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: 160-19626-1
TestAmerica Sample Delivery Group: SL2334
Client Project/Site: W17-010 / S17-010 / X17-003
Revision: 2

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

Attn: Mr. Scot Fitzgerald

Authorized for release by:
2/23/2018 4:42:21 PM

Jayna Awalt, Project Manager II
(314)298-8566
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

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Job ID: 160-19626-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE
Rev. 1 - Incorrect Sample ID was caught while trying to submit EDD to EDD Pro. ID corrected.
Rev. 2 - Per SIR18-0479, 1,4-Dichlorobenzene was added to 8260 sample B36P69.

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
November 11, 2016
Attention: Scot Fitzgerald

SDG	: SL2334
Number of Samples	: 15 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: October 25, 2016

II. Introduction

On October 22 and 25, 15 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: X17-003, W17-010, S17-010, I17-001

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

Job ID: 160-19626-1 (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/RL but not greater than 5% the MB.
- **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 and will not be narrated below. Only dilutions above 2x will be narrated and considered a true dilution for these solid samples.
- **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.
- **P -** For organic analyses (PCB/Pests only), the aroclor target analyte has greater than 25% difference for detected concentrations between the two GC columns.
- **X-** Organics and Anions IC - Sample concentration over calibration and/or surrogate recovery outside QC limits.
- **X-** Inorganics - MS/MSD; the analyte present in the original sample is > 4x the matrix spike concentration.
- **Z-** Sample was prepped or analyzed beyond the specified sample holding time.
- **y -** RPD is outside established limits.

Volatiles

Batch: 160-276125

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-276125: 4-Methyl-2-pentanone, 2-Butanone, and Acetone. A low level CCV was analyzed at the base reporting limit concentration of 1ug/L and the affected analytes were detected. Target analytes recovering above the reporting limit will be qualified and reported. (CCVIS 160-276125/4)

The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 160-276125 was outside control limits. The analyte percent recoveries for the MS/MSD were within QC limits for this analyte. LCS/LCSD %RPD was acceptable. (160-19626-B-3 MS) and (160-19626-C-3 MSD) These analytes have been flagged accordingly with a "y" in the associated samples.

Samples (CCVIS 160-276125/4), (LCS 160-276125/5), (LCSD 160-276125/6), (LOQV 160-276125/7), (160-19626-B-3 MS) and (160-19626-C-3 MSD) in batch 160-276125 were spiked with analyte mix that had one parent standard expired (Acrolein). The rest of the parents that make up the mix were not expired. Acrolein was not analyzed for against this QC.

Case Narrative

Job ID: 160-19626-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Semivolatiles

Batch: 160-277053

The continuing calibration verification (CCV) associated with batch 160-277053 recovered above the upper control limit for Di-n-octyl phthalate. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. (CCVIS 160-277053/3)

ICP Metals

Batch: 160-276018

The MS/MSD in preparation batch 160-275774 and analytical batch 160-276018 were above the linear range check (LRC) for Boron. The MS/MSD were within acceptable QC limits. The MS/MSD is reported as an estimated value. (160-19570-A-2-G MS) and (160-19570-A-2-H MSD)

Batch: 160-276915

The Laboratory Control Sample (LCS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD) associated with preparation batch 160-276283 and analytical batch 160-276915 were above the upper linear range for Boron. However, recovery was within limits, and results will be reported. (LCS 160-276283/2-A), (160-19648-B-6-E MS) and (160-19648-B-6-F MSD)

ICPMS Metals

Batch: 160-278626

The MS/MSD/serial dilution associated with preparation batch 160-276282 and analytical batch 160-278626 were analyzed on a different job within the prep batch. The sample chosen for batch QC had a different analyte list and QC requirements. As a result, the MS/MSD/serial dilution for Silver, Aluminum, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Manganese, Molybdenum, Nickel, Lead, Antimony, Selenium, Tin, Strontium, Thorium, Thallium, Uranium and Zinc was not applied to this job. B36Y33 (160-19647-1) and B36Y30 (160-19647-2) Method performance is demonstrated by acceptable LCS recovery.

Batch: 160-278709

The MS/MSD/serial dilution associated with preparation batch 160-276282 and analytical batch 160-278709 were analyzed on a different job within the prep batch. The sample chosen for batch QC had a different analyte list and QC requirements. As a result, the MS/MSD/serial dilution for copper was not applied to this job. B36Y33 (160-19647-1) and B36Y30 (160-19647-2) Method performance is demonstrated by acceptable LCS recovery.

Aluminum was detected in method blank MB 160-276282/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "B". If the associated sample reported a result above the MDL and/or RL and is not greater than 5% the method blank, the result has been flagged "C".

pH

The following samples for pH water analytical batch 160-275836 were run out of hold due to pH water analysis having an immediate hold time that expires in the field at time of sample collection. B37NY8 (160-19647-3), B37NY6 (160-19647-4), B37NY9 (160-19647-5), B37NY7 (160-19647-6) and (160-19647-A-3 DU)

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

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.

Case Narrative

Job ID: 160-19626-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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:

Elizabeth M. Hoerchler
St. Louis Project Manager Assistant

SAMPLE ISSUE RESOLUTION (SIR) REPORT

SIR Number: SIR18-0479
Rev. Number: 0
Date Initiated: 02/12/2018

SAMPLE EVENT INFORMATION

SAF NUM(S): W17-010

LABORATORY: TASL

SAMPLING INFORMATION

NUMBER OF SAMPLES: 1

SAMPLE NUMBERS: B36P69

SAMPLE MATRIX: WATER

SDG NUM(S): SL2334

ISSUE BACKGROUND

CLASS: General Laboratory Direction

TYPE: Addition of Analysis

DESCRIPTION: Due to an oversight 1,4-Dichlorobenzene was not requested in the original VOA analyte list for the sample(s) listed above.

RESOLUTION

PROPOSED RESOLUTION: Re-report the SDG with 1,4-Dichlorobenzene results included for the above sample(s)

FINAL RESOLUTION: Accept proposed resolution

SUBMITTED BY:

FITZGERALD, SL 02/12/2018

ACCEPTED BY:

AWALT, JK 02/12/2018

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-19626-1
SDG Number: SL2334

Login Number: 19626
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	1.0°
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

62 LBS.

CH2MHill Plateau Remediation Company SL2334	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W17-010-186
		Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-010	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, OCTOBER 2016	**Logbook No.**	HNF-N-506 87/ 51	**Ice Chest No.**	GWS-395
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	777527775247
Protocol	RCRA	**Priority:**	15 Days **PRIORITY**	**Offsite Property No.**	N/A

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B36P70	Y	W	10-20-16	0928	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B36P67	N	W			1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B36P67	N	W			1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B36P69	N	W			4x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2/Cool <=6C
B36P69	N	W	10-20-16	0928	3x1-L aG	8270_SVOA_GCMS: 1,4 Dioxane (1)	7/40 Days	Cool <=6C

Relinquished By Dan Woehle CHPRC — Print — Sign	Date/Time OCT 20 2016 1320	Received By SSU-1 — Print — Sign	Date/Time OCT 20 2016 1320
Relinquished By SSV #1	Date/Time OCT 21 2016 0700	Received By Troy Bacon CHPRC Troy L. Bacon	Date/Time OCT 21 2016 0700
Relinquished By Troy Bacon CHPRC Troy L. Bacon	Date/Time OCT 21 2016 1400	Received By FEDEX	Date/Time
Relinquished By	Date/Time FedEx	Received By Jill Clark Jill Clark	Date/Time 10.22.16 0830

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

PRINTED ON 8/25/2016 — FSR ID = FSR26001 — A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2334	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X17-003-047 Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	WATERS-HUSTED, K	**Telephone No.**	376-4650
SAF No.	X17-003	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	Groundwater Background Study, October	**Logbook No.**	HNF-N-506 87 51	**Ice Chest No.**	GWS-395
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	777527775247
Protocol	SURV	**Priority:**	15 Days **PRIORITY**	**Offsite Property No.**	N/A

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.

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Batch with A, I, S, and W SAFs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B37058	N	W	10-20-16	0928	4x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Dan Woehle CHPRC	Dan Woehle	OCT 20 2016 1320	SSU-1		OCT 20 2016 1320
SSU #1		OCT 21 2016 0700	Troy Bacon CHPRC	Troy L. Bacon	OCT 21 2016 0700
Troy Bacon CHPRC	Troy L. Bacon	OCT 21 2016 1400	FEDEX		
Fed Ex			Jill Clark	Jill Clark	10.22.16 0830

Matrix *

S = Soil	DS = Drum Solids	SE = Sediment	DL = Drum Liquids
SO = Solid	T = Tissue	SL = Sludge	WI = Wipe
W = Water	L = Liquid	O = Oil	V = Vegetation
A = Air	X = Other		

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PRINTED ON 8/25/2016 | FSR ID = FSR36339 | A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2334	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S17-010-637
		Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-010	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, OCTOBER 2016	**Logbook No.**	HNF-N-506 87 / 51	**Ice Chest No.**	GWS-395
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	777527775247
Protocol	CERCLA	**Priority:**	15 Days **PRIORITY**	**Offsite Property No.**	N/A

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

SPECIAL INSTRUCTIONS **Hold Time**

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B370Y0	Y	W	10-20-16	1113	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B370Y1	N	W	"	"	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B370Y1	N	W	10-20-16	1113	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Dan Woehle CHPRC	Dan Woehle	OCT 20 2016 1320	SSU-1		OCT 20 2016 1320
SSU #1		OCT 21 2016 0100	Troy Bacon CHPRC	Troy L. Bacon	OCT 21 2016 0100
Troy Bacon CHPRC	Troy L. Bacon	OCT 21 2016 1400	FEDEX		
Fed Ex			Jill Clark	Jill Clark	10.22.16 0830

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PRINTED ON 8/31/2016 | FSR ID = FSR33016 | A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2334	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S17-010-636 Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-010	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, OCTOBER 2016	**Logbook No.**	HNF-N-506 87 51	**Ice Chest No.**	GWS-395
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	777527775247
Protocol	CERCLA	**Priority:**	15 Days **PRIORITY**	**Offsite Property No.**	N/A

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B370X9	N	W	10-20-16	1113	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B370X9	N	W	"	"	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B370X8	Y	W	10-20-16	1113	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Dan Woehle CHPRC			OCT 20 2016 1320	SSU-1			OCT 20 2016 1320
SSU #1			OCT 21 2016 0700	Troy Bacon CHPRC			OCT 21 2016 0700
Troy Bacon CHPRC			OCT 21 2016 1400	FEDEX			
			Date/Time FedEx				Date/Time 10.28.16 0832

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PRINTED ON 8/31/2016 FSR ID = FSR33016 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2334	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W17-010-183 Page 1 of 2 TLO 10-216

Collector	Dave Wight CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-010	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, OCTOBER 2016	**Logbook No.**	HNF-N-506 84 /38	**Ice Chest No.**	GWS -395
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	777527775247
Protocol	RCRA	**Priority:**	15 Days **PRIORITY**	**Offsite Property No.**	N/A

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B36P39	N	W	OCT 20 2016	0805	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Dave Wight CHPRC		OCT 20 2016 1045		Chris Fulton CHPRC		OCT 20 2016 1045
Relinquished By	Chris Fulton CHPRC		OCT 20 2016 1100	Received By	SSU-1		OCT 20 2016 1100
Relinquished By	SSU-1		OCT 21 2016 0700	Received By	Troy Bacon CHPRC		OCT 21 2016 0700
Relinquished By	Troy Bacon CHPRC		OCT 21 2016 1400	Received By	FEDEX		Date/Time

Matrix *

S = Soil	DS = Drum Solids		
SE = Sediment	DL = Drum Liquids		
SO = Solid	T = Tissue		
SL = Sludge	WI = Wipe		
W = Water	L = Liquid		
O = Oil	V = Vegetation		
A = Air	X = Other		

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PRINTED ON 8/25/2016 FSR ID = FSR36423 A-6004-842 (REV 2)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. W17-010-183

Page 2 of 2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
		Fed Ex		Jill Clarke	Jill Clarke		10-22-16 0830

A-6003-962 (03/05)

IMPORTANT!
Flooding is causing hazardous conditions in the Southeast, U.S. Learn More

FedEx ® Tracking

777527775247

Ship date:
Fri 10/21/2016

RICHLAND, WA US

Delivered
Signed for by: J.CLARK

Actual delivery:
Sat 10/22/2016 8:27 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 10/22/2016 - Saturday		
8:27 am	Delivered	EARTH CITY, MO
7:49 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:43 am	At local FedEx facility	EARTH CITY, MO
5:07 am	At destination sort facility	BERKELEY, MO
4:21 am	Departed FedEx location	MEMPHIS, TN
12:09 am	Arrived at FedEx location	MEMPHIS, TN
- 10/21/2016 - Friday		
4:59 pm	Left FedEx origin facility	PASCO, WA
3:22 pm	Picked up	PASCO, WA
11:32 am	Shipment information sent to FedEx	

Shipment Facts

Tracking number	777527775247	**Service**	FedEx Priority Overnight
Weight	62 lbs / 28.12 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	62 lbs / 28.12 kgs
Terms	Recipient	**Shipper reference**	GWS-395
Packaging	Your Packaging	**Special handling section**	For Saturday Delivery
Standard transit	10/22/2016 by 12:00 pm		

Definitions/Glossary

Qualifiers

GC/MS VOA

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.
U	Analyzed for but not detected.
y	Duplicate analysis not within 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.
T	MS, MSD: Recovery exceeds upper or lower control limits.
N	Presumptive evidence of material.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL
C	The analyte was detected in both the sample and the associated QC blank, and the sample concentration was </= 5X the blank concentration.
X	See case narrative notes for explanation of the 'X' flag

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.
¤	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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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

Definitions/Glossary

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
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: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
150.1	pH (Electrometric)	MCAWW	TAL SL
310.1	Alkalinity	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

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-19626-1	B36P70	Water	10/20/16 09:28	10/22/16 08:30
160-19626-2	B36P67	Water	10/20/16 09:28	10/22/16 08:30
160-19626-3	B36P69	Water	10/20/16 09:28	10/22/16 08:30
160-19626-4	B37058	Water	10/20/16 09:28	10/22/16 08:30
160-19626-5	B370Y0	Water	10/20/16 11:13	10/22/16 08:30
160-19626-6	B370Y1	Water	10/20/16 11:13	10/22/16 08:30
160-19626-7	B370X9	Water	10/20/16 11:13	10/22/16 08:30
160-19626-8	B370X8	Water	10/20/16 11:13	10/22/16 08:30
160-19626-9	B36P39	Water	10/20/16 08:05	10/22/16 08:30
160-19647-1	B36Y33	Water	10/24/16 10:40	10/25/16 09:25
160-19647-2	B36Y30	Water	10/24/16 10:40	10/25/16 09:25
160-19647-3	B37NY8	Water	10/24/16 09:47	10/25/16 09:25
160-19647-4	B37NY6	Water	10/24/16 09:47	10/25/16 09:25
160-19647-5	B37NY9	Water	10/24/16 09:47	10/25/16 09:25
160-19647-6	B37NY7	Water	10/24/16 09:47	10/25/16 09:25

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

Client Sample ID: B36P69
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.24**	**J**	1.0	0.17	ug/L			10/26/16 21:58	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			10/26/16 21:58	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			10/26/16 21:58	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			10/26/16 21:58	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			10/26/16 21:58	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			10/26/16 21:58	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			10/26/16 21:58	1
Acetone	0.55	U	2.0	0.55	ug/L			10/26/16 21:58	1
Benzene	0.10	U	1.0	0.10	ug/L			10/26/16 21:58	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			10/26/16 21:58	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			10/26/16 21:58	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			10/26/16 21:58	1
Chloroform	**0.13**	**J**	1.0	0.10	ug/L			10/26/16 21:58	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			10/26/16 21:58	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			10/26/16 21:58	1
Tetrachloroethene	**0.77**	**J**	1.0	0.18	ug/L			10/26/16 21:58	1
Toluene	0.14	U	1.0	0.14	ug/L			10/26/16 21:58	1
Trichloroethene	**0.42**	**J**	1.0	0.25	ug/L			10/26/16 21:58	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			10/26/16 21:58	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			10/26/16 21:58	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			10/26/16 21:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Trichlorofluoromethane	*0.49*	*J*	*ug/L*		*4.49*	*75-69-4*		*10/26/16 21:58*	*1*
Isopropyl alcohol	*30*	*T*	*ug/L*		*5.97*	*67-63-0*		*10/26/16 21:58*	*1*
1,2,4-Trimethylbenzene	*0.28*	*J*	*ug/L*		*13.45*	*95-63-6*		*10/26/16 21:58*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*10/26/16 21:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 129*		*10/26/16 21:58*	*1*
4-Bromofluorobenzene (Surr)	*118*		*81 - 130*		*10/26/16 21:58*	*1*
Dibromofluoromethane (Surr)	*105*		*81 - 124*		*10/26/16 21:58*	*1*
Toluene-d8 (Surr)	*117*		*87 - 128*		*10/26/16 21:58*	*1*

Client Sample ID: B37058
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			10/27/16 00:21	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			10/27/16 00:21	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			10/27/16 00:21	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			10/27/16 00:21	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			10/27/16 00:21	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			10/27/16 00:21	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			10/27/16 00:21	1
Acetone	0.55	U	2.0	0.55	ug/L			10/27/16 00:21	1
Benzene	0.10	U	1.0	0.10	ug/L			10/27/16 00:21	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			10/27/16 00:21	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			10/27/16 00:21	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			10/27/16 00:21	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

Client Sample ID: B37058
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.10	U	1.0	0.10	ug/L			10/27/16 00:21	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			10/27/16 00:21	1
Methylene Chloride	**7.2**		1.0	0.27	ug/L			10/27/16 00:21	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			10/27/16 00:21	1
Toluene	0.14	U	1.0	0.14	ug/L			10/27/16 00:21	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			10/27/16 00:21	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			10/27/16 00:21	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			10/27/16 00:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.3*	*N*	*ug/L*		*4.11*			*10/27/16 00:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 129*		*10/27/16 00:21*	*1*
4-Bromofluorobenzene (Surr)	*118*		*81 - 130*		*10/27/16 00:21*	*1*
Dibromofluoromethane (Surr)	*104*		*81 - 124*		*10/27/16 00:21*	*1*
Toluene-d8 (Surr)	*116*		*87 - 128*		*10/27/16 00:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: B36P69
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.94	U	9.4	0.94	ug/L		10/24/16 15:46	11/01/16 23:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*61*	*N*	*ug/L*		*2.30*		*10/24/16 15:46*	*11/01/16 23:29*	*1*
Unknown	*5.4*	*N*	*ug/L*		*3.38*		*10/24/16 15:46*	*11/01/16 23:29*	*1*
Phenol, 4,4'-(1-methylethylidene)bis-	*13*	*N J*	*ug/L*		*15.62*	*80-05-7*	*10/24/16 15:46*	*11/01/16 23:29*	*1*
Unknown	*11*	*N*	*ug/L*		*21.31*		*10/24/16 15:46*	*11/01/16 23:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*35*		*15 - 59*	*10/24/16 15:46*	*11/01/16 23:29*	*1*
2,4,6-Tribromophenol (Surr)	*89*		*37 - 120*	*10/24/16 15:46*	*11/01/16 23:29*	*1*
Nitrobenzene-d5 (Surr)	*71*		*50 - 101*	*10/24/16 15:46*	*11/01/16 23:29*	*1*
Phenol-d5 (Surr)	*23*		*10 - 50*	*10/24/16 15:46*	*11/01/16 23:29*	*1*
Terphenyl-d14 (Surr)	*51*		*21 - 97*	*10/24/16 15:46*	*11/01/16 23:29*	*1*
2-Fluorobiphenyl (Surr)	*72*		*43 - 108*	*10/24/16 15:46*	*11/01/16 23:29*	*1*

Method: 6010C - Metals (ICP)

Client Sample ID: B36P67
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Arsenic	4.0	U	10.0	4.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Barium	**73.1**		50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Cadmium	1.5	U	5.0	1.5	ug/L		10/24/16 11:11	10/25/16 19:29	1
Calcium	**84000**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:29	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: B36P67
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	8.1	B	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Cobalt	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Copper	7.0	U	25.0	7.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Iron	30.0	U	100	30.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Magnesium	17900		1000	300	ug/L		10/24/16 11:11	10/25/16 19:29	1
Manganese	4.0	U	15.0	4.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Nickel	10.0	U	40.0	10.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Potassium	7420		5000	1500	ug/L		10/24/16 11:11	10/25/16 19:29	1
Silver	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Sodium	21900		1000	300	ug/L		10/24/16 11:11	10/25/16 19:29	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:29	1
Zinc	6.0	U	20.0	6.0	ug/L		10/24/16 11:11	10/25/16 19:29	1

Client Sample ID: B370Y1
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	53600		1000	300	ug/L		10/24/16 11:11	10/25/16 19:39	1
Iron	241		100	30.0	ug/L		10/24/16 11:11	10/25/16 19:39	1
Magnesium	11500		1000	300	ug/L		10/24/16 11:11	10/25/16 19:39	1
Potassium	4960	B	5000	1500	ug/L		10/24/16 11:11	10/25/16 19:39	1
Sodium	5820		1000	300	ug/L		10/24/16 11:11	10/25/16 19:39	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:39	1
Boron	25.0	U	100	25.0	ug/L		10/24/16 11:11	10/25/16 19:39	1

Client Sample ID: B370X9
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	55700		1000	300	ug/L		10/24/16 11:11	10/25/16 19:43	1
Iron	162		100	30.0	ug/L		10/24/16 11:11	10/25/16 19:43	1
Magnesium	11700		1000	300	ug/L		10/24/16 11:11	10/25/16 19:43	1
Potassium	5040		5000	1500	ug/L		10/24/16 11:11	10/25/16 19:43	1
Sodium	5860		1000	300	ug/L		10/24/16 11:11	10/25/16 19:43	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:43	1
Boron	25.0	U	100	25.0	ug/L		10/24/16 11:11	10/25/16 19:43	1

Client Sample ID: B36Y30
Date Collected: 10/24/16 10:40
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	51500		1000	300	ug/L		10/27/16 13:15	10/31/16 15:32	1
Iron	6360		100	30.0	ug/L		10/27/16 13:15	10/31/16 15:32	1
Magnesium	9500		1000	300	ug/L		10/27/16 13:15	10/31/16 15:32	1
Potassium	3620	B	5000	1500	ug/L		10/27/16 13:15	10/31/16 15:32	1
Sodium	8610		1000	300	ug/L		10/27/16 13:15	10/31/16 15:32	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/27/16 13:15	10/31/16 15:32	1
Boron	25.0	U	100	25.0	ug/L		10/27/16 13:15	10/31/16 15:32	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: B36P70
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Arsenic	4.0	U	10.0	4.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Barium	**73.1**		50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Cadmium	1.5	U	5.0	1.5	ug/L		10/24/16 11:11	10/25/16 19:25	1
Calcium	**84100**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:25	1
Chromium	**7.8**	**B**	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Cobalt	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Copper	7.0	U	25.0	7.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Iron	30.0	U	100	30.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Magnesium	**18000**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:25	1
Manganese	4.0	U	15.0	4.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Nickel	10.0	U	40.0	10.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Potassium	**7460**		5000	1500	ug/L		10/24/16 11:11	10/25/16 19:25	1
Silver	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Sodium	**22000**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:25	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:25	1
Zinc	6.0	U	20.0	6.0	ug/L		10/24/16 11:11	10/25/16 19:25	1

Client Sample ID: B370Y0
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		10/24/16 11:11	10/25/16 19:34	1
Calcium	**55800**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:34	1
Iron	30.0	U	100	30.0	ug/L		10/24/16 11:11	10/25/16 19:34	1
Magnesium	**11700**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:34	1
Potassium	**5040**		5000	1500	ug/L		10/24/16 11:11	10/25/16 19:34	1
Sodium	**5900**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:34	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:34	1

Client Sample ID: B370X8
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		10/24/16 11:11	10/25/16 19:48	1
Calcium	**54300**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:48	1
Iron	**36.4**	**B**	100	30.0	ug/L		10/24/16 11:11	10/25/16 19:48	1
Magnesium	**11600**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:48	1
Potassium	**4990**	**B**	5000	1500	ug/L		10/24/16 11:11	10/25/16 19:48	1
Sodium	**5850**		1000	300	ug/L		10/24/16 11:11	10/25/16 19:48	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 19:48	1

Client Sample ID: B36Y33
Date Collected: 10/24/16 10:40
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		10/27/16 13:15	10/31/16 15:13	1
Calcium	**50800**		1000	300	ug/L		10/27/16 13:15	10/31/16 15:13	1
Iron	30.0	U	100	30.0	ug/L		10/27/16 13:15	10/31/16 15:13	1
Magnesium	**9550**		1000	300	ug/L		10/27/16 13:15	10/31/16 15:13	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Client Sample ID: B36Y33
Date Collected: 10/24/16 10:40
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**3640**	**B**	5000	1500	ug/L		10/27/16 13:15	10/31/16 15:13	1
Sodium	**8790**		1000	300	ug/L		10/27/16 13:15	10/31/16 15:13	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/27/16 13:15	10/31/16 15:13	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B370Y1
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**223**	**D**	50.0	20.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Barium	**38.6**	**D**	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:43	2
Beryllium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:43	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:43	2
Chromium	**10.9**	**D**	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:43	2
Copper	**0.98**	**B D**	1.0	0.40	ug/L		10/24/16 11:18	11/09/16 13:40	2
Lead	1.0	U D	3.0	1.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Manganese	**22.9**	**D**	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:43	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Nickel	**2.2**	**B D**	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Selenium	**2.1**	**B D**	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:43	2
Silver	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:43	2
Strontium	**295**	**D**	5.0	0.50	ug/L		10/24/16 11:18	10/31/16 19:43	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:43	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:43	2
Tin	1.2	U D	2.0	1.2	ug/L		10/24/16 11:18	10/31/16 19:43	2
Uranium	**1.6**	**D**	1.0	0.40	ug/L		10/24/16 11:18	10/31/16 19:43	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/24/16 11:18	10/31/16 19:43	2

Client Sample ID: B370X9
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**130**	**D**	50.0	20.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Barium	**34.5**	**D**	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:50	2
Beryllium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:50	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:50	2
Chromium	**10.2**	**D**	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:50	2
Copper	**0.73**	**B D**	1.0	0.40	ug/L		10/24/16 11:18	11/09/16 13:44	2
Lead	1.0	U D	3.0	1.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Manganese	**20.2**	**D**	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:50	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:50	2
Selenium	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:50	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Client Sample ID: B370X9
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:50	2
Strontium	**277**	**D**	5.0	0.50	ug/L		10/24/16 11:18	10/31/16 19:50	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:50	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:50	2
Tin	1.2	U D	2.0	1.2	ug/L		10/24/16 11:18	10/31/16 19:50	2
Uranium	**1.6**	**D**	1.0	0.40	ug/L		10/24/16 11:18	10/31/16 19:50	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/24/16 11:18	10/31/16 19:50	2

Client Sample ID: B36Y30
Date Collected: 10/24/16 10:40
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**150**	**D C**	50.0	20.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Barium	**22.7**	**D**	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:56	2
Beryllium	0.20	U D	0.50	0.20	ug/L		10/27/16 13:13	11/10/16 01:56	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/27/16 13:13	11/10/16 01:56	2
Chromium	4.0	U D	10.0	4.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:56	2
Copper	**3.1**	**D**	1.0	0.40	ug/L		10/27/16 13:13	11/10/16 18:37	2
Lead	1.0	U D	3.0	1.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Manganese	**65.7**	**D**	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:56	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Selenium	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:56	2
Silver	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:56	2
Strontium	**214**	**D**	5.0	0.50	ug/L		10/27/16 13:13	11/10/16 01:56	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:56	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:56	2
Tin	1.2	U D	2.0	1.2	ug/L		10/27/16 13:13	11/10/16 01:56	2
Uranium	**2.4**	**D**	1.0	0.40	ug/L		10/27/16 13:13	11/10/16 01:56	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/27/16 13:13	11/10/16 01:56	2

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: B370Y0
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**23.9**	**B D**	50.0	20.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Barium	**33.8**	**D**	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:36	2
Beryllium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:36	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:36	2
Chromium	**8.4**	**B D**	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:36	2
Copper	**0.45**	**B D**	1.0	0.40	ug/L		10/24/16 11:18	11/09/16 13:36	2
Lead	1.0	U D	3.0	1.0	ug/L		10/24/16 11:18	10/31/16 19:36	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: B370Y0
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:36	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Selenium	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:36	2
Silver	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:36	2
Strontium	**284**	**D**	5.0	0.50	ug/L		10/24/16 11:18	10/31/16 19:36	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:36	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:36	2
Tin	1.2	U D	2.0	1.2	ug/L		10/24/16 11:18	10/31/16 19:36	2
Uranium	**1.6**	**D**	1.0	0.40	ug/L		10/24/16 11:18	10/31/16 19:36	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/24/16 11:18	10/31/16 19:36	2

Client Sample ID: B370X8
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Barium	**33.5**	**D**	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:57	2
Beryllium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:57	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 19:57	2
Chromium	**8.2**	**B D**	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:57	2
Copper	0.40	U D	1.0	0.40	ug/L		10/24/16 11:18	11/09/16 13:49	2
Lead	1.0	U D	3.0	1.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Manganese	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:57	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Selenium	**2.5**	**B D**	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 19:57	2
Silver	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:57	2
Strontium	**284**	**D**	5.0	0.50	ug/L		10/24/16 11:18	10/31/16 19:57	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:57	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 19:57	2
Tin	1.2	U D	2.0	1.2	ug/L		10/24/16 11:18	10/31/16 19:57	2
Uranium	**1.6**	**D**	1.0	0.40	ug/L		10/24/16 11:18	10/31/16 19:57	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/24/16 11:18	10/31/16 19:57	2

Client Sample ID: B36Y33
Date Collected: 10/24/16 10:40
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**52.7**	**D C**	50.0	20.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Barium	**20.1**	**D**	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:49	2
Beryllium	**0.28**	**B D**	0.50	0.20	ug/L		10/27/16 13:13	11/10/16 01:49	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/27/16 13:13	11/10/16 01:49	2
Chromium	4.0	U D	10.0	4.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:49	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: B36Y33
Date Collected: 10/24/16 10:40
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**1.1**	**D**	1.0	0.40	ug/L		10/27/16 13:13	11/10/16 18:33	2
Lead	1.0	U D	3.0	1.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Manganese	**2.4**	**D**	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:49	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Selenium	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:49	2
Silver	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:49	2
Strontium	**218**	**D**	5.0	0.50	ug/L		10/27/16 13:13	11/10/16 01:49	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:49	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:49	2
Tin	1.2	U D	2.0	1.2	ug/L		10/27/16 13:13	11/10/16 01:49	2
Uranium	**2.4**	**D**	1.0	0.40	ug/L		10/27/16 13:13	11/10/16 01:49	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/27/16 13:13	11/10/16 01:49	2

General Chemistry

Client Sample ID: B36P67
Date Collected: 10/20/16 09:28
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**256**		5.0	0.54	mg/L			11/02/16 10:30	1
Bicarbonate Alkalinity	**256**		5.0	0.54	mg/L			11/02/16 10:30	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1

Client Sample ID: B370Y1
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**85.0**		5.0	0.54	mg/L			11/02/16 10:30	1
Bicarbonate Alkalinity	**85.0**		5.0	0.54	mg/L			11/02/16 10:30	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1

Client Sample ID: B370X9
Date Collected: 10/20/16 11:13
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**92.5**		5.0	0.54	mg/L			11/02/16 10:30	1
Bicarbonate Alkalinity	**92.5**		5.0	0.54	mg/L			11/02/16 10:30	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1

Client Sample ID: B36P39
Date Collected: 10/20/16 08:05
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**212**		5.0	0.54	mg/L			11/02/16 10:30	1
Bicarbonate Alkalinity	**212**		5.0	0.54	mg/L			11/02/16 10:30	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

General Chemistry (Continued)

Client Sample ID: B36P39
Date Collected: 10/20/16 08:05
Date Received: 10/22/16 08:30

Lab Sample ID: 160-19626-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1

Client Sample ID: B37NY8
Date Collected: 10/24/16 09:47
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.92		0.100	0.100	SU			10/25/16 22:53	1

Client Sample ID: B37NY6
Date Collected: 10/24/16 09:47
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.94		0.100	0.100	SU			10/25/16 23:01	1

Client Sample ID: B37NY9
Date Collected: 10/24/16 09:47
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.93		0.100	0.100	SU			10/25/16 23:06	1

Client Sample ID: B37NY7
Date Collected: 10/24/16 09:47
Date Received: 10/25/16 09:25

Lab Sample ID: 160-19647-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.92		0.100	0.100	SU			10/25/16 23:10	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

Lab Sample ID: MB 160-276125/8
Matrix: Water
Analysis Batch: 276125

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			10/26/16 21:11	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			10/26/16 21:11	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			10/26/16 21:11	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			10/26/16 21:11	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			10/26/16 21:11	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			10/26/16 21:11	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			10/26/16 21:11	1
Acetone	0.55	U	2.0	0.55	ug/L			10/26/16 21:11	1
Benzene	0.10	U	1.0	0.10	ug/L			10/26/16 21:11	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			10/26/16 21:11	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			10/26/16 21:11	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			10/26/16 21:11	1
Chloroform	0.10	U	1.0	0.10	ug/L			10/26/16 21:11	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			10/26/16 21:11	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			10/26/16 21:11	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			10/26/16 21:11	1
Toluene	0.14	U	1.0	0.14	ug/L			10/26/16 21:11	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			10/26/16 21:11	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			10/26/16 21:11	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			10/26/16 21:11	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			10/26/16 21:11	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*10/26/16 21:11*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 129*		*10/26/16 21:11*	*1*
4-Bromofluorobenzene (Surr)	*118*		*81 - 130*		*10/26/16 21:11*	*1*
Dibromofluoromethane (Surr)	*103*		*81 - 124*		*10/26/16 21:11*	*1*
Toluene-d8 (Surr)	*121*		*87 - 128*		*10/26/16 21:11*	*1*

Lab Sample ID: LCS 160-276125/5
Matrix: Water
Analysis Batch: 276125

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	85 - 116
1,1,2-Trichloroethane	10.0	9.95		ug/L		99	80 - 120
1,1-Dichloroethane	10.0	9.91		ug/L		99	80 - 120
1,1-Dichloroethene	10.0	9.82		ug/L		98	80 - 120
1,2-Dichloroethane	10.0	9.21		ug/L		92	80 - 115
2-Butanone (MEK)	10.0	10.8		ug/L		108	67 - 127
4-Methyl-2-pentanone (MIBK)	10.0	9.90		ug/L		99	75 - 126
Acetone	10.0	10.8		ug/L		108	69 - 129
Benzene	10.0	10.6		ug/L		106	80 - 120
Carbon disulfide	10.0	10.3		ug/L		103	80 - 121
Carbon tetrachloride	10.0	9.82		ug/L		98	83 - 125

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

Lab Sample ID: LCS 160-276125/5
Matrix: Water
Analysis Batch: 276125

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene			10.0	10.2		ug/L		102	80 - 120		
Chloroform			10.0	9.53		ug/L		95	80 - 120		
Ethylbenzene			10.0	9.93		ug/L		99	80 - 120		
Methylene Chloride			10.0	9.01		ug/L		90	80 - 120		
Tetrachloroethene			10.0	9.70		ug/L		97	83 - 123		
Toluene			10.0	10.3		ug/L		103	80 - 120		
Trichloroethene			10.0	9.79		ug/L		98	80 - 120		
Vinyl chloride			10.0	9.59		ug/L		96	77 - 122		
Xylenes, Total			20.0	21.3		ug/L		107	80 - 120		
1,4-Dichlorobenzene			10.0	9.94		ug/L		99	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 129*
4-Bromofluorobenzene (Surr)	*101*		*81 - 130*
Dibromofluoromethane (Surr)	*104*		*81 - 124*
Toluene-d8 (Surr)	*108*		*87 - 128*

Lab Sample ID: LCSD 160-276125/6
Matrix: Water
Analysis Batch: 276125

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
1,1,1-Trichloroethane			10.0	10.1		ug/L		101	85 - 116	0	20
1,1,2-Trichloroethane			10.0	9.85		ug/L		99	80 - 120	1	20
1,1-Dichloroethane			10.0	9.79		ug/L		98	80 - 120	1	20
1,1-Dichloroethene			10.0	9.90		ug/L		99	80 - 120	1	20
1,2-Dichloroethane			10.0	9.31		ug/L		93	80 - 115	1	20
2-Butanone (MEK)			10.0	10.3		ug/L		103	67 - 127	5	20
4-Methyl-2-pentanone (MIBK)			10.0	10.1		ug/L		101	75 - 126	2	20
Acetone			10.0	10.1		ug/L		101	69 - 129	7	20
Benzene			10.0	10.6		ug/L		106	80 - 120	0	20
Carbon disulfide			10.0	10.4		ug/L		104	80 - 121	1	20
Carbon tetrachloride			10.0	9.98		ug/L		100	83 - 125	2	20
Chlorobenzene			10.0	10.1		ug/L		101	80 - 120	0	20
Chloroform			10.0	9.66		ug/L		97	80 - 120	1	20
Ethylbenzene			10.0	9.79		ug/L		98	80 - 120	1	20
Methylene Chloride			10.0	8.93		ug/L		89	80 - 120	1	20
Tetrachloroethene			10.0	9.64		ug/L		96	83 - 123	1	20
Toluene			10.0	10.4		ug/L		104	80 - 120	0	20
Trichloroethene			10.0	10.1		ug/L		101	80 - 120	3	20
Vinyl chloride			10.0	9.68		ug/L		97	77 - 122	1	20
Xylenes, Total			20.0	21.2		ug/L		106	80 - 120	0	20
1,4-Dichlorobenzene			10.0	10.0		ug/L		100	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 129*
4-Bromofluorobenzene (Surr)	*104*		*81 - 130*

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

Lab Sample ID: LCSD 160-276125/6
Matrix: Water
Analysis Batch: 276125

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	*103*		*81 - 124*
Toluene-d8 (Surr)	*107*		*87 - 128*

Lab Sample ID: 160-19626-3 MS
Matrix: Water
Analysis Batch: 276125

Client Sample ID: B36P69
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.24	J	10.0	10.4		ug/L		101	82 - 124
1,1,2-Trichloroethane	0.13	U	10.0	9.82		ug/L		98	80 - 120
1,1-Dichloroethane	0.070	U	10.0	9.99		ug/L		100	80 - 122
1,1-Dichloroethene	0.10	U	10.0	9.61		ug/L		96	80 - 120
1,2-Dichloroethane	0.22	U	10.0	9.20		ug/L		92	80 - 120
2-Butanone (MEK)	0.47	U	10.0	10.7		ug/L		107	53 - 145
4-Methyl-2-pentanone (MIBK)	0.22	U	10.0	9.48		ug/L		95	70 - 131
Acetone	0.55	U	10.0	12.5		ug/L		125	50 - 137
Benzene	0.10	U	10.0	10.7		ug/L		107	80 - 120
Carbon disulfide	0.10	U	10.0	10.0		ug/L		100	80 - 121
Carbon tetrachloride	0.18	U	10.0	9.96		ug/L		100	77 - 131
Chlorobenzene	0.11	U	10.0	10.4		ug/L		104	80 - 120
Chloroform	0.13	J	10.0	9.68		ug/L		96	80 - 120
Ethylbenzene	0.12	U	10.0	10.2		ug/L		102	84 - 125
Methylene Chloride	0.27	U	10.0	9.03		ug/L		90	80 - 120
Tetrachloroethene	0.77	J	10.0	10.4		ug/L		97	80 - 126
Toluene	0.14	U	10.0	10.3		ug/L		103	85 - 123
Trichloroethene	0.42	J	10.0	10.5		ug/L		101	81 - 125
Vinyl chloride	0.19	U	10.0	8.97		ug/L		90	70 - 129
Xylenes, Total	0.27	U	20.0	21.5		ug/L		108	80 - 120
1,4-Dichlorobenzene	0.10	U	10.0	9.97		ug/L		100	80 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 129*
4-Bromofluorobenzene (Surr)	*101*		*81 - 130*
Dibromofluoromethane (Surr)	*101*		*81 - 124*
Toluene-d8 (Surr)	*105*		*87 - 128*

Lab Sample ID: 160-19626-3 MSD
Matrix: Water
Analysis Batch: 276125

Client Sample ID: B36P69
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.24	J	10.0	9.60		ug/L		94	82 - 124	8	20
1,1,2-Trichloroethane	0.13	U	10.0	9.51		ug/L		95	80 - 120	3	20
1,1-Dichloroethane	0.070	U	10.0	9.60		ug/L		96	80 - 122	4	20
1,1-Dichloroethene	0.10	U	10.0	8.82		ug/L		88	80 - 120	9	20
1,2-Dichloroethane	0.22	U	10.0	8.65		ug/L		87	80 - 120	6	20
2-Butanone (MEK)	0.47	U	10.0	8.57	y	ug/L		86	53 - 145	23	20
4-Methyl-2-pentanone (MIBK)	0.22	U	10.0	9.74		ug/L		97	70 - 131	3	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

Lab Sample ID: 160-19626-3 MSD
Matrix: Water
Analysis Batch: 276125

Client Sample ID: B36P69
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.55	U	10.0	12.9		ug/L		129	50 - 137	3	20
Benzene	0.10	U	10.0	10.3		ug/L		103	80 - 120	4	20
Carbon disulfide	0.10	U	10.0	9.47		ug/L		95	80 - 121	6	20
Carbon tetrachloride	0.18	U	10.0	9.26		ug/L		93	77 - 131	7	20
Chlorobenzene	0.11	U	10.0	10.0		ug/L		100	80 - 120	4	20
Chloroform	0.13	J	10.0	9.37		ug/L		92	80 - 120	3	20
Ethylbenzene	0.12	U	10.0	9.79		ug/L		98	84 - 125	4	20
Methylene Chloride	0.27	U	10.0	8.79		ug/L		88	80 - 120	3	20
Tetrachloroethene	0.77	J	10.0	9.76		ug/L		90	80 - 126	7	20
Toluene	0.14	U	10.0	10.1		ug/L		101	85 - 123	2	20
Trichloroethene	0.42	J	10.0	9.83		ug/L		94	81 - 125	7	20
Vinyl chloride	0.19	U	10.0	8.51		ug/L		85	70 - 129	5	20
Xylenes, Total	0.27	U	20.0	20.8		ug/L		104	80 - 120	3	20
1,4-Dichlorobenzene	0.10	U	10.0	9.97		ug/L		100	80 - 120	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 129*
4-Bromofluorobenzene (Surr)	*101*		*81 - 130*
Dibromofluoromethane (Surr)	*99*		*81 - 124*
Toluene-d8 (Surr)	*104*		*87 - 128*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 160-275825/1-A
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275825

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.0	U	10	1.0	ug/L		10/24/16 15:46	10/31/16 14:07	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*12.0*	*N*	*ug/L*		*1.78*		*10/24/16 15:46*	*10/31/16 14:07*	*1*
Unknown	*48.8*	*N*	*ug/L*		*2.30*		*10/24/16 15:46*	*10/31/16 14:07*	*1*
Unknown	*7.31*	*N*	*ug/L*		*3.39*		*10/24/16 15:46*	*10/31/16 14:07*	*1*
Benzene, (1-methylundecyl)-	*4.16*	*N J*	*ug/L*		*12.62*	*2719-61-1*	*10/24/16 15:46*	*10/31/16 14:07*	*1*
Unknown	*10.8*	*N*	*ug/L*		*21.32*		*10/24/16 15:46*	*10/31/16 14:07*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*44*		*15 - 59*	*10/24/16 15:46*	*10/31/16 14:07*	*1*
2,4,6-Tribromophenol (Surr)	*103*		*37 - 120*	*10/24/16 15:46*	*10/31/16 14:07*	*1*
Nitrobenzene-d5 (Surr)	*85*		*50 - 101*	*10/24/16 15:46*	*10/31/16 14:07*	*1*
Phenol-d5 (Surr)	*29*		*10 - 50*	*10/24/16 15:46*	*10/31/16 14:07*	*1*
Terphenyl-d14 (Surr)	*61*		*21 - 97*	*10/24/16 15:46*	*10/31/16 14:07*	*1*
2-Fluorobiphenyl (Surr)	*86*		*43 - 108*	*10/24/16 15:46*	*10/31/16 14:07*	*1*

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-275825/2-A
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275825

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	100	87.2		ug/L		87	58 - 108
Acenaphthylene	100	88.9		ug/L		89	59 - 110
Anthracene	100	83.0		ug/L		83	59 - 106
Benzo[a]anthracene	100	91.9		ug/L		92	56 - 105
Benzo[b]fluoranthene	100	98.3		ug/L		98	58 - 109
Benzo[k]fluoranthene	100	81.2		ug/L		81	54 - 109
Benzo[g,h,i]perylene	100	91.9		ug/L		92	50 - 119
Benzo[a]pyrene	100	87.0		ug/L		87	54 - 109
Bis(2-chloroethoxy)methane	100	78.2		ug/L		78	59 - 110
Bis(2-chloroethyl)ether	100	74.3		ug/L		74	58 - 109
Bis(2-ethylhexyl) phthalate	100	103		ug/L		103	58 - 111
4-Bromophenyl phenyl ether	100	84.8		ug/L		85	62 - 98
Butyl benzyl phthalate	100	101		ug/L		101	56 - 111
Carbazole	100	82.6		ug/L		83	56 - 101
4-Chloroaniline	100	65.2		ug/L		65	43 - 97
4-Chloro-3-methylphenol	100	79.0		ug/L		79	51 - 102
2-Chloronaphthalene	100	83.6		ug/L		84	58 - 109
2-Chlorophenol	100	68.4		ug/L		68	47 - 97
4-Chlorophenyl phenyl ether	100	86.7		ug/L		87	59 - 110
Chrysene	100	84.4		ug/L		84	55 - 107
Dibenz(a,h)anthracene	100	95.8		ug/L		96	52 - 118
Dibenzofuran	100	86.3		ug/L		86	57 - 106
Di-n-butyl phthalate	100	90.6		ug/L		91	60 - 105
1,2-Dichlorobenzene	100	73.1		ug/L		73	50 - 99
1,3-Dichlorobenzene	100	70.9		ug/L		71	55 - 99
1,4-Dichlorobenzene	100	71.8		ug/L		72	47 - 99
3,3'-Dichlorobenzidine	100	73.2		ug/L		73	50 - 105
2,4-Dichlorophenol	100	76.5		ug/L		77	55 - 104
Diethyl phthalate	100	91.5		ug/L		91	58 - 113
2,4-Dimethylphenol	100	74.4		ug/L		74	53 - 99
Dimethyl phthalate	100	90.4		ug/L		90	60 - 114
4,6-Dinitro-2-methylphenol	100	91.6		ug/L		92	56 - 118
2,4-Dinitrophenol	100	79.1		ug/L		79	53 - 119
2,4-Dinitrotoluene	100	91.4		ug/L		91	57 - 117
2,6-Dinitrotoluene	100	88.7		ug/L		89	59 - 117
Di-n-octyl phthalate	100	104		ug/L		104	59 - 113
Fluoranthene	100	87.9		ug/L		88	56 - 113
Fluorene	100	86.8		ug/L		87	61 - 113
Hexachlorobenzene	100	87.2		ug/L		87	57 - 113
Hexachlorobutadiene	100	74.9		ug/L		75	52 - 102
Hexachlorocyclopentadiene	100	56.2		ug/L		56	40 - 120
Hexachloroethane	100	72.3		ug/L		72	52 - 102
Indeno[1,2,3-cd]pyrene	100	101		ug/L		101	49 - 120
Isophorone	100	63.9		ug/L		64	56 - 101
2-Methylnaphthalene	100	81.0		ug/L		81	54 - 101
2-Methylphenol	100	60.3		ug/L		60	40 - 96
3 & 4 Methylphenol	100	62.2		ug/L		62	40 - 87
Naphthalene	100	76.7		ug/L		77	54 - 98

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 160-275825/2-A
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275825

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	100	90.2		ug/L		90	57 - 120
3-Nitroaniline	100	83.9		ug/L		84	47 - 113
4-Nitroaniline	100	88.2		ug/L		88	51 - 119
Nitrobenzene	100	77.2		ug/L		77	59 - 110
2-Nitrophenol	100	81.8		ug/L		82	58 - 111
4-Nitrophenol	100	26.5		ug/L		26	20 - 47
N-Nitrosodiphenylamine	100	95.3		ug/L		95	65 - 119
N-Nitrosodi-n-propylamine	100	82.9		ug/L		83	59 - 115
2,2'-oxybis[1-chloropropane]	100	77.7		ug/L		78	49 - 97
Pentachlorophenol	100	73.0		ug/L		73	49 - 115
Phenanthrene	100	85.4		ug/L		85	59 - 110
Phenol	100	24.4		ug/L		24	20 - 69
Pyrene	100	89.0		ug/L		89	55 - 105
1,2,4-Trichlorobenzene	100	73.8		ug/L		74	56 - 100
2,4,5-Trichlorophenol	100	85.5		ug/L		85	56 - 113
2,4,6-Trichlorophenol	100	87.6		ug/L		88	47 - 116

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*38*		*15 - 59*
2,4,6-Tribromophenol (Surr)	*96*		*37 - 120*
Nitrobenzene-d5 (Surr)	*79*		*50 - 101*
Phenol-d5 (Surr)	*26*		*10 - 50*
Terphenyl-d14 (Surr)	*62*		*21 - 97*
2-Fluorobiphenyl (Surr)	*81*		*43 - 108*

Lab Sample ID: 160-19570-B-3-A MS
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 275825

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.97	U	95.5	76.4		ug/L		80	63 - 103
Acenaphthylene	0.97	U	95.5	79.0		ug/L		83	64 - 105
Anthracene	0.97	U	95.5	70.5		ug/L		74	64 - 101
Benzo[a]anthracene	0.97	U	95.5	76.5		ug/L		80	55 - 116
Benzo[b]fluoranthene	0.97	U	95.5	81.0		ug/L		85	56 - 119
Benzo[k]fluoranthene	0.97	U	95.5	67.4		ug/L		71	54 - 110
Benzo[g,h,i]perylene	0.97	U	95.5	78.6		ug/L		82	40 - 127
Benzo[a]pyrene	0.97	U	95.5	73.6		ug/L		77	55 - 109
Bis(2-chloroethoxy)methane	0.97	U	95.5	72.0		ug/L		75	64 - 105
Bis(2-chloroethyl)ether	0.97	U	95.5	68.9		ug/L		72	63 - 104
Bis(2-ethylhexyl) phthalate	1.8	U	95.5	83.5		ug/L		87	53 - 125
4-Bromophenyl phenyl ether	0.97	U	95.5	72.6		ug/L		76	64 - 108
Butyl benzyl phthalate	0.97	U	95.5	84.1		ug/L		88	56 - 128
Carbazole	0.97	U	95.5	69.7		ug/L		73	62 - 106
4-Chloroaniline	1.9	U	95.5	58.5		ug/L		61	48 - 92
4-Chloro-3-methylphenol	0.97	U	95.5	71.0		ug/L		74	51 - 105
2-Chloronaphthalene	0.97	U	95.5	75.2		ug/L		79	63 - 104
2-Chlorophenol	0.97	U	95.5	63.0		ug/L		66	52 - 92

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 160-19570-B-3-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276840 — **Prep Batch: 275825**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorophenyl phenyl ether	0.97	U	95.5	75.5		ug/L		79	64 - 105
Chrysene	0.97	U	95.5	71.3		ug/L		75	56 - 115
Dibenz(a,h)anthracene	0.97	U	95.5	81.9		ug/L		86	44 - 128
Dibenzofuran	0.97	U	95.5	76.0		ug/L		80	62 - 101
Di-n-butyl phthalate	0.97	U	95.5	77.4		ug/L		81	62 - 109
1,2-Dichlorobenzene	0.97	U	95.5	62.0		ug/L		65	62 - 97
1,3-Dichlorobenzene	0.97	U	95.5	58.6		ug/L		61	60 - 94
1,4-Dichlorobenzene	0.97	U	95.5	59.9		ug/L		63	60 - 94
3,3'-Dichlorobenzidine	1.2	U	95.5	62.0		ug/L		65	43 - 117
2,4-Dichlorophenol	0.97	U	95.5	70.8		ug/L		74	60 - 99
Diethyl phthalate	0.97	U	95.5	77.9		ug/L		82	63 - 108
2,4-Dimethylphenol	0.97	U	95.5	66.0		ug/L		69	54 - 97
Dimethyl phthalate	0.97	U	95.5	78.7		ug/L		82	65 - 109
4,6-Dinitro-2-methylphenol	1.2	U	95.5	76.2		ug/L		80	61 - 113
2,4-Dinitrophenol	1.9	U	95.5	64.8		ug/L		68	20 - 131
2,4-Dinitrotoluene	0.97	U	95.5	77.9		ug/L		82	62 - 112
2,6-Dinitrotoluene	2.1	U	95.5	76.9		ug/L		80	64 - 112
Di-n-octyl phthalate	0.97	U	95.5	86.4		ug/L		91	54 - 128
Fluoranthene	0.97	U	95.5	74.8		ug/L		78	61 - 108
Fluorene	0.97	U	95.5	75.1		ug/L		79	66 - 108
Hexachlorobenzene	0.97	U	95.5	73.5		ug/L		77	62 - 108
Hexachlorobutadiene	0.97	U	95.5	64.9		ug/L		68	57 - 97
Hexachlorocyclopentadiene	0.97	U	95.5	47.6		ug/L		50	16 - 115
Hexachloroethane	0.97	U	95.5	57.7		ug/L		60	57 - 97
Indeno[1,2,3-cd]pyrene	0.97	U	95.5	84.5		ug/L		88	42 - 131
Isophorone	0.97	U	95.5	58.2		ug/L		61	48 - 106
2-Methylnaphthalene	0.97	U	95.5	73.0		ug/L		76	64 - 99
2-Methylphenol	0.97	U	95.5	53.8		ug/L		56	39 - 83
3 & 4 Methylphenol	1.9	U	95.5	54.4		ug/L		57	39 - 82
Naphthalene	0.97	U	95.5	68.9		ug/L		72	63 - 98
2-Nitroaniline	1.1	U	95.5	78.6		ug/L		82	62 - 115
3-Nitroaniline	0.97	U	95.5	72.6		ug/L		76	52 - 108
4-Nitroaniline	0.97	U	95.5	75.7		ug/L		79	56 - 114
Nitrobenzene	0.97	U	95.5	71.5		ug/L		75	64 - 105
2-Nitrophenol	1.5	U	95.5	75.9		ug/L		80	64 - 106
4-Nitrophenol	1.9	U	95.5	22.7		ug/L		24	15 - 42
N-Nitrosodiphenylamine	0.97	U	95.5	81.1		ug/L		85	70 - 119
N-Nitrosodi-n-propylamine	1.5	U	95.5	75.4		ug/L		79	64 - 110
2,2'-oxybis[1-chloropropane]	0.97	U	95.5	71.7		ug/L		75	54 - 102
Pentachlorophenol	1.2	U	95.5	61.9		ug/L		65	54 - 110
Phenanthrene	0.97	U	95.5	72.2		ug/L		76	64 - 105
Phenol	1.9	U	95.5	21.3		ug/L		22	15 - 70
Pyrene	0.97	U	95.5	73.8		ug/L		77	57 - 118
1,2,4-Trichlorobenzene	0.97	U	95.5	65.2		ug/L		68	61 - 95
2,4,5-Trichlorophenol	0.97	U	95.5	76.9		ug/L		81	61 - 108
2,4,6-Trichlorophenol	0.97	U	95.5	78.5		ug/L		82	61 - 108

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 160-19570-B-3-A MS
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 275825

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol (Surr)	37		15 - 59
2,4,6-Tribromophenol (Surr)	90		37 - 120
Nitrobenzene-d5 (Surr)	79		50 - 101
Phenol-d5 (Surr)	24		10 - 50
Terphenyl-d14 (Surr)	52		21 - 97
2-Fluorobiphenyl (Surr)	80		43 - 108

Lab Sample ID: 160-19570-D-3-A MSD
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 275825

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.97	U	96.1	83.5		ug/L		87	63 - 103	9	20
Acenaphthylene	0.97	U	96.1	87.2		ug/L		91	64 - 105	10	20
Anthracene	0.97	U	96.1	79.2		ug/L		82	64 - 101	12	20
Benzo[a]anthracene	0.97	U	96.1	86.2		ug/L		90	55 - 116	12	20
Benzo[b]fluoranthene	0.97	U	96.1	90.0		ug/L		94	56 - 119	11	20
Benzo[k]fluoranthene	0.97	U	96.1	78.4		ug/L		82	54 - 110	15	20
Benzo[g,h,i]perylene	0.97	U	96.1	89.4		ug/L		93	40 - 127	13	20
Benzo[a]pyrene	0.97	U	96.1	82.0		ug/L		85	55 - 109	11	20
Bis(2-chloroethoxy)methane	0.97	U	96.1	77.8		ug/L		81	64 - 105	8	20
Bis(2-chloroethyl)ether	0.97	U	96.1	73.7		ug/L		77	63 - 104	7	20
Bis(2-ethylhexyl) phthalate	1.8	U	96.1	94.3		ug/L		98	53 - 125	12	20
4-Bromophenyl phenyl ether	0.97	U	96.1	81.1		ug/L		84	64 - 108	11	20
Butyl benzyl phthalate	0.97	U	96.1	98.0		ug/L		102	56 - 128	15	20
Carbazole	0.97	U	96.1	78.8		ug/L		82	62 - 106	12	20
4-Chloroaniline	1.9	U	96.1	61.7		ug/L		64	48 - 92	5	20
4-Chloro-3-methylphenol	0.97	U	96.1	77.3		ug/L		80	51 - 105	8	20
2-Chloronaphthalene	0.97	U	96.1	82.4		ug/L		86	63 - 104	9	20
2-Chlorophenol	0.97	U	96.1	67.9		ug/L		71	52 - 92	8	20
4-Chlorophenyl phenyl ether	0.97	U	96.1	83.7		ug/L		87	64 - 105	10	20
Chrysene	0.97	U	96.1	80.8		ug/L		84	56 - 115	12	20
Dibenz(a,h)anthracene	0.97	U	96.1	94.1		ug/L		98	44 - 128	14	20
Dibenzofuran	0.97	U	96.1	84.1		ug/L		87	62 - 101	10	20
Di-n-butyl phthalate	0.97	U	96.1	86.0		ug/L		89	62 - 109	10	20
1,2-Dichlorobenzene	0.97	U	96.1	66.9		ug/L		70	62 - 97	8	20
1,3-Dichlorobenzene	0.97	U	96.1	62.7		ug/L		65	60 - 94	7	20
1,4-Dichlorobenzene	0.97	U	96.1	63.9		ug/L		67	60 - 94	6	20
3,3'-Dichlorobenzidine	1.2	U	96.1	58.0		ug/L		60	43 - 117	7	20
2,4-Dichlorophenol	0.97	U	96.1	77.2		ug/L		80	60 - 99	9	20
Diethyl phthalate	0.97	U	96.1	87.7		ug/L		91	63 - 108	12	20
2,4-Dimethylphenol	0.97	U	96.1	69.9		ug/L		73	54 - 97	6	20
Dimethyl phthalate	0.97	U	96.1	91.4		ug/L		95	65 - 109	15	20
4,6-Dinitro-2-methylphenol	1.2	U	96.1	86.8		ug/L		90	61 - 113	13	20
2,4-Dinitrophenol	1.9	U	96.1	76.4		ug/L		79	20 - 131	16	20
2,4-Dinitrotoluene	0.97	U	96.1	88.0		ug/L		92	62 - 112	12	20
2,6-Dinitrotoluene	2.1	U	96.1	86.0		ug/L		89	64 - 112	11	20
Di-n-octyl phthalate	0.97	U	96.1	97.2		ug/L		101	54 - 128	12	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 160-19570-D-3-A MSD
Matrix: Water
Analysis Batch: 276840

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 275825

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	0.97	U	96.1	83.6		ug/L		87	61 - 108	11	20
Fluorene	0.97	U	96.1	84.1		ug/L		87	66 - 108	11	20
Hexachlorobenzene	0.97	U	96.1	83.1		ug/L		86	62 - 108	12	20
Hexachlorobutadiene	0.97	U	96.1	69.2		ug/L		72	57 - 97	7	20
Hexachlorocyclopentadiene	0.97	U	96.1	54.3		ug/L		56	16 - 115	13	20
Hexachloroethane	0.97	U	96.1	61.7		ug/L		64	57 - 97	7	20
Indeno[1,2,3-cd]pyrene	0.97	U	96.1	93.6		ug/L		97	42 - 131	10	20
Isophorone	0.97	U	96.1	63.2		ug/L		66	48 - 106	8	20
2-Methylnaphthalene	0.97	U	96.1	78.2		ug/L		81	64 - 99	7	20
2-Methylphenol	0.97	U	96.1	58.0		ug/L		60	39 - 83	8	20
3 & 4 Methylphenol	1.9	U	96.1	59.6		ug/L		62	39 - 82	9	20
Naphthalene	0.97	U	96.1	74.3		ug/L		77	63 - 98	8	20
2-Nitroaniline	1.1	U	96.1	88.8		ug/L		92	62 - 115	12	20
3-Nitroaniline	0.97	U	96.1	80.4		ug/L		84	52 - 108	10	20
4-Nitroaniline	0.97	U	96.1	86.0		ug/L		89	56 - 114	13	20
Nitrobenzene	0.97	U	96.1	76.7		ug/L		80	64 - 105	7	20
2-Nitrophenol	1.5	U	96.1	81.3		ug/L		85	64 - 106	7	20
4-Nitrophenol	1.9	U	96.1	26.3		ug/L		27	15 - 42	15	20
N-Nitrosodiphenylamine	0.97	U	96.1	90.4		ug/L		94	70 - 119	11	20
N-Nitrosodi-n-propylamine	1.5	U	96.1	81.9		ug/L		85	64 - 110	8	20
2,2'-oxybis[1-chloropropane]	0.97	U	96.1	77.3		ug/L		80	54 - 102	8	20
Pentachlorophenol	1.2	U	96.1	71.9		ug/L		75	54 - 110	15	20
Phenanthrene	0.97	U	96.1	81.2		ug/L		85	64 - 105	12	20
Phenol	1.9	U	96.1	23.0		ug/L		24	15 - 70	8	20
Pyrene	0.97	U	96.1	83.1		ug/L		86	57 - 118	12	20
1,2,4-Trichlorobenzene	0.97	U	96.1	70.3		ug/L		73	61 - 95	8	20
2,4,5-Trichlorophenol	0.97	U	96.1	84.9		ug/L		88	61 - 108	10	20
2,4,6-Trichlorophenol	0.97	U	96.1	86.5		ug/L		90	61 - 108	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*39*		*15 - 59*
2,4,6-Tribromophenol (Surr)	*100*		*37 - 120*
Nitrobenzene-d5 (Surr)	*83*		*50 - 101*
Phenol-d5 (Surr)	*26*		*10 - 50*
Terphenyl-d14 (Surr)	*56*		*21 - 97*
2-Fluorobiphenyl (Surr)	*86*		*43 - 108*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-275774/1-A
Matrix: Water
Analysis Batch: 276018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Arsenic	4.0	U	10.0	4.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Barium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Cadmium	1.5	U	5.0	1.5	ug/L		10/24/16 11:11	10/25/16 18:40	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 160-275774/1-A
Matrix: Water
Analysis Batch: 276018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	300	U	1000	300	ug/L		10/24/16 11:11	10/25/16 18:40	1
Chromium	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Boron	25.0	U	100	25.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Cobalt	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Copper	7.0	U	25.0	7.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Iron	30.0	U	100	30.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Magnesium	300	U	1000	300	ug/L		10/24/16 11:11	10/25/16 18:40	1
Manganese	4.0	U	15.0	4.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Nickel	10.0	U	40.0	10.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Potassium	1500	U	5000	1500	ug/L		10/24/16 11:11	10/25/16 18:40	1
Silver	3.0	U	10.0	3.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Sodium	300	U	1000	300	ug/L		10/24/16 11:11	10/25/16 18:40	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/24/16 11:11	10/25/16 18:40	1
Zinc	6.0	U	20.0	6.0	ug/L		10/24/16 11:11	10/25/16 18:40	1

Lab Sample ID: LCS 160-275774/2-A
Matrix: Water
Analysis Batch: 276018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275774

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	511.5		ug/L		102	80 - 120
Arsenic	1000	1003		ug/L		100	80 - 120
Barium	1000	1023		ug/L		102	80 - 120
Cadmium	1000	1011		ug/L		101	80 - 120
Calcium	10000	10650		ug/L		107	80 - 120
Chromium	1000	1075		ug/L		108	80 - 120
Boron	2000	1982		ug/L		99	80 - 120
Cobalt	1000	1078		ug/L		108	80 - 120
Copper	1000	1043		ug/L		104	80 - 120
Iron	10000	10410		ug/L		104	80 - 120
Magnesium	10000	9680		ug/L		97	80 - 120
Manganese	1000	1030		ug/L		103	80 - 120
Nickel	1000	1095		ug/L		110	80 - 120
Potassium	10000	9645		ug/L		96	80 - 120
Silver	200	204.2		ug/L		102	80 - 120
Sodium	10000	9862		ug/L		99	80 - 120
Vanadium	1000	991.0		ug/L		99	80 - 120
Zinc	1000	1034		ug/L		103	80 - 120

Lab Sample ID: MB 160-276283/1-A
Matrix: Water
Analysis Batch: 276915

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276283

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	300	U	1000	300	ug/L		10/27/16 13:15	10/31/16 15:05	1
Boron	25.0	U	100	25.0	ug/L		10/27/16 13:15	10/31/16 15:05	1
Iron	30.0	U	100	30.0	ug/L		10/27/16 13:15	10/31/16 15:05	1
Magnesium	300	U	1000	300	ug/L		10/27/16 13:15	10/31/16 15:05	1
Potassium	1500	U	5000	1500	ug/L		10/27/16 13:15	10/31/16 15:05	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 160-276283/1-A
Matrix: Water
Analysis Batch: 276915

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276283

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	300	U	1000	300	ug/L		10/27/16 13:15	10/31/16 15:05	1
Vanadium	15.0	U	50.0	15.0	ug/L		10/27/16 13:15	10/31/16 15:05	1

Lab Sample ID: LCS 160-276283/2-A
Matrix: Water
Analysis Batch: 276915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276283

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10000	10880		ug/L		109	80 - 120
Boron	2000	2066		ug/L		103	80 - 120
Iron	10000	10140		ug/L		101	80 - 120
Magnesium	10000	9405		ug/L		94	80 - 120
Potassium	10000	9298		ug/L		93	80 - 120
Sodium	10000	9491		ug/L		95	80 - 120
Vanadium	1000	961.9		ug/L		96	80 - 120

Lab Sample ID: 160-19570-A-2-G MS
Matrix: Water
Analysis Batch: 276018

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 275774

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.0	U	500	524.3		ug/L		105	75 - 125
Arsenic	6.2	B	1000	1035		ug/L		103	75 - 125
Barium	22.2	B	1000	1052		ug/L		103	75 - 125
Cadmium	1.5	U	1000	1039		ug/L		104	75 - 125
Calcium	28200		10000	38750		ug/L		106	75 - 125
Chromium	3.0	U	1000	1078		ug/L		108	75 - 125
Boron	25.0	U	2000	2022		ug/L		101	75 - 125
Cobalt	15.0	U	1000	1074		ug/L		107	75 - 125
Copper	7.0	U	1000	1066		ug/L		107	75 - 125
Iron	30.0	U	10000	10520		ug/L		105	75 - 125
Magnesium	9880		10000	19640		ug/L		98	75 - 125
Manganese	4.0	U	1000	1031		ug/L		103	75 - 125
Nickel	10.0	U	1000	1094		ug/L		109	75 - 125
Potassium	5940		10000	15810		ug/L		99	75 - 125
Silver	3.0	U	200	209.4		ug/L		105	75 - 125
Sodium	9540		10000	19580		ug/L		100	75 - 125
Vanadium	24.9	B	1000	1026		ug/L		100	75 - 125
Zinc	6.0	U	1000	1058		ug/L		106	75 - 125

Lab Sample ID: 160-19570-A-2-H MSD
Matrix: Water
Analysis Batch: 276018

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 275774

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.0	U	500	525.1		ug/L		105	75 - 125	0	20
Arsenic	6.2	B	1000	1038		ug/L		103	75 - 125	0	20
Barium	22.2	B	1000	1062		ug/L		104	75 - 125	1	20
Cadmium	1.5	U	1000	1038		ug/L		104	75 - 125	0	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 160-19570-A-2-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276018 — **Prep Batch: 275774**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	28200		10000	38530		ug/L		104	75 - 125	1	20
Chromium	3.0	U	1000	1077		ug/L		108	75 - 125	0	20
Boron	25.0	U	2000	2018		ug/L		101	75 - 125	0	20
Cobalt	15.0	U	1000	1073		ug/L		107	75 - 125	0	20
Copper	7.0	U	1000	1067		ug/L		107	75 - 125	0	20
Iron	30.0	U	10000	10540		ug/L		105	75 - 125	0	20
Magnesium	9880		10000	19530		ug/L		97	75 - 125	1	20
Manganese	4.0	U	1000	1030		ug/L		103	75 - 125	0	20
Nickel	10.0	U	1000	1094		ug/L		109	75 - 125	0	20
Potassium	5940		10000	15840		ug/L		99	75 - 125	0	20
Silver	3.0	U	200	209.6		ug/L		105	75 - 125	0	20
Sodium	9540		10000	19580		ug/L		100	75 - 125	0	20
Vanadium	24.9	B	1000	1033		ug/L		101	75 - 125	1	20
Zinc	6.0	U	1000	1055		ug/L		106	75 - 125	0	20

Lab Sample ID: 160-19648-B-6-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276915 — **Prep Batch: 276283**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50200		10000	59800	X	ug/L		96	75 - 125
Boron	25.0	U	2000	2072		ug/L		104	75 - 125
Iron	30.0	U	10000	9913		ug/L		99	75 - 125
Magnesium	13000		10000	21520		ug/L		86	75 - 125
Potassium	5350		10000	14620		ug/L		93	75 - 125
Sodium	13900		10000	23310		ug/L		94	75 - 125
Vanadium	15.0	U	1000	947.3		ug/L		95	75 - 125

Lab Sample ID: 160-19648-B-6-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276915 — **Prep Batch: 276283**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50200		10000	60770	X	ug/L		106	75 - 125	2	20
Boron	25.0	U	2000	2084		ug/L		104	75 - 125	1	20
Iron	30.0	U	10000	10040		ug/L		100	75 - 125	1	20
Magnesium	13000		10000	22220		ug/L		93	75 - 125	3	20
Potassium	5350		10000	14730		ug/L		94	75 - 125	1	20
Sodium	13900		10000	23430		ug/L		95	75 - 125	1	20
Vanadium	15.0	U	1000	965.8		ug/L		97	75 - 125	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-275775/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 276976 — **Prep Batch: 275775**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		10/24/16 11:18	10/31/16 18:29	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 160-275775/1-A
Matrix: Water
Analysis Batch: 276976

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Barium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 18:29	2
Beryllium	0.218	B D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 18:29	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/24/16 11:18	10/31/16 18:29	2
Chromium	4.0	U D	10.0	4.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 18:29	2
Lead	1.0	U D	3.0	1.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Manganese	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 18:29	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Selenium	2.0	U D	5.0	2.0	ug/L		10/24/16 11:18	10/31/16 18:29	2
Silver	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 18:29	2
Strontium	0.50	U D	5.0	0.50	ug/L		10/24/16 11:18	10/31/16 18:29	2
Thallium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 18:29	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/24/16 11:18	10/31/16 18:29	2
Tin	1.2	U D	2.0	1.2	ug/L		10/24/16 11:18	10/31/16 18:29	2
Uranium	0.40	U D	1.0	0.40	ug/L		10/24/16 11:18	10/31/16 18:29	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/24/16 11:18	10/31/16 18:29	2

Lab Sample ID: MB 160-275775/1-A
Matrix: Water
Analysis Batch: 278468

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.40	U D	1.0	0.40	ug/L		10/24/16 11:18	11/09/16 12:52	2

Lab Sample ID: LCS 160-275775/2-A
Matrix: Water
Analysis Batch: 276976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9999	D	ug/L		100	80 - 120
Antimony	500	499.9	D	ug/L		100	80 - 120
Arsenic	1000	1015	D	ug/L		102	80 - 120
Barium	1000	1034	D	ug/L		103	80 - 120
Beryllium	1000	1019	D	ug/L		102	80 - 120
Cadmium	1000	1017	D	ug/L		102	80 - 120
Chromium	1000	993.0	D	ug/L		99	80 - 120
Cobalt	1000	1025	D	ug/L		102	80 - 120
Lead	1000	989.2	D	ug/L		99	80 - 120
Manganese	1000	1064	D	ug/L		106	80 - 120
Molybdenum	500	520.5	D	ug/L		104	80 - 120
Nickel	1000	1057	D	ug/L		106	80 - 120
Selenium	500	505.4	D	ug/L		101	80 - 120
Silver	200	204.7	D	ug/L		102	80 - 120
Strontium	1000	1013	D	ug/L		101	80 - 120
Thallium	200	201.5	D	ug/L		101	80 - 120
Thorium	1000	988.9	D	ug/L		99	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 160-275775/2-A
Matrix: Water
Analysis Batch: 276976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tin	1000	1008	D	ug/L		101	80 - 120
Uranium	1000	1007	D	ug/L		101	80 - 120
Zinc	1000	997.2	D	ug/L		100	80 - 120

Lab Sample ID: LCS 160-275775/2-A
Matrix: Water
Analysis Batch: 278468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	1000	1034	D	ug/L		103	80 - 120

Lab Sample ID: 160-19573-C-2-H MS
Matrix: Water
Analysis Batch: 276976

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	20.0	U D	10000	9938	D	ug/L		99	75 - 125
Antimony	2.0	U D	500	486.0	D	ug/L		97	75 - 125
Arsenic	4.0	U D	1000	979.9	D	ug/L		98	75 - 125
Barium	0.90	U D	1000	998.0	D	ug/L		100	75 - 125
Beryllium	0.20	U D	1000	1015	D	ug/L		102	75 - 125
Cadmium	0.20	U D	1000	1018	D	ug/L		102	75 - 125
Chromium	4.0	U D	1000	996.4	D	ug/L		100	75 - 125
Cobalt	0.90	U D	1000	984.8	D	ug/L		98	75 - 125
Lead	1.0	U D	1000	1006	D	ug/L		101	75 - 125
Manganese	0.90	U D	1000	1035	D	ug/L		103	75 - 125
Molybdenum	2.0	U D	500	505.4	D	ug/L		101	75 - 125
Nickel	2.0	U D	1000	1022	D	ug/L		102	75 - 125
Selenium	2.0	U D	500	495.5	D	ug/L		99	75 - 125
Silver	0.90	U D	200	204.0	D	ug/L		102	75 - 125
Strontium	0.50	U D	1000	975.2	D	ug/L		98	75 - 125
Thallium	0.90	U D	200	205.7	D	ug/L		103	75 - 125
Thorium	0.90	U D	1000	1007	D	ug/L		101	75 - 125
Tin	1.2	U D	1000	976.9	D	ug/L		98	75 - 125
Uranium	0.40	U D	1000	1022	D	ug/L		102	75 - 125
Zinc	7.5	U D	1000	979.2	D	ug/L		98	75 - 125

Lab Sample ID: 160-19573-C-2-H MS
Matrix: Water
Analysis Batch: 278468

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	0.40	U D	1000	1076	D	ug/L		108	75 - 125

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-19573-C-2-I MSD
Matrix: Water
Analysis Batch: 276976

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	20.0	U D	10000	9790	D	ug/L		98	75 - 125	1	20
Antimony	2.0	U D	500	490.3	D	ug/L		98	75 - 125	1	20
Arsenic	4.0	U D	1000	989.6	D	ug/L		99	75 - 125	1	20
Barium	0.90	U D	1000	1004	D	ug/L		100	75 - 125	1	20
Beryllium	0.20	U D	1000	1022	D	ug/L		102	75 - 125	1	20
Cadmium	0.20	U D	1000	1014	D	ug/L		101	75 - 125	0	20
Chromium	4.0	U D	1000	985.7	D	ug/L		99	75 - 125	1	20
Cobalt	0.90	U D	1000	990.6	D	ug/L		99	75 - 125	1	20
Lead	1.0	U D	1000	1003	D	ug/L		100	75 - 125	0	20
Manganese	0.90	U D	1000	1024	D	ug/L		102	75 - 125	1	20
Molybdenum	2.0	U D	500	499.8	D	ug/L		100	75 - 125	1	20
Nickel	2.0	U D	1000	1029	D	ug/L		103	75 - 125	1	20
Selenium	2.0	U D	500	480.7	D	ug/L		96	75 - 125	3	20
Silver	0.90	U D	200	205.7	D	ug/L		103	75 - 125	1	20
Strontium	0.50	U D	1000	978.5	D	ug/L		98	75 - 125	0	20
Thallium	0.90	U D	200	206.1	D	ug/L		103	75 - 125	0	20
Thorium	0.90	U D	1000	991.9	D	ug/L		99	75 - 125	1	20
Tin	1.2	U D	1000	977.2	D	ug/L		98	75 - 125	0	20
Uranium	0.40	U D	1000	1011	D	ug/L		101	75 - 125	1	20
Zinc	7.5	U D	1000	974.9	D	ug/L		97	75 - 125	0	20

Lab Sample ID: 160-19573-C-2-I MSD
Matrix: Water
Analysis Batch: 278468

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 275775

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	0.40	U D	1000	1091	D	ug/L		109	75 - 125	1	20

Lab Sample ID: MB 160-276282/1-A
Matrix: Water
Analysis Batch: 278626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276282

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	41.63	B D	50.0	20.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Antimony	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Arsenic	4.0	U D	10.0	4.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Barium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:36	2
Beryllium	0.20	U D	0.50	0.20	ug/L		10/27/16 13:13	11/10/16 01:36	2
Cadmium	0.20	U D	0.50	0.20	ug/L		10/27/16 13:13	11/10/16 01:36	2
Chromium	4.0	U D	10.0	4.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Cobalt	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:36	2
Lead	1.0	U D	3.0	1.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Manganese	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:36	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Nickel	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Selenium	2.0	U D	5.0	2.0	ug/L		10/27/16 13:13	11/10/16 01:36	2
Silver	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:36	2
Strontium	0.50	U D	5.0	0.50	ug/L		10/27/16 13:13	11/10/16 01:36	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 160-276282/1-A
Matrix: Water
Analysis Batch: 278626

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276282

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:36	2
Thorium	0.90	U D	2.0	0.90	ug/L		10/27/16 13:13	11/10/16 01:36	2
Tin	1.2	U D	2.0	1.2	ug/L		10/27/16 13:13	11/10/16 01:36	2
Uranium	0.40	U D	1.0	0.40	ug/L		10/27/16 13:13	11/10/16 01:36	2
Zinc	7.5	U D	20.0	7.5	ug/L		10/27/16 13:13	11/10/16 01:36	2

Lab Sample ID: MB 160-276282/1-A
Matrix: Water
Analysis Batch: 278709

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276282

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.40	U D	1.0	0.40	ug/L		10/27/16 13:13	11/10/16 18:24	2

Lab Sample ID: LCS 160-276282/2-A
Matrix: Water
Analysis Batch: 278626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276282

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9449	D	ug/L		94	80 - 120
Antimony	500	466.0	D	ug/L		93	80 - 120
Arsenic	1000	942.8	D	ug/L		94	80 - 120
Barium	1000	956.8	D	ug/L		96	80 - 120
Beryllium	1000	993.0	D	ug/L		99	80 - 120
Cadmium	1000	938.4	D	ug/L		94	80 - 120
Chromium	1000	963.8	D	ug/L		96	80 - 120
Cobalt	1000	964.4	D	ug/L		96	80 - 120
Lead	1000	969.5	D	ug/L		97	80 - 120
Manganese	1000	997.2	D	ug/L		100	80 - 120
Molybdenum	500	487.1	D	ug/L		97	80 - 120
Nickel	1000	990.1	D	ug/L		99	80 - 120
Selenium	500	459.5	D	ug/L		92	80 - 120
Silver	200	190.9	D	ug/L		95	80 - 120
Strontium	1000	949.0	D	ug/L		95	80 - 120
Thallium	200	188.7	D	ug/L		94	80 - 120
Thorium	1000	984.7	D	ug/L		98	80 - 120
Tin	1000	935.1	D	ug/L		94	80 - 120
Uranium	1000	1009	D	ug/L		101	80 - 120
Zinc	1000	930.9	D	ug/L		93	80 - 120

Lab Sample ID: LCS 160-276282/2-A
Matrix: Water
Analysis Batch: 278709

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276282

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	1000	965.7	D	ug/L		97	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-19570-A-2-J MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276976 — **Prep Batch: 275775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	40.8	B D	10000	10160	D	ug/L		101	75 - 125
Antimony	2.0	U D	500	500.8	D	ug/L		100	75 - 125
Arsenic	5.5	B D	1000	1026	D	ug/L		102	75 - 125
Barium	21.8	D	1000	1028	D	ug/L		101	75 - 125
Beryllium	0.23	B D C	1000	1005	D	ug/L		100	75 - 125
Cadmium	0.20	U D	1000	1017	D	ug/L		102	75 - 125
Chromium	4.0	U D	1000	981.2	D	ug/L		98	75 - 125
Cobalt	0.90	U D	1000	1013	D	ug/L		101	75 - 125
Lead	1.0	U D	1000	989.4	D	ug/L		99	75 - 125
Manganese	0.90	U D	1000	1061	D	ug/L		106	75 - 125
Molybdenum	3.1	B D	500	523.3	D	ug/L		104	75 - 125
Nickel	2.0	U D	1000	1046	D	ug/L		105	75 - 125
Selenium	2.6	B D	500	509.8	D	ug/L		101	75 - 125
Silver	0.90	U D	200	204.3	D	ug/L		102	75 - 125
Strontium	198	D	1000	1211	D	ug/L		101	75 - 125
Thallium	0.90	U D	200	204.7	D	ug/L		102	75 - 125
Thorium	0.90	U D	1000	989.9	D	ug/L		99	75 - 125
Tin	1.2	U D	1000	1011	D	ug/L		101	75 - 125
Uranium	1.9	D	1000	1024	D	ug/L		102	75 - 125
Zinc	7.5	U D	1000	997.1	D	ug/L		100	75 - 125

Lab Sample ID: 160-19570-A-2-J MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 278468 — **Prep Batch: 275775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	0.56	B D	1000	1033	D	ug/L		103	75 - 125

Lab Sample ID: 160-19570-A-2-K MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 276976 — **Prep Batch: 275775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	40.8	B D	10000	10200	D	ug/L		102	75 - 125	0	20
Antimony	2.0	U D	500	507.1	D	ug/L		101	75 - 125	1	20
Arsenic	5.5	B D	1000	1026	D	ug/L		102	75 - 125	0	20
Barium	21.8	D	1000	1048	D	ug/L		103	75 - 125	2	20
Beryllium	0.23	B D C	1000	1030	D	ug/L		103	75 - 125	2	20
Cadmium	0.20	U D	1000	1031	D	ug/L		103	75 - 125	1	20
Chromium	4.0	U D	1000	1012	D	ug/L		101	75 - 125	3	20
Cobalt	0.90	U D	1000	1012	D	ug/L		101	75 - 125	0	20
Lead	1.0	U D	1000	1014	D	ug/L		101	75 - 125	3	20
Manganese	0.90	U D	1000	1070	D	ug/L		107	75 - 125	1	20
Molybdenum	3.1	B D	500	526.1	D	ug/L		105	75 - 125	1	20
Nickel	2.0	U D	1000	1051	D	ug/L		105	75 - 125	0	20
Selenium	2.6	B D	500	501.9	D	ug/L		100	75 - 125	2	20
Silver	0.90	U D	200	206.8	D	ug/L		103	75 - 125	1	20
Strontium	198	D	1000	1204	D	ug/L		101	75 - 125	1	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-19570-A-2-K MSD
Matrix: Water
Analysis Batch: 276976

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 275775

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Thallium	0.90	U D	200	207.7	D	ug/L		104	75 - 125	1	20
Thorium	0.90	U D	1000	1019	D	ug/L		102	75 - 125	3	20
Tin	1.2	U D	1000	1019	D	ug/L		102	75 - 125	1	20
Uranium	1.9	D	1000	1040	D	ug/L		104	75 - 125	2	20
Zinc	7.5	U D	1000	996.7	D	ug/L		100	75 - 125	0	20

Lab Sample ID: 160-19570-A-2-K MSD
Matrix: Water
Analysis Batch: 278468

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 275775

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	0.56	B D	1000	1021	D	ug/L		102	75 - 125	1	20

Method: 150.1 - pH (Electrometric)

Lab Sample ID: LCS 160-275836/5
Matrix: Water
Analysis Batch: 275836

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	6.990		SU		100	99.0 - 101.0

Lab Sample ID: 160-19647-3 DU
Matrix: Water
Analysis Batch: 275836

Client Sample ID: B37NY8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.92		7.890		SU		0.4	5

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-277203/1
Matrix: Water
Analysis Batch: 277203

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			11/02/16 10:30	1
Bicarbonate Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			11/02/16 10:30	1

Lab Sample ID: HLCS 160-277203/3
Matrix: Water
Analysis Batch: 277203

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	379.5		mg/L		95	90 - 110
Bicarbonate Alkalinity	400	379.5		mg/L		95	90 - 110

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 160-277203/2
Matrix: Water
Analysis Batch: 277203

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	198.0		mg/L		99	90 - 110
Bicarbonate Alkalinity	200	198.0		mg/L		99	90 - 110

Lab Sample ID: 160-19626-2 MS
Matrix: Water
Analysis Batch: 277203

Client Sample ID: B36P67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	256		100	350.0		mg/L		94	80 - 120
Bicarbonate Alkalinity	256		100	350.0		mg/L		94	80 - 120

Lab Sample ID: 160-19626-2 DU
Matrix: Water
Analysis Batch: 277203

Client Sample ID: B36P67
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	256		266.0		mg/L		4	20
Bicarbonate Alkalinity	256		266.0		mg/L		4	20
Carbonate Alkalinity	0.54	U	0.54	U	mg/L		NC	20
Hydroxide Alkalinity	0.54	U	0.54	U	mg/L		NC	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

GC/MS VOA

Analysis Batch: 276125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-3	B36P69	Total/NA	Water	8260C	
160-19626-4	B37058	Total/NA	Water	8260C	
MB 160-276125/8	Method Blank	Total/NA	Water	8260C	
LCS 160-276125/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-276125/6	Lab Control Sample Dup	Total/NA	Water	8260C	
160-19626-3 MS	B36P69	Total/NA	Water	8260C	
160-19626-3 MSD	B36P69	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 275825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-3	B36P69	Total/NA	Water	3510C	
MB 160-275825/1-A	Method Blank	Total/NA	Water	3510C	
LCS 160-275825/2-A	Lab Control Sample	Total/NA	Water	3510C	
160-19570-B-3-A MS	Matrix Spike	Total/NA	Water	3510C	
160-19570-D-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	

Analysis Batch: 276840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 160-275825/1-A	Method Blank	Total/NA	Water	8270D	275825
LCS 160-275825/2-A	Lab Control Sample	Total/NA	Water	8270D	275825
160-19570-B-3-A MS	Matrix Spike	Total/NA	Water	8270D	275825
160-19570-D-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270D	275825

Analysis Batch: 277053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-3	B36P69	Total/NA	Water	8270D	275825

Metals

Prep Batch: 275774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-1	B36P70	Dissolved	Water	3010A	
160-19626-2	B36P67	Total/NA	Water	3010A	
160-19626-5	B370Y0	Dissolved	Water	3010A	
160-19626-6	B370Y1	Total/NA	Water	3010A	
160-19626-7	B370X9	Total/NA	Water	3010A	
160-19626-8	B370X8	Dissolved	Water	3010A	
MB 160-275774/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-275774/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-19570-A-2-G MS	Matrix Spike	Dissolved	Water	3010A	
160-19570-A-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	

Prep Batch: 275775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-5	B370Y0	Dissolved	Water	3010A	
160-19626-6	B370Y1	Total/NA	Water	3010A	
160-19626-7	B370X9	Total/NA	Water	3010A	
160-19626-8	B370X8	Dissolved	Water	3010A	

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Metals (Continued)

Prep Batch: 275775 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 160-275775/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-275775/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-19570-A-2-J MS	Matrix Spike	Dissolved	Water	3010A	
160-19570-A-2-K MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	
160-19573-C-2-H MS	Matrix Spike	Total/NA	Water	3010A	
160-19573-C-2-I MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 276018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-1	B36P70	Dissolved	Water	6010C	275774
160-19626-2	B36P67	Total/NA	Water	6010C	275774
160-19626-5	B370Y0	Dissolved	Water	6010C	275774
160-19626-6	B370Y1	Total/NA	Water	6010C	275774
160-19626-7	B370X9	Total/NA	Water	6010C	275774
160-19626-8	B370X8	Dissolved	Water	6010C	275774
MB 160-275774/1-A	Method Blank	Total/NA	Water	6010C	275774
LCS 160-275774/2-A	Lab Control Sample	Total/NA	Water	6010C	275774
160-19570-A-2-G MS	Matrix Spike	Dissolved	Water	6010C	275774
160-19570-A-2-H MSD	Matrix Spike Duplicate	Dissolved	Water	6010C	275774

Prep Batch: 276282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19647-1	B36Y33	Dissolved	Water	3010A	
160-19647-2	B36Y30	Total/NA	Water	3010A	
MB 160-276282/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-276282/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 276283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19647-1	B36Y33	Dissolved	Water	3010A	
160-19647-2	B36Y30	Total/NA	Water	3010A	
MB 160-276283/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-276283/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-19648-B-6-E MS	Matrix Spike	Dissolved	Water	3010A	
160-19648-B-6-F MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	

Analysis Batch: 276915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19647-1	B36Y33	Dissolved	Water	6010C	276283
160-19647-2	B36Y30	Total/NA	Water	6010C	276283
MB 160-276283/1-A	Method Blank	Total/NA	Water	6010C	276283
LCS 160-276283/2-A	Lab Control Sample	Total/NA	Water	6010C	276283
160-19648-B-6-E MS	Matrix Spike	Dissolved	Water	6010C	276283
160-19648-B-6-F MSD	Matrix Spike Duplicate	Dissolved	Water	6010C	276283

Analysis Batch: 276976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-5	B370Y0	Dissolved	Water	6020A	275775
160-19626-6	B370Y1	Total/NA	Water	6020A	275775
160-19626-7	B370X9	Total/NA	Water	6020A	275775
160-19626-8	B370X8	Dissolved	Water	6020A	275775

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

Metals (Continued)

Analysis Batch: 276976 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 160-275775/1-A	Method Blank	Total/NA	Water	6020A	275775
LCS 160-275775/2-A	Lab Control Sample	Total/NA	Water	6020A	275775
160-19570-A-2-J MS	Matrix Spike	Dissolved	Water	6020A	275775
160-19570-A-2-K MSD	Matrix Spike Duplicate	Dissolved	Water	6020A	275775
160-19573-C-2-H MS	Matrix Spike	Total/NA	Water	6020A	275775
160-19573-C-2-I MSD	Matrix Spike Duplicate	Total/NA	Water	6020A	275775

Analysis Batch: 278468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-5	B370Y0	Dissolved	Water	6020A	275775
160-19626-6	B370Y1	Total/NA	Water	6020A	275775
160-19626-7	B370X9	Total/NA	Water	6020A	275775
160-19626-8	B370X8	Dissolved	Water	6020A	275775
MB 160-275775/1-A	Method Blank	Total/NA	Water	6020A	275775
LCS 160-275775/2-A	Lab Control Sample	Total/NA	Water	6020A	275775
160-19570-A-2-J MS	Matrix Spike	Dissolved	Water	6020A	275775
160-19570-A-2-K MSD	Matrix Spike Duplicate	Dissolved	Water	6020A	275775
160-19573-C-2-H MS	Matrix Spike	Total/NA	Water	6020A	275775
160-19573-C-2-I MSD	Matrix Spike Duplicate	Total/NA	Water	6020A	275775

Analysis Batch: 278626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19647-1	B36Y33	Dissolved	Water	6020A	276282
160-19647-2	B36Y30	Total/NA	Water	6020A	276282
MB 160-276282/1-A	Method Blank	Total/NA	Water	6020A	276282
LCS 160-276282/2-A	Lab Control Sample	Total/NA	Water	6020A	276282

Analysis Batch: 278709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19647-1	B36Y33	Dissolved	Water	6020A	276282
160-19647-2	B36Y30	Total/NA	Water	6020A	276282
MB 160-276282/1-A	Method Blank	Total/NA	Water	6020A	276282
LCS 160-276282/2-A	Lab Control Sample	Total/NA	Water	6020A	276282

General Chemistry

Analysis Batch: 275836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19647-3	B37NY8	Total/NA	Water	150.1	
160-19647-4	B37NY6	Total/NA	Water	150.1	
160-19647-5	B37NY9	Total/NA	Water	150.1	
160-19647-6	B37NY7	Total/NA	Water	150.1	
LCS 160-275836/5	Lab Control Sample	Total/NA	Water	150.1	
160-19647-3 DU	B37NY8	Total/NA	Water	150.1	

Analysis Batch: 277203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-2	B36P67	Total/NA	Water	310.1	
160-19626-6	B370Y1	Total/NA	Water	310.1	
160-19626-7	B370X9	Total/NA	Water	310.1	

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

General Chemistry (Continued)

Analysis Batch: 277203 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-19626-9	B36P39	Total/NA	Water	310.1	
MB 160-277203/1	Method Blank	Total/NA	Water	310.1	
HLCS 160-277203/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-277203/2	Lab Control Sample	Total/NA	Water	310.1	
160-19626-2 MS	B36P67	Total/NA	Water	310.1	
160-19626-2 DU	B36P67	Total/NA	Water	310.1	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W17-010 / S17-010 / X17-003

TestAmerica Job ID: 160-19626-1
SDG: SL2334

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-129)	(81-130)	(81-124)	(87-128)
160-19626-3	B36P69	101	118	105	117
160-19626-3 MS	B36P69	103	101	101	105
160-19626-3 MSD	B36P69	93	101	99	104
160-19626-4	B37058	103	118	104	116
LCS 160-276125/5	Lab Control Sample	101	101	104	108
LCSD 160-276125/6	Lab Control Sample Dup	101	104	103	107
MB 160-276125/8	Method Blank	100	118	103	121

Surrogate Legend

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

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	NBZ	PHL	TPHL	FBP
Lab Sample ID	Client Sample ID	(15-59)	(37-120)	(50-101)	(10-50)	(21-97)	(43-108)
160-19570-B-3-A MS	Matrix Spike	37	90	79	24	52	80
160-19570-D-3-A MSD	Matrix Spike Duplicate	39	100	83	26	56	86
160-19626-3	B36P69	35	89	71	23	51	72
LCS 160-275825/2-A	Lab Control Sample	38	96	79	26	62	81
MB 160-275825/1-A	Method Blank	44	103	85	29	61	86

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
FBP = 2-Fluorobiphenyl (Surr)