220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11224-2	B310W2	Total/NA	Water	160.2	
160-11224-2 DU	B310W2	Total/NA	Water	160.2	
LCS 160-185220/2	Lab Control Sample	Total/NA	Water	160.2	
MB 160-185220/1	Method Blank	Total/NA	Water	160.2	

Analysis Batch: 185627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11163-A-5 DU	Duplicate	Total/NA	Water	310.1	
160-11163-A-5 MS	Matrix Spike	Total/NA	Water	310.1	
160-11224-2	B310W2	Total/NA	Water	310.1	
HLCS 160-185627/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-185627/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-185627/1	Method Blank	Total/NA	Water	310.1	

TestAmerica St. Louis

April 20, 2015
QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

General Chemistry (Continued)

Analysis Batch: 185798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11224-2	B310W2	Total/NA	Water	415.1	
160-11224-2 DU	B310W2	Total/NA	Water	415.1	
160-11224-2 MS	B310W2	Total/NA	Water	415.1	
LCS 160-185798/6	Lab Control Sample	Total/NA	Water	415.1	
MB 160-185798/5	Method Blank	Total/NA	Water	415.1	
MRL 160-185798/4	Lab Control Sample	Total/NA	Water	415.1	

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

Client: CH2M Hill Plateau Remediation Company
Project/Site: F15-005

TestAmerica Job ID: 160-11224-1
SDG: SL1781

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (75-129)	BFB (81-130)	DBFM (81-124)	TOL (87-128)
160-11195-B-21 MS	Matrix Spike	101	103	112	104
160-11195-C-21 MSD	Matrix Spike Duplicate	96	102	111	102
160-11224-1	B310W3	116	120	118	107
160-11224-2	B310W2	111	115	113	109
160-11224-3	B310X3	103	115	112	105
160-11224-3	B310X3	118	116	123	109
160-11224-4	B310W8	95	107	105	105
160-11224-4	B310W8	95	108	112	109
160-11224-5	B310V7	95	108	107	109
160-11224-5	B310V7	95	108	112	107
160-11224-6	B310Y2	98	107	105	108
160-11224-6	B310Y2	94	109	117	108
160-11224-7	B310Y3	92	106	106	106
160-11224-7 MS	B310Y3	95	92	102	94
160-11224-7 MSD	B310Y3	96	94	108	98
LCS 160-184432/5	Lab Control Sample	108	104	110	103
LCS 160-184445/7	Lab Control Sample	98	96	104	95
LCSD 160-184432/6	Lab Control Sample Dup	100	105	108	103
LCSD 160-184445/8	Lab Control Sample Dup	95	94	100	96
MB 160-184432/8	Method Blank	99	112	103	105
MB 160-184445/10	Method Blank	96	107	100	106

Surrogate Legend

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

