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: 160-32023-1
TestAmerica Sample Delivery Group: SL32023-1
Client Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004
Revision: 1

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

Attn: Mr. Scot Fitzgerald

Authorized for release by:
2/28/2019 9:45:48 AM

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: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Job ID: 160-32023-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Rev. 1 - Client requested that Uranium be added to the 6020 analysis for sample B3LY96 per SIR19-0512.

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
December 31, 2018
Attention: Scot Fitzgerald

SDG	: SL32023-1
Number of Samples	: 24 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: November 28, 2018

II. Introduction

On November 28, 24 samples were received by TestAmerica - St. Louis for 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: S19-011, W19-011, X19-002, I19-003 and I19-004

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.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

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 a narrative note; however, they are flagged “D” due to a limitation in the LIMS.

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

Case Narrative

Job ID: 160-32023-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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 above the MDL/RL and Method Blank is greater than 5% of the sample concentration.
- **B** - For inorganics and radiochemistry, Method Blank reported above the MDC/MDL.
- **J** - For organic analyses, the sample is estimated and less than the RL. If on Method Blank, indicates Method Blank contamination.
- **C** - For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL/RL and Method Blank concentration is greater than 5% of the sample concentration.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution. For ICPMS Metals analyses, per standard practice, all 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 samples.
- **N** - For inorganics, rad 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 - The analyte present in the original sample is > 4x the spike concentration.
- **X-** Radiochemistry - Carrier or Tracer recovery is outside limits.
- **Z-** Sample was prepped or analyzed beyond the specified sample holding time.
- **y -** RPD is outside established limits.

Volatiles

Batch: 404259

The continuing calibration verification (CCV) associated with batch 160-404259 recovered outside acceptance criteria, low biased, for Bromomethane, dichlorodifluoromethane, Iodomethane, and trichloromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

The continuing calibration verification (CCV) associated with batch 160-404259 recovered above the upper control limit for Acrolein. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 160-404259/4).

The continuing calibration verification (CCV) associated with batch 160-404259 did not meet the minimum relative response factor QC limits for 2-Butanone, Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analyte was detected. Target analytes recovering above the reporting limit will be qualified and reported. (CCVIS 160-404259/4).

Case Narrative

Job ID: 160-32023-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Surrogate recovery for the following samples was outside the upper control limit: B3LTT9 (160-32023-9) and B3LTT4 (160-32023-11). This sample did not contain any target analytes within the surrogates assigned retention time range; therefore, re-extraction and/or re-analysis was not performed.

Internal standard (ISTD) response for the following samples in 160-404259 was outside of acceptance limits: B3LTT9 (160-32023-9) and B3LTT4 (160-32023-11). There were no target analyte detections for the associated samples above the reporting limit within the internal standards assigned retention time range. The samples were not re-analyzed and the data has been reported.

The following samples were diluted due to elevated requested target analytes: B3LTT9 (160-32023-9) and B3LTT4 (160-32023-11). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a “D” flag in the associated samples.

The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch analytical batch 160-404259 recovered outside control limits for the following analytes: Acrolein and Iodomethane. These analytes were within percent recovery limits in the LCS and LCSD. (LCSD 160-404259/6)

The continuing calibration verification (CCV) associated with batch 160-404238 recovered outside acceptance criteria, low biased, for Acetone and 2-Butanone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. The associated samples (CCVIS 160-404238/4) were detected for Acetone. Acetone is a common laboratory contaminant and may be present at detectable levels due to atmospheric contamination.

The matrix spike duplicate (MSD) recovery for analytical batch 160-404238 was outside control limits for Trichloroethene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) and laboratory control sample duplicate recoveries were within acceptance limits.(160-32023-A-2 MSD) This analyte has been qualified with a "T" flag in the associated samples.

ICP Metals

Batch: 406522

Calcium was detected in method blank MB 160-405742/1-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 MB is greater than 5% the sample concentration, the result has been flagged “C”.

The post digestion spike % recovery for Sodium and calcium associated with batch preparation batch 160-405742 and analytical batch 160-406522 was outside of control limits indicating potential matrix interference. (160-32228-A-1-D PDS)

ICPMS Metals

Batch: 408313

Aluminum and Strontium were detected in method blank MB 160-405741/1-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 MB is greater than 5% the sample concentration, the result has been flagged “C”.

Due to linear range check (LRC) failures, the linear range for thorium has been lowered to the concentration of the highest calibration standard (200ppb). The LCS and MS/MSD were above the linear range, but were within acceptable recovery limits. (LCS 160-405741/2-A), (160-32228-A-1-B MS) and (160-32228-A-1-C MSD)

Batch: 406241

The MS/MSD/serial dilution/PDS was analyzed on a different sample 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/PDS for Uranium was not applied to this job. B3M485 (160-32023-3), (160-32023-A-3-B MS), (160-32023-A-3-C MSD), (160-32023-A-3-A PDS) and (160-32023-A-3-A SD) Method performance is demonstrated by acceptable LCS recovery.

Case Narrative

Job ID: 160-32023-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Tritium

Prep Batch: 405531

The client has requested RPD be reported as precision criteria. The RPD tends to "inflate" at low sample activity (near and below the MDC) due to the high relative uncertainty of the measurements. At low activity the RER (relative error ratio) or DER (duplicate error ratio) are better indicators. The laboratory typically uses a dual criterion: either the RER is ≤ 1 or the RPD ≤ 40% (or 30%, depending upon the matrix). The following samples did not meet the RPD criteria; however, the RER is within limits demonstrating good replicate precision.

The matrix spike (MS) has a spike recovery below the lower control limit of 75% (73%). The tritium concentration in the original sample is greater than five (5) times the amount spiked, making the percent recovery information statistically invalid and therefore could not be evaluated for accuracy and precision. The data have been reported. B3LKF1 (160-32023-5), B3LTT4 (160-32023-11), B3LX00 (160-32023-15), B3LX01 (160-32023-16), B3LK07 (160-32023-19), B3LL37 (160-32023-20), (LCS 160-405531/2-A), (MB 160-405531/1-A), (160-32023-A-5-C DU) and (160-32023-F-11-C MS)

Strontium

Prep Batch: 403945

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: B3LX00 (160-32023-15), B3LX01 (160-32023-16) and B3LL37 (160-32023-20). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) was prepared to demonstrate batch precision.

Selenium-79

Prep Batch: 404261

The client has requested RPD be reported as precision criteria. The RPD tends to "inflate" at low sample activity (near and below the MDC) due to the high relative uncertainty of the measurements. At low activity the RER (relative error ratio) or DER (duplicate error ratio) are better indicators. The laboratory typically uses a dual criterion: either the RER is ≤ 1 or the RPD ≤ 40% (or 30%, depending upon the matrix). The following samples did not meet the RPD criteria; however, the RER is within limits demonstrating good replicate precision.

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

Alkalinity
Total Cyanide

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

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Job ID: 160-32023-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

SAMPLE ISSUE RESOLUTION (SIR) REPORT

SIR Number: SIR19-0512
Rev. Number: 0
Date Initiated: 02/27/2019

SAMPLE EVENT INFORMATION

SAF NUM(S): S19-011

LABORATORY: TASL

SAMPLING INFORMATION

NUMBER OF SAMPLES: 1

SAMPLE NUMBERS: B3LY96

SAMPLE MATRIX: WATER

SDG NUM(S): SL32023-1

ISSUE BACKGROUND

CLASS: General Laboratory Direction

TYPE: Addition of Analysis

DESCRIPTION: Analysis for uranium by 6020 for B3LY96 is required; however, it was not requested.

RESOLUTION

PROPOSED RESOLUTION: Please report results for uranium by 6020 and submit a revised hard copy and electronic data package.

FINAL RESOLUTION: See proposed resolution.

SUBMITTED BY:

CUTSFORTH, EC 02/27/2019

ACCEPTED BY:

AWALT, JK 02/27/2019

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-32023-1
SDG Number: SL32023-1

Login Number: 32023
List Number: 1
Creator: Press, Nicholas B

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9
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	

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W19-011-294 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, NOVEMBER 2018	**Logbook No.:** HNF-N-506-10413 9	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7738 1955 1396
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** 10312 6 TCB 11-27-18

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LNM0	N	W	11-27-18	1234	1x125-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

160-32023 Chain of Custody

Relinquished By: Juan Aguilar /CHPRC	NOV 27 2018 1330	Received By: Lesly Wall /CHPRC	NOV 27 2018 1330	Matrix *	
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	S = Soil	DS = Drum Solids
Relinquished By: Lesly Wall /CHPRC	NOV 27 2018 1400	Received By: FEDEX		SE = Sediment	DL = Drum Liquids
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	SO = Solid	T = Tissue
Relinquished By: FED EX		Received By: Nichola's Press Nicholas Press	11-28-18 0945	SL = Sludge	WI = Wipe
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	W = Water	L = Liquid
Relinquished By:		Received By:		O = Oil	V = Vegetation
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	A = Air	X = Other

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

2/28/2019 (Rev. 1)

Printed On 10/3/2018

FSR ID = FSR70145

A-6004-842 (REV 3)

SL32023-1

Feb. 28, 2019

Rev. 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X19-002-090 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** WATERS-HUSTED, K	**Telephone No.:** 376-4650	
SAF No.: X19-002	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071	
Project Title: Groundwater Background Study,	**Logbook No.:** HNF-N-506 -104139	**Ice Chest No.:** GW-005	
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7738 1955 1396	
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 103126 TCB 11-27-18	

POSSIBLE SAMPLE HAZARDS/REMARK
*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
Batch with A, I, S, and W SAFs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3L6F3	N	W	11-27-18	0849	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By: Juan Aguilar /CHPRC	NOV 27 2018 1120	Received By: Tim Calloway /CHPRC	NOV 27 2018 1120	Matrix *	
Print First and Last Name / Signature / Date/Time		Print First and Last Name / Signature / Date/Time		S = Soil	DS = Drum Solids
Relinquished By: Tim Calloway /CHPRC	NOV 27 2018 1400	Received By: FEDEX		SE = Sediment	DL = Drum Liquids
Print First and Last Name / Signature / Date/Time		Print First and Last Name / Signature / Date/Time		SO = Solid	T = Tissue
Relinquished By: FEDEX		Received By: Nicholas Ross Nicholas	11-28-18/0945	SL = Sludge	WI = Wipe
Print First and Last Name / Signature / Date/Time		Print First and Last Name / Signature / Date/Time		W = Water	L = Liquid
Relinquished By:		Received By:		O = Oil	V = Vegetation
Print First and Last Name / Signature / Date/Time		Print First and Last Name / Signature / Date/Time		A = Air	X = Other

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W19-011-298 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650	
SAF No.: W19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071	
Project Title: RCRA, NOVEMBER 2018	**Logbook No.:** HNF-N-506 -104/39	**Ice Chest No.:** GWS-005	
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396	
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** 10312 6 TCB 11-27-18	

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3M485	Y	W	11-27-18	0849	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3LM21	N	W	11-27-18	0849	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

Relinquished By: Juan Aguilar /CHPRC	NOV 27 2018	1120	Received By: Tim Calloway /CHPRC	NOV 27 2018	1120
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: Tim Calloway /CHPRC	NOV 27 2018	1400	Received By: FEDEX		
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: FEDEX			Received By: Nicholas Pross	11-28-18	0945
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By:			Received By:		
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	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 10/3/2018 FSR ID = FSR70058 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	75 LBS. CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I19-003-197 Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650	
SAF No.: I19-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071	
Project Title: AEA, NOVEMBER 2018	**Logbook No.:** HNF-N-506-101	**Ice Chest No.:** GDS-005	
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773961955139 6	
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10316	

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LKF1	N	W	11/27/18	1300	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

Relinquished By: Kathy Turner /CHPRC Kathy Turner	NOV 27 2018 1313	Received By: Troy Bacon /CHPRC Troy L. Bacon	NOV 27 2018 1313	Matrix *	
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	S = Soil	DS = Drum Solids
Relinquished By: Troy Bacon /CHPRC Troy L. Bacon	NOV 27 2018 1400	Received By: FEDEX		SE = Sediment	DL = Drum Liquids
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	SO = Solid	T = Tissue
Relinquished By: FEDEX		Received By: Nicholas Press Nicholas Press 11-28-18 0945		SL = Sludge	WI = Wipe
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	W = Water	L = Liquid
Relinquished By:		Received By:		O = Oil	V = Vegetation
Print First and Last Name	Signature / Date/Time	Print First and Last Name	Signature / Date/Time	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 10/3/2018

FSR ID = FSR69809

A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-573 Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: SURV, NOVEMBER 2018	**Logbook No.:** HNF-N-506-101	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10316

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LW25	N	W	11/27/18	1014	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By	Received By
Kathy Turner /CHPRC — Print First and Last Name — Kathy Turner — Signature — NOV 27 2018 1313 — Date/Time	Troy Bacon /CHPRC — Print First and Last Name — Troy L. Bacon — Signature — NOV 27 2018 1313 — Date/Time
Troy Bacon /CHPRC — Print First and Last Name — Troy L. Bacon — Signature — NOV 27 2018 1400 — Date/Time	FEDEX — Print First and Last Name — Signature — Date/Time
FEDEX — Print First and Last Name — Signature — Date/Time	Nicholas Press — Print First and Last Name — Nicholas Press — Signature — 11-28-18/0945 — Date/Time
Print First and Last Name — Signature — Date/Time	Print First and Last Name — Signature — 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 10/3/2018
FSR ID = FSR70077
A-6004-842 (REV 3)

14 of 69
2/28/2019 (Rev. 1)
SL32023-1
Feb. 28, 2019
Rev. 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-567 Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: SURV, NOVEMBER 2018	**Logbook No.:** HNF-N-506-101	**Ice Chest No.:** 6605-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7738 1955 1396
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10316

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LY03	N	W	11/27/18	1020	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3LY06	Y	W	1	1	1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By: Kathy Turner /CHPRC Kathy Turner NOV 27 2018 1313	Print First and Last Name / Signature / Date/Time	Received By: Troy Bacon /CHPRC Troy L. Bacon NOV 27 2018 1313	Print First and Last Name / Signature / Date/Time
Relinquished By: Troy Bacon /CHPRC Troy L. Bacon NOV 27 2018 1400	Print First and Last Name / Signature / Date/Time	Received By: FEDEX	Print First and Last Name / Signature / Date/Time
Relinquished By: FED EX	Print First and Last Name / Signature / Date/Time	Received By: Nicholas Riess 11-28-18 0945	Print First and Last Name / Signature / Date/Time
Relinquished By:	Print First and Last Name / Signature / Date/Time	Received By:	Print First and Last Name / Signature / 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 10/22/2018 FSR ID = FSR70826 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I19-004-632 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I19-004	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, NOVEMBER 2018	**Logbook No.:** HNF-N-506 -104139	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** 103126 11-27-BTGB

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LTT9	N	W	11-27-18	1017	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV 1	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By: Juan Aguilar /CHPRC — NOV 27 2018 1120 (Print First and Last Name / Signature / Date/Time)	Received By: Tim Calloway /CHPRC — NOV 27 2018 1120	Matrix *
Relinquished By: Tim Calloway /CHPRC — NOV 27 2018 1400	Received By: FEDEX	S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solids, DL = Drum Liquids, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
Relinquished By: FED EX	Received By: Nicholas Press 11-28-18/0945
Relinquished By:	Received By:

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

Printed On 10/15/2018 — FSR ID = FSR70410 — A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W19-011-292 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, NOVEMBER 2018	**Logbook No.:** HNF-N-506 -10439	**Ice Chest No.:** GW- 005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7738 19551396
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** 10312 (11-27-18) 6

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LNK8	N	W	11-27-18	0745	1x500-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Received By	Matrix *
Juan Aguilar /CHPRC — NOV 27 2018 1120 — Print First and Last Name / Signature / Date/Time	Tim Callaway /CHPRC — NOV 27 2018 1120 — Print First and Last Name / Signature / Date/Time	S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other
Tim Callaway /CHPRC — NOV 27 2018 1400 — Print First and Last Name / Signature / Date/Time	FEDEX — Print First and Last Name / Signature / Date/Time	
FEDEX — Print First and Last Name / Signature / Date/Time	Nicholas Press — Print First and Last Name / Signature / 11-28-18/0945 Date/Time	
Relinquished By: — Print First and Last Name / Signature / Date/Time	Received By: — Print First and Last Name / Signature / Date/Time	

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

Printed On 10/15/2018 — FSR ID = FSR70406 — A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I19-004-631 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650	
SAF No.: I19-004	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071	
Project Title: CERCLA, NOVEMBER 2018	**Logbook No.:** HNF-N-506-10439	**Ice Chest No.:** GWS-005	
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396	
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** 103126 TCB 11-27-18	

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LTT4	N	W	11-27-18	0849	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV 1	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3LTT4	N	W	11-27-18	0849	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

Relinquished By: Juan Aguilar /CHPRC		NOV 27 2018 1120	Received By: Tim Calloway /CHPRC		NOV 27 2018 1120
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By: Tim Calloway /CHPRC		NOV 27 2018 1400	Received By: FEDEX		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By:	FED EX		Received By: Nicholas Pyles		11-28-18/0945
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By:			Received By:		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*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 10/3/2018

FSR ID = FSR70058

A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W19-011-293 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, NOVEMBER 2018	**Logbook No.:** HNF-N-506 -104139	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** 103126

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LNK9	N	W	11-27-18	1058	1x125-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By / Print First and Last Name	Signature	Date/Time	Received By / Print First and Last Name	Signature	Date/Time
Juan Aguilar /CHPRC		NOV 27 2018 1120	Tim Calloway /CHPRC		NOV 27 2018 1120
Tim Calloway /CHPRC		NOV 27 2018 1400	FEDEX		
Relinquished By:	FEDEX		Received By: Nicholas Press		11-28-18/0945
Relinquished By:			Received By:		

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 10/15/2018 FSR ID = FSR70407 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W19-011-015 Page 1 of 1

Collector: Juan Aguilar /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, NOVEMBER 2018	**Logbook No.:** HNF-N-506 -10439	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** 10312 TCP 11-27-18

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LM25	N	W	11-27-18	1017	1x125-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B3LM25	N	W	↓	↓	1x60-mL aG	9012_CYANIDE (TOTAL): COMMON	14 Days	NaOH to pH >=12 / Cool <=6C
B3M486	Y	W	↓	↓	1x125-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B3M486	Y	W	11-27-18	1017	1x60-mL aG	9012_CYANIDE (TOTAL): COMMON	14 Days	NaOH to pH >=12 / Cool <=6C

	Print First and Last Name	Signature	Date/Time
Relinquished By:	Juan Aguilar /CHPRC		NOV 27 2018 1120
Received By:	Tim Calloway /CHPRC	T-Calloway	NOV 27 2018 1120
Relinquished By:	Tim Calloway /CHPRC	T-Calloway	NOV 27 2018 1400
Received By:	FEDEX		
Relinquished By:	FEDEX		
Received By:	Nicholas Pross	Nicholas Pross	11-28-18/0945
Relinquished By:			
Received By:			

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 10/15/2018 FSR ID = FSR70410 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-579
		Page 1 of 1

Collector: WILLIAM COLLINS CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650	
SAF No.: S19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071	
Project Title: SURV, NOVEMBER 2018	**Logbook No.:** HNF-N-506-100/44	**Ice Chest No.:** GWS-005	
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7738 1955 1396 TLB	
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10312 6 11-27-18	

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LX00	N		NOV 27 2018	1048	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B3LX00	N	W	↓	↓	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

Relinquished By / Print First and Last Name	Signature	Date/Time	Received By / Print First and Last Name	Signature	Date/Time
WILLIAM COLLINS CHPRC		NOV 27 2018 1210	Troy Bacon /CHPRC Troy L. Bacon		NOV 27 2018 1210
Troy Bacon /CHPRC Troy L. Bacon		NOV 27 2018 1400	FEDEX		
FED EX			Nicholas Press		11-28-18/0945

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 10/3/2018 FSR ID = FSR70113 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-580 Page 1 of 1

Collector:	WILLIAM COLLINS CHPRC SL32023-1	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S19-011	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	SURV, NOVEMBER 2018	**Logbook No.:**	HNF-N-506 -106/44	**Ice Chest No.:**	GWS-005
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment:**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	773819551396
Protocol:	SURV	**Priority:**	30 Days	**Offsite Property No.:**	103126 11-27-18

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LX01	N		NOV 27 2018	1048	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B3LX01	N	W	↓	↓	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

Relinquished By: WILLIAM COLLINS CHPRC		NOV 27 2018 1200	Received By: Troy Bacon /CHPRC		NOV 27 2018 1200
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By: Troy Bacon /CHPRC		NOV 27 2018 1400	Received By: FEDEX		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By:			Received By:		11-28-18/0945
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By:			Received By:		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*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 10/3/2018 FSR ID = FSR70113 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-581 Page 1 of 1

Collector: WILLIAM COLLINS CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: SURV, NOVEMBER 2018	**Logbook No.:** HNF-N-506 - 10644	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10315

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LXD9	N	W	NOV 27 2018	1130	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B3LXF3	Y	W	✓	✓	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

	Print First and Last Name	Signature	Date/Time
Relinquished By:	WILLIAM COLLINS CHPRC		NOV 27 2018 1210
Received By:	Troy Bacon /CHPRC	Troy L. Bacon	NOV 27 2018 1210
Relinquished By:	Troy Bacon /CHPRC	Troy L. Bacon	NOV 27 2018 1400
Received By:	FEDEX		
Relinquished By:		FEDEX	
Received By:	Nicholas Pross		11-28-18/0945
Relinquished By:			
Received By:			

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 10/3/2018 FSR ID = FSR70114 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I19-003-239
		Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I19-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: AEA, NOVEMBER 2018	**Logbook No.:** HNF-N-506-101	**Ice Chest No.:** 6605-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10316

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LK07	N	W	11/27/18 11/27/18	1237	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

Relinquished By: Kathy Turner /CHPRC Kathy Turner NOV 27 2018 1313 Print First and Last Name / Signature / Date/Time	Received By: Troy Bacon /CHPRC Troy L Bacon NOV 27 2018 1313 Print First and Last Name / Signature / Date/Time	Matrix * S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air DS = Drum Solids, DL = Drum Liquids, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
Relinquished By: Troy Bacon /CHPRC Troy L Bacon NOV 27 2018 1400 Print First and Last Name / Signature / Date/Time	Received By: FEDEX Print First and Last Name / Signature / Date/Time	
Relinquished By: FEDEX Print First and Last Name / Signature / Date/Time	Received By: Nicholas Press Nicholas Press 11-28-18/0945 Print First and Last Name / Signature / Date/Time	
Relinquished By: Print First and Last Name / Signature / Date/Time	Received By: Print First and Last Name / Signature / Date/Time	

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

Printed On 10/3/2018

FSR ID = FSR69872

A-6004-842 (REV 3)

2/28/2019 (Rev. 1)

24 of 69

SL32023-1

Feb. 28, 2019

Rev. 1

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I19-003-323
		Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I19-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: AEA, NOVEMBER 2018	**Logbook No.:** HNF-N-506 -101	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10316

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LL37	N	W	11/27/18	1209	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2
B3LL37	N	W	"	"	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None
B3LL37	N	W	11/27/18	1209	1x500-mL G/P	SE79_SEP_IE_LSC: COMMON	6 Months	HNO3 to pH <2

Relinquished By / Print First and Last Name	Signature	Date/Time	Received By / Print First and Last Name	Signature	Date/Time
Kathy Turner /CHPRC	Kathy Turner	NOV 27 2018 1313	Troy Bacon /CHPRC	Troy L Bacon	NOV 27 2018 1313
Troy Bacon /CHPRC	Troy L Bacon	NOV 27 2018 1400	FEDEX		
FEDEX			Nicholas Price		11-28-18/0945

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 10/3/2018

FSR ID = FSR69903

A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-548
		Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: SURV, NOVEMBER 2018	**Logbook No.:** HNF-N-506 ~101	**Ice Chest No.:** GWS-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396 FED 11-27-18
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 103126

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LY96	N	W	11/27/18	1209	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3LY98	Y	W	1	1	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

	Relinquished By	Received By
Print First and Last Name	Kathy Turner /CHPRC	Troy Bacon /CHPRC
Signature	Kathy Turner	Troy Bacon
Date/Time	NOV 27 2018 1313	NOV 27 2018 1313
Print First and Last Name	Troy Bacon /CHPRC	FEDEX
Signature	Troy Bacon	
Date/Time	NOV 27 2018 1400	
Print First and Last Name	FEDEX	Nicholas Press
Signature	FED EX	Nicholas Press
Date/Time		11-28-18/0945
Print First and Last Name		
Signature		
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 10/3/2018

FSR ID = FSR69903

A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S19-011-542 Page 1 of 1

Collector: Kathy Turner /CHPRC SL32023-1	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S19-011	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: SURV, NOVEMBER 2018	**Logbook No.:** HNF-N-506-101	**Ice Chest No.:** 6005-005
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment:** Commercial Carrier	**Bill of Lading/Air Bill No.:** 773819551396
Protocol: SURV	**Priority:** 30 Days	**Offsite Property No.:** 10316

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3LXT6	Y	W	11/27/18	1137	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3LXT4	N	W	"	"	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

Relinquished By: Kathy Turner /CHPRC — Print First and Last Name	Signature	NOV 27 2018 1313 — Date/Time	Received By: Troy Bacon /CHPRC — Print First and Last Name: Troy L. Bacon	Signature	NOV 27 2018 1313 — Date/Time
Relinquished By: Troy Bacon /CHPRC — Print First and Last Name: Troy L. Bacon	Signature	NOV 27 2018 1400 — Date/Time	Received By: FEDEX — Print First and Last Name	Signature	Date/Time
Relinquished By: — Print First and Last Name	Signature: FEDEX	Date/Time	Received By: — Print First and Last Name: Nicholas Rees	Signature: Nicholas Rees	11-28-18/0945 — Date/Time
Relinquished By: — Print First and Last Name	Signature	Date/Time	Received By: — Print First and Last Name	Signature	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 10/3/2018 — FSR ID = FSR69857 — A-6004-842 (REV 3)

FedEx

November 29,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **773819551396**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Shipping/Receiving
Signed for by:	M.PRESS	**Delivery location:**	EARTH CITY, MO
Service type:	FedEx Priority Overnight	**Delivery date:**	Nov 28, 2018 09:46
Special Handling:	Deliver Weekday		
	Direct Signature Required		

Signature image is available. In order to view image and detailed information, the shipper or payor account number of the shipment must be provided.

Shipping Information:

Tracking number:	773819551396	**Ship date:**	Nov 27, 2018
		Weight:	75.0 lbs/34.0 kg

Recipient:
EARTH CITY, MO US

Shipper:
Richland, WA US

Reference ptr#10316/cooler#gws-005

Thank you for choosing FedEx.

Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
U	Analyzed for but not detected.
y	Duplicate analysis not within control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	See case narrative notes for explanation of the 'X' flag
T	MS, MSD: Recovery exceeds upper or lower control limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
N	Presumptive evidence of material.
T	MS, MSD: Recovery exceeds upper or lower control limits.

Metals

Qualifier	Qualifier Description
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 </= 5% the blank concentration.
D	The reported value is from a dilution.

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
y	Duplicate analysis not within control limits.

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
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Definitions/Glossary

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
6010D	Metals (ICP)	SW846	TAL SL
6020B	Metals (ICP/MS)	SW846	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
9012B	Cyanide, Total andor Amenable	SW846	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
SR-03-RC	Total Beta Strontium (GFPC)	DOE	TAL SL
ST-RC-0079	Selenium-79 (LSC)	TAL-STL	TAL SL
3010A	Preparation, Total Metals	SW846	TAL SL
5030C	Purge-and-Trap	SW846	TAL SL
9010C	Cyanide, Distillation	SW846	TAL SL
Ext_Chrom_LSC	Preparation, Extraction Chromatography	None	TAL SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL

Protocol References:

DOE = U.S. Department of Energy
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

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: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-32023-1	B3LNM0	Water	11/27/18 12:34	11/28/18 09:45
160-32023-2	B3L6F3	Water	11/27/18 08:49	11/28/18 09:45
160-32023-3	B3M485	Water	11/27/18 08:49	11/28/18 09:45
160-32023-4	B3LM21	Water	11/27/18 08:49	11/28/18 09:45
160-32023-5	B3LKF1	Water	11/27/18 13:00	11/28/18 09:45
160-32023-6	B3LW25	Water	11/27/18 10:44	11/28/18 09:45
160-32023-7	B3LY03	Water	11/27/18 10:20	11/28/18 09:45
160-32023-8	B3LY06	Water	11/27/18 10:20	11/28/18 09:45
160-32023-9	B3LTT9	Water	11/27/18 10:17	11/28/18 09:45
160-32023-10	B3LNK8	Water	11/27/18 07:45	11/28/18 09:45
160-32023-11	B3LTT4	Water	11/27/18 08:49	11/28/18 09:45
160-32023-12	B3LNK9	Water	11/27/18 10:58	11/28/18 09:45
160-32023-13	B3LM25	Water	11/27/18 10:17	11/28/18 09:45
160-32023-14	B3M486	Water	11/27/18 10:17	11/28/18 09:45
160-32023-15	B3LX00	Water	11/27/18 10:48	11/28/18 09:45
160-32023-16	B3LX01	Water	11/27/18 10:48	11/28/18 09:45
160-32023-17	B3LXD9	Water	11/27/18 11:30	11/28/18 09:45
160-32023-18	B3LXF3	Water	11/27/18 11:30	11/28/18 09:45
160-32023-19	B3LK07	Water	11/27/18 12:37	11/28/18 09:45
160-32023-20	B3LL37	Water	11/27/18 12:09	11/28/18 09:45
160-32023-21	B3LY96	Water	11/27/18 12:09	11/28/18 09:45
160-32023-22	B3LY98	Water	11/27/18 12:09	11/28/18 09:45
160-32023-23	B3LXT6	Water	11/27/18 11:57	11/28/18 09:45
160-32023-24	B3LXT4	Water	11/27/18 11:57	11/28/18 09:45

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3L6F3
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-2
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			12/05/18 21:20	1
1,1,2-Trichloroethane	0.25	U	1.0	0.25	ug/L			12/05/18 21:20	1
1,1-Dichloroethane	0.093	U	1.0	0.093	ug/L			12/05/18 21:20	1
1,1-Dichloroethene	0.12	U	1.0	0.12	ug/L			12/05/18 21:20	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			12/05/18 21:20	1
2-Butanone (MEK)	0.72	U	5.0	0.72	ug/L			12/05/18 21:20	1
4-Methyl-2-pentanone (MIBK)	0.51	U	5.0	0.51	ug/L			12/05/18 21:20	1
Acetone	0.91	U	2.0	0.91	ug/L			12/05/18 21:20	1
Benzene	0.10	U	1.0	0.10	ug/L			12/05/18 21:20	1
Carbon disulfide	0.13	U	1.0	0.13	ug/L			12/05/18 21:20	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			12/05/18 21:20	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			12/05/18 21:20	1
Chloroform	0.24	U	1.0	0.24	ug/L			12/05/18 21:20	1
Ethylbenzene	0.13	U	1.0	0.13	ug/L			12/05/18 21:20	1
Methylene Chloride	**3.1**		1.0	0.27	ug/L			12/05/18 21:20	1
Tetrachloroethene	0.19	U T	1.0	0.19	ug/L			12/05/18 21:20	1
Toluene	0.19	U	1.0	0.19	ug/L			12/05/18 21:20	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			12/05/18 21:20	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			12/05/18 21:20	1
Xylenes, Total	0.45	U	3.0	0.45	ug/L			12/05/18 21:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*50*		*ug/L*		*6.22*	*67-63-0*		*12/05/18 21:20*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*12/05/18 21:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*75 - 129*		*12/05/18 21:20*	*1*
4-Bromofluorobenzene (Surr)	*122*		*81 - 130*		*12/05/18 21:20*	*1*
Dibromofluoromethane (Surr)	*111*		*81 - 124*		*12/05/18 21:20*	*1*
Toluene-d8 (Surr)	*112*		*87 - 128*		*12/05/18 21:20*	*1*

Client Sample ID: B3LW25
Date Collected: 11/27/18 10:44
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-6
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			12/06/18 14:26	1
1,1,2-Trichloroethane	0.25	U	1.0	0.25	ug/L			12/06/18 14:26	1
1,1-Dichloroethane	0.093	U	1.0	0.093	ug/L			12/06/18 14:26	1
1,1-Dichloroethene	0.12	U	1.0	0.12	ug/L			12/06/18 14:26	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			12/06/18 14:26	1
2-Butanone (MEK)	0.72	U	5.0	0.72	ug/L			12/06/18 14:26	1
4-Methyl-2-pentanone (MIBK)	0.51	U	5.0	0.51	ug/L			12/06/18 14:26	1
Acetone	0.91	U	2.0	0.91	ug/L			12/06/18 14:26	1
Benzene	0.10	U	1.0	0.10	ug/L			12/06/18 14:26	1
Carbon disulfide	0.13	U	1.0	0.13	ug/L			12/06/18 14:26	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			12/06/18 14:26	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			12/06/18 14:26	1
Chloroform	0.24	U	1.0	0.24	ug/L			12/06/18 14:26	1
Ethylbenzene	0.13	U	1.0	0.13	ug/L			12/06/18 14:26	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			12/06/18 14:26	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LW25
Date Collected: 11/27/18 10:44
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.19	U	1.0	0.19	ug/L			12/06/18 14:26	1
Toluene	0.19	U	1.0	0.19	ug/L			12/06/18 14:26	1
Trichloroethene	**2.7**		1.0	0.25	ug/L			12/06/18 14:26	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			12/06/18 14:26	1
Xylenes, Total	0.45	U	3.0	0.45	ug/L			12/06/18 14:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*23*	*T*	*ug/L*		*6.22*	*67-63-0*		*12/06/18 14:26*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*12/06/18 14:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 129*		*12/06/18 14:26*	*1*
4-Bromofluorobenzene (Surr)	*121*		*81 - 130*		*12/06/18 14:26*	*1*
Dibromofluoromethane (Surr)	*103*		*81 - 124*		*12/06/18 14:26*	*1*
Toluene-d8 (Surr)	*118*		*87 - 128*		*12/06/18 14:26*	*1*

Client Sample ID: B3LY03
Date Collected: 11/27/18 10:20
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-7
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			12/06/18 16:04	1
1,1,2-Trichloroethane	0.25	U	1.0	0.25	ug/L			12/06/18 16:04	1
1,1-Dichloroethane	0.093	U	1.0	0.093	ug/L			12/06/18 16:04	1
1,1-Dichloroethene	0.12	U	1.0	0.12	ug/L			12/06/18 16:04	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			12/06/18 16:04	1
2-Butanone (MEK)	0.72	U	5.0	0.72	ug/L			12/06/18 16:04	1
4-Methyl-2-pentanone (MIBK)	0.51	U	5.0	0.51	ug/L			12/06/18 16:04	1
Acetone	**1.6**	**J**	2.0	0.91	ug/L			12/06/18 16:04	1
Benzene	0.10	U	1.0	0.10	ug/L			12/06/18 16:04	1
Carbon disulfide	0.13	U	1.0	0.13	ug/L			12/06/18 16:04	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			12/06/18 16:04	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			12/06/18 16:04	1
Chloroform	**0.26**	**J**	1.0	0.24	ug/L			12/06/18 16:04	1
Ethylbenzene	0.13	U	1.0	0.13	ug/L			12/06/18 16:04	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			12/06/18 16:04	1
Tetrachloroethene	0.19	U	1.0	0.19	ug/L			12/06/18 16:04	1
Toluene	0.19	U	1.0	0.19	ug/L			12/06/18 16:04	1
Trichloroethene	**3.1**		1.0	0.25	ug/L			12/06/18 16:04	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			12/06/18 16:04	1
Xylenes, Total	0.45	U	3.0	0.45	ug/L			12/06/18 16:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*12/06/18 16:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 129*		*12/06/18 16:04*	*1*
4-Bromofluorobenzene (Surr)	*119*		*81 - 130*		*12/06/18 16:04*	*1*
Dibromofluoromethane (Surr)	*104*		*81 - 124*		*12/06/18 16:04*	*1*
Toluene-d8 (Surr)	*113*		*87 - 128*		*12/06/18 16:04*	*1*

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LTT9
Date Collected: 11/27/18 10:17
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.29	U D	2.5	0.29	ug/L			12/06/18 13:12	2.5
1,1,1-Trichloroethane	0.43	U D	2.5	0.43	ug/L			12/06/18 13:12	2.5
1,1,2,2-Tetrachloroethane	0.54	U D	2.5	0.54	ug/L			12/06/18 13:12	2.5
1,1,2-Trichloroethane	0.63	U D	2.5	0.63	ug/L			12/06/18 13:12	2.5
1,1-Dichloroethane	0.23	U D	2.5	0.23	ug/L			12/06/18 13:12	2.5
1,1-Dichloroethene	0.30	U D	2.5	0.30	ug/L			12/06/18 13:12	2.5
1,2,3-Trichloropropane	0.99	U D	2.5	0.99	ug/L			12/06/18 13:12	2.5
1,2-Dibromo-3-Chloropropane	1.6	U D	2.5	1.6	ug/L			12/06/18 13:12	2.5
1,2-Dibromoethane (EDB)	0.50	U D	2.5	0.50	ug/L			12/06/18 13:12	2.5
1,2-Dichloroethane	0.54	U D	2.5	0.54	ug/L			12/06/18 13:12	2.5
1,2-Dichloropropane	0.25	U D	2.5	0.25	ug/L			12/06/18 13:12	2.5
1,4-Dichlorobenzene	0.75	U D	2.5	0.75	ug/L			12/06/18 13:12	2.5
2-Butanone (MEK)	1.8	U D	13	1.8	ug/L			12/06/18 13:12	2.5
2-Hexanone	1.3	U D	13	1.3	ug/L			12/06/18 13:12	2.5
4-Methyl-2-pentanone (MIBK)	1.3	U D	13	1.3	ug/L			12/06/18 13:12	2.5
Acetone	2.3	U D	5.0	2.3	ug/L			12/06/18 13:12	2.5
Acetonitrile	9.2	U D	25	9.2	ug/L			12/06/18 13:12	2.5
Acrolein	6.9	U D y	25	6.9	ug/L			12/06/18 13:12	2.5
Acrylonitrile	4.0	U D	25	4.0	ug/L			12/06/18 13:12	2.5
Allyl chloride	0.33	U D	5.0	0.33	ug/L			12/06/18 13:12	2.5
Benzene	0.25	U D	2.5	0.25	ug/L			12/06/18 13:12	2.5
Bromodichloromethane	0.35	U D	2.5	0.35	ug/L			12/06/18 13:12	2.5
Bromoform	0.62	U D	2.5	0.62	ug/L			12/06/18 13:12	2.5
Bromomethane	0.94	U D	5.0	0.94	ug/L			12/06/18 13:12	2.5
Carbon disulfide	0.33	U D	2.5	0.33	ug/L			12/06/18 13:12	2.5
Carbon tetrachloride	**190**	**D**	25	4.5	ug/L			12/06/18 10:34	25
Chlorobenzene	0.28	U D	2.5	0.28	ug/L			12/06/18 13:12	2.5
Chloroethane	0.45	U D	5.0	0.45	ug/L			12/06/18 13:12	2.5
Chloroform	**3.1**	**D**	2.5	0.59	ug/L			12/06/18 13:12	2.5
Chloromethane	0.51	U D	5.0	0.51	ug/L			12/06/18 13:12	2.5
Chloroprene	0.49	U D	2.5	0.49	ug/L			12/06/18 13:12	2.5
cis-1,2-Dichloroethylene	0.25	U D	2.5	0.25	ug/L			12/06/18 13:12	2.5
cis-1,3-Dichloropropene	0.44	U D	2.5	0.44	ug/L			12/06/18 13:12	2.5
Dibromochloromethane	0.36	U D	2.5	0.36	ug/L			12/06/18 13:12	2.5
Dibromomethane	0.70	U D	2.5	0.70	ug/L			12/06/18 13:12	2.5
Dichlorodifluoromethane	0.35	U D	5.0	0.35	ug/L			12/06/18 13:12	2.5
Ethyl Cyanide	7.3	U D	25	7.3	ug/L			12/06/18 13:12	2.5
Ethyl methacrylate	1.4	U D	2.5	1.4	ug/L			12/06/18 13:12	2.5
Ethylbenzene	0.34	U D	2.5	0.34	ug/L			12/06/18 13:12	2.5
Iodomethane	2.8	U D y	5.0	2.8	ug/L			12/06/18 13:12	2.5
Isobutyl alcohol	21	U D	200	21	ug/L			12/06/18 13:12	2.5
Methacrylonitrile	3.1	U D	25	3.1	ug/L			12/06/18 13:12	2.5
Methyl methacrylate	1.8	U D	5.0	1.8	ug/L			12/06/18 13:12	2.5
Methylene Chloride	0.68	U D	2.5	0.68	ug/L			12/06/18 13:12	2.5
Styrene	0.52	U D	2.5	0.52	ug/L			12/06/18 13:12	2.5
Tetrachloroethene	0.48	U D	2.5	0.48	ug/L			12/06/18 13:12	2.5
Toluene	0.48	U D	2.5	0.48	ug/L			12/06/18 13:12	2.5
trans-1,2-Dichloroethylene	0.26	U D	2.5	0.26	ug/L			12/06/18 13:12	2.5
trans-1,3-Dichloropropene	0.68	U D	2.5	0.68	ug/L			12/06/18 13:12	2.5

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LTT9
Date Collected: 11/27/18 10:17
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	0.81	U D	5.0	0.81	ug/L			12/06/18 13:12	2.5
Trichloroethene	**1.1**	**J D**	2.5	0.63	ug/L			12/06/18 13:12	2.5
Trichloromonofluoromethane	0.39	U D	2.5	0.39	ug/L			12/06/18 13:12	2.5
Vinyl acetate	0.52	U D	5.0	0.52	ug/L			12/06/18 13:12	2.5
Vinyl chloride	0.49	U D	5.0	0.49	ug/L			12/06/18 13:12	2.5
Xylenes, Total	1.1	U D	7.5	1.1	ug/L			12/06/18 13:12	2.5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*36*	*N*	*ug/L*		*4.51*			*12/06/18 10:34*	*25*
Tentatively Identified Compound	*None*		*ug/L*					*12/06/18 13:12*	*2.5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*75 - 129*		*12/06/18 10:34*	*25*
1,2-Dichloroethane-d4 (Surr)	*114*		*75 - 129*		*12/06/18 13:12*	*2.5*
4-Bromofluorobenzene (Surr)	*123*		*81 - 130*		*12/06/18 10:34*	*25*
4-Bromofluorobenzene (Surr)	*133*	*X*	*81 - 130*		*12/06/18 13:12*	*2.5*
Dibromofluoromethane (Surr)	*114*		*81 - 124*		*12/06/18 10:34*	*25*
Dibromofluoromethane (Surr)	*123*		*81 - 124*		*12/06/18 13:12*	*2.5*
Toluene-d8 (Surr)	*111*		*87 - 128*		*12/06/18 10:34*	*25*
Toluene-d8 (Surr)	*115*		*87 - 128*		*12/06/18 13:12*	*2.5*

Client Sample ID: B3LTT4
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.59	U D	5.0	0.59	ug/L			12/06/18 13:37	5
1,1,1-Trichloroethane	0.86	U D	5.0	0.86	ug/L			12/06/18 13:37	5
1,1,2,2-Tetrachloroethane	1.1	U D	5.0	1.1	ug/L			12/06/18 13:37	5
1,1,2-Trichloroethane	1.3	U D	5.0	1.3	ug/L			12/06/18 13:37	5
1,1-Dichloroethane	0.47	U D	5.0	0.47	ug/L			12/06/18 13:37	5
1,1-Dichloroethene	0.59	U D	5.0	0.59	ug/L			12/06/18 13:37	5
1,2,3-Trichloropropane	2.0	U D	5.0	2.0	ug/L			12/06/18 13:37	5
1,2-Dibromo-3-Chloropropane	3.1	U D	5.0	3.1	ug/L			12/06/18 13:37	5
1,2-Dibromoethane (EDB)	1.0	U D	5.0	1.0	ug/L			12/06/18 13:37	5
1,2-Dichloroethane	1.1	U D	5.0	1.1	ug/L			12/06/18 13:37	5
1,2-Dichloropropane	0.50	U D	5.0	0.50	ug/L			12/06/18 13:37	5
1,4-Dichlorobenzene	1.5	U D	5.0	1.5	ug/L			12/06/18 13:37	5
2-Butanone (MEK)	3.6	U D	25	3.6	ug/L			12/06/18 13:37	5
2-Hexanone	2.6	U D	25	2.6	ug/L			12/06/18 13:37	5
4-Methyl-2-pentanone (MIBK)	2.5	U D	25	2.5	ug/L			12/06/18 13:37	5
Acetone	4.6	U D	10	4.6	ug/L			12/06/18 13:37	5
Acetonitrile	18	U D	50	18	ug/L			12/06/18 13:37	5
Acrolein	14	U D y	50	14	ug/L			12/06/18 13:37	5
Acrylonitrile	8.0	U D	50	8.0	ug/L			12/06/18 13:37	5
Allyl chloride	0.65	U D	10	0.65	ug/L			12/06/18 13:37	5
Benzene	0.50	U D	5.0	0.50	ug/L			12/06/18 13:37	5
Bromodichloromethane	0.69	U D	5.0	0.69	ug/L			12/06/18 13:37	5
Bromoform	1.2	U D	5.0	1.2	ug/L			12/06/18 13:37	5
Bromomethane	1.9	U D	10	1.9	ug/L			12/06/18 13:37	5
Carbon disulfide	0.66	U D	5.0	0.66	ug/L			12/06/18 13:37	5

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LTT4
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.57	U D	5.0	0.57	ug/L			12/06/18 13:37	5
Chloroethane	0.89	U D	10	0.89	ug/L			12/06/18 13:37	5
Chloroform	**4.1**	**J D**	5.0	1.2	ug/L			12/06/18 13:37	5
Chloromethane	1.0	U D	10	1.0	ug/L			12/06/18 13:37	5
Chloroprene	0.99	U D	5.0	0.99	ug/L			12/06/18 13:37	5
cis-1,2-Dichloroethylene	0.51	U D	5.0	0.51	ug/L			12/06/18 13:37	5
cis-1,3-Dichloropropene	0.88	U D	5.0	0.88	ug/L			12/06/18 13:37	5
Dibromochloromethane	0.72	U D	5.0	0.72	ug/L			12/06/18 13:37	5
Dibromomethane	1.4	U D	5.0	1.4	ug/L			12/06/18 13:37	5
Dichlorodifluoromethane	0.69	U D	10	0.69	ug/L			12/06/18 13:37	5
Ethyl Cyanide	15	U D	50	15	ug/L			12/06/18 13:37	5
Ethyl methacrylate	2.8	U D	5.0	2.8	ug/L			12/06/18 13:37	5
Ethylbenzene	0.67	U D	5.0	0.67	ug/L			12/06/18 13:37	5
Iodomethane	5.5	U D y	10	5.5	ug/L			12/06/18 13:37	5
Isobutyl alcohol	41	U D	400	41	ug/L			12/06/18 13:37	5
Methacrylonitrile	6.2	U D	50	6.2	ug/L			12/06/18 13:37	5
Methyl methacrylate	3.6	U D	10	3.6	ug/L			12/06/18 13:37	5
Methylene Chloride	1.4	U D	5.0	1.4	ug/L			12/06/18 13:37	5
Styrene	1.0	U D	5.0	1.0	ug/L			12/06/18 13:37	5
Tetrachloroethene	0.96	U D	5.0	0.96	ug/L			12/06/18 13:37	5
Toluene	0.96	U D	5.0	0.96	ug/L			12/06/18 13:37	5
trans-1,2-Dichloroethylene	0.52	U D	5.0	0.52	ug/L			12/06/18 13:37	5
trans-1,3-Dichloropropene	1.4	U D	5.0	1.4	ug/L			12/06/18 13:37	5
trans-1,4-Dichloro-2-butene	1.6	U D	10	1.6	ug/L			12/06/18 13:37	5
Trichloroethene	**1.5**	**J D**	5.0	1.3	ug/L			12/06/18 13:37	5
Trichloromonofluoromethane	0.78	U D	5.0	0.78	ug/L			12/06/18 13:37	5
Vinyl acetate	1.0	U D	10	1.0	ug/L			12/06/18 13:37	5
Vinyl chloride	0.97	U D	10	0.97	ug/L			12/06/18 13:37	5
Xylenes, Total	2.3	U D	15	2.3	ug/L			12/06/18 13:37	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*7.3*	*N*	*ug/L*		*4.39*			*12/06/18 13:37*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*75 - 129*		*12/06/18 13:37*	*5*
4-Bromofluorobenzene (Surr)	*127*		*81 - 130*		*12/06/18 13:37*	*5*
Dibromofluoromethane (Surr)	*130*	*X*	*81 - 124*		*12/06/18 13:37*	*5*
Toluene-d8 (Surr)	*115*		*87 - 128*		*12/06/18 13:37*	*5*

Method: 8260C - Volatile Organic Compounds (GC/MS) - DL4

Client Sample ID: B3LTT4
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	**180**	**D**	50	9.1	ug/L			12/06/18 11:34	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*12/06/18 11:34*	*50*

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method: 8260C - Volatile Organic Compounds (GC/MS) - DL4 (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*120*		*75 - 129*		*12/06/18 11:34*	*50*
4-Bromofluorobenzene (Surr)	*119*		*81 - 130*		*12/06/18 11:34*	*50*
Dibromofluoromethane (Surr)	*116*		*81 - 124*		*12/06/18 11:34*	*50*
Toluene-d8 (Surr)	*110*		*87 - 128*		*12/06/18 11:34*	*50*

Method: 6010D - Metals (ICP)

Client Sample ID: B3LNM0
Date Collected: 11/27/18 12:34
Date Received: 11/28/18 09:45
Lab Sample ID: 160-32023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 23:29	1
Calcium	**55700**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:29	1
Iron	**406**		100	30.0	ug/L		12/13/18 17:57	12/18/18 23:29	1
Magnesium	**18600**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:29	1
Potassium	**5880**		5000	1500	ug/L		12/13/18 17:57	12/18/18 23:29	1
Sodium	**67000**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:29	1
Vanadium	**17.6**	**B**	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 23:29	1

Client Sample ID: B3LM21
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45
Lab Sample ID: 160-32023-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 23:33	1
Calcium	**68900**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:33	1
Iron	**85.2**	**B**	100	30.0	ug/L		12/13/18 17:57	12/18/18 23:33	1
Magnesium	**23300**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:33	1
Potassium	**5770**		5000	1500	ug/L		12/13/18 17:57	12/18/18 23:33	1
Sodium	**42000**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:33	1
Vanadium	**18.6**	**B**	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 23:33	1

Client Sample ID: B3LM25
Date Collected: 11/27/18 10:17
Date Received: 11/28/18 09:45
Lab Sample ID: 160-32023-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 23:38	1
Calcium	**64500**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:38	1
Iron	**1330**		100	30.0	ug/L		12/13/18 17:57	12/18/18 23:38	1
Magnesium	**21700**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:38	1
Potassium	**6070**		5000	1500	ug/L		12/13/18 17:57	12/18/18 23:38	1
Sodium	**62300**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:38	1
Vanadium	**29.9**	**B**	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 23:38	1

Client Sample ID: B3LXD9
Date Collected: 11/27/18 11:30
Date Received: 11/28/18 09:45
Lab Sample ID: 160-32023-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 23:47	1
Calcium	**47800**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:47	1
Iron	**37.5**	**B**	100	30.0	ug/L		12/13/18 17:57	12/18/18 23:47	1
Magnesium	**11200**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:47	1
Potassium	**4250**	**B**	5000	1500	ug/L		12/13/18 17:57	12/18/18 23:47	1
Sodium	**9060**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:47	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LXD9 — **Lab Sample ID: 160-32023-17**
Date Collected: 11/27/18 11:30 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	4.0	U	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 23:47	1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: B3M486 — **Lab Sample ID: 160-32023-14**
Date Collected: 11/27/18 10:17 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 23:43	1
Calcium	**63900**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:43	1
Iron	30.0	U	100	30.0	ug/L		12/13/18 17:57	12/18/18 23:43	1
Magnesium	**21500**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:43	1
Potassium	**5960**		5000	1500	ug/L		12/13/18 17:57	12/18/18 23:43	1
Sodium	**62600**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:43	1
Vanadium	**24.8**	**B**	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 23:43	1

Client Sample ID: B3LXF3 — **Lab Sample ID: 160-32023-18**
Date Collected: 11/27/18 11:30 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 23:52	1
Calcium	**49200**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:52	1
Iron	30.0	U	100	30.0	ug/L		12/13/18 17:57	12/18/18 23:52	1
Magnesium	**11400**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:52	1
Potassium	**4320**	**B**	5000	1500	ug/L		12/13/18 17:57	12/18/18 23:52	1
Sodium	**9320**		1000	300	ug/L		12/13/18 17:57	12/18/18 23:52	1
Vanadium	**6.8**	**B**	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 23:52	1

Method: 6020B - Metals (ICP/MS)

Client Sample ID: B3LNM0 — **Lab Sample ID: 160-32023-1**
Date Collected: 11/27/18 12:34 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**339**	**D C**	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Barium	**175**	**D**	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:31	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 03:31	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 03:31	2
Chromium	**50.2**	**D**	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:31	2
Copper	1.9	U D	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 03:31	2
Lead	1.0	U D	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Manganese	**23.1**	**D**	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Molybdenum	**7.0**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Nickel	**2.9**	**B D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Selenium	**4.3**	**B D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:31	2
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:31	2
Strontium	**359**	**D**	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 03:31	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LNM0 — **Lab Sample ID: 160-32023-1**
Date Collected: 11/27/18 12:34 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:31	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:31	2
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 03:31	2
Uranium	**2.6**	**D**	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 03:31	2
Zinc	**14.3**	**B D**	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 03:31	2

Client Sample ID: B3LM21 — **Lab Sample ID: 160-32023-4**
Date Collected: 11/27/18 08:49 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Barium	**137**	**D**	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:37	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 03:37	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 03:37	2
Chromium	**51.3**	**D**	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:37	2
Copper	1.9	U D	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 03:37	2
Lead	1.0	U D	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Manganese	2.0	U D	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Molybdenum	**5.4**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Nickel	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Selenium	**4.1**	**B D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 03:37	2
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:37	2
Strontium	**396**	**D**	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 03:37	2
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:37	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 03:37	2
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 03:37	2
Uranium	**2.8**	**D**	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 03:37	2
Zinc	7.5	U D	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 03:37	2

Client Sample ID: B3LM25 — **Lab Sample ID: 160-32023-13**
Date Collected: 11/27/18 10:17 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**879**	**D**	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Barium	**111**	**D**	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:04	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:04	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:04	2
Chromium	**21.3**	**D**	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:04	2
Copper	**2.4**	**B D**	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 04:04	2
Lead	**1.5**	**B D**	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Manganese	**33.2**	**D**	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Molybdenum	**8.7**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Nickel	**5.9**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:04	2
Selenium	**5.2**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:04	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LM25
Date Collected: 11/27/18 10:17
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:04	2
Strontium	**363**	**D**	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 04:04	2
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:04	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:04	2
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 04:04	2
Uranium	**3.4**	**D**	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 04:04	2
Zinc	**63.7**	**D**	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 04:04	2

Client Sample ID: B3LXD9
Date Collected: 11/27/18 11:30
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**24.6**	**B D C**	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Barium	**45.9**	**D**	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:18	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:18	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:18	2
Chromium	**7.3**	**B D**	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:18	2
Copper	1.9	U D	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 04:18	2
Lead	1.0	U D	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Manganese	**5.5**	**D**	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Molybdenum	**2.6**	**B D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Nickel	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Selenium	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:18	2
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:18	2
Strontium	**340**	**D**	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 04:18	2
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:18	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:18	2
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 04:18	2
Uranium	**4.0**	**D**	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 04:18	2
Zinc	7.5	U D	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 04:18	2

Client Sample ID: B3LY96
Date Collected: 11/27/18 12:09
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-21
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		12/13/18 17:58	12/17/18 20:00	2
Uranium	**2.7**	**D**	1.0	0.40	ug/L		12/13/18 17:58	12/17/18 20:00	2

Client Sample ID: B3LXT4
Date Collected: 11/27/18 11:57
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-24
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		12/13/18 17:58	12/17/18 20:13	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3M485
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**41.3**	**D**	10.0	4.0	ug/L		12/13/18 17:58	12/17/18 19:26	2

Client Sample ID: B3M486
Date Collected: 11/27/18 10:17
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Barium	**119**	**D**	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:11	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:11	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:11	2
Chromium	**12.9**	**D**	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:11	2
Copper	1.9	U D	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 04:11	2
Lead	1.0	U D	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Manganese	2.0	U D	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Molybdenum	**8.6**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Nickel	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Selenium	**5.4**	**D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:11	2
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:11	2
Strontium	**377**	**D**	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 04:11	2
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:11	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:11	2
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 04:11	2
Uranium	**3.4**	**D**	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 04:11	2
Zinc	7.5	U D	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 04:11	2

Client Sample ID: B3LXF3
Date Collected: 11/27/18 11:30
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-18
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Barium	**43.8**	**D**	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:25	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:25	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 04:25	2
Chromium	**5.9**	**B D**	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:25	2
Copper	1.9	U D	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 04:25	2
Lead	1.0	U D	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Manganese	2.0	U D	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Molybdenum	**2.6**	**B D**	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Nickel	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Selenium	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 04:25	2
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:25	2
Strontium	**335**	**D**	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 04:25	2
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:25	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 04:25	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Client Sample ID: B3LXF3 — **Lab Sample ID: 160-32023-18**
Date Collected: 11/27/18 11:30 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 04:25	2
Uranium	**4.0**	**D**	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 04:25	2
Zinc	7.5	U D	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 04:25	2

Client Sample ID: B3LY98 — **Lab Sample ID: 160-32023-22**
Date Collected: 11/27/18 12:09 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		12/13/18 17:58	12/17/18 20:05	2

Client Sample ID: B3LXT6 — **Lab Sample ID: 160-32023-23**
Date Collected: 11/27/18 11:57 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		12/13/18 17:58	12/17/18 20:09	2

General Chemistry

Client Sample ID: B3LY06 — **Lab Sample ID: 160-32023-8**
Date Collected: 11/27/18 10:20 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**118**		5.0	1.5	mg/L			12/04/18 08:51	1
Bicarbonate Alkalinity	**118**		5.0	1.5	mg/L			12/04/18 08:51	1
Carbonate Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Hydroxide Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1

Client Sample ID: B3LNK8 — **Lab Sample ID: 160-32023-10**
Date Collected: 11/27/18 07:45 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Bicarbonate Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Carbonate Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Hydroxide Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1

Client Sample ID: B3LNK9 — **Lab Sample ID: 160-32023-12**
Date Collected: 11/27/18 10:58 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**127**		5.0	1.5	mg/L			12/04/18 08:51	1
Bicarbonate Alkalinity	**127**		5.0	1.5	mg/L			12/04/18 08:51	1
Carbonate Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Hydroxide Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1

Client Sample ID: B3LM25 — **Lab Sample ID: 160-32023-13**
Date Collected: 11/27/18 10:17 — **Matrix: Water**
Date Received: 11/28/18 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.1	U	5.0	3.1	ug/L		12/11/18 16:40	12/11/18 18:38	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

General Chemistry

Client Sample ID: B3M486
Date Collected: 11/27/18 10:17
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.1	U	5.0	3.1	ug/L		12/11/18 16:40	12/11/18 18:42	1

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: B3LKF1
Date Collected: 11/27/18 13:00
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	437		271	273	500	420	pCi/L	12/13/18 14:52	12/17/18 23:09	1

Client Sample ID: B3LTT4
Date Collected: 11/27/18 08:49
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	18800		882	1870	500	415	pCi/L	12/13/18 14:52	12/17/18 23:54	1

Client Sample ID: B3LX00
Date Collected: 11/27/18 10:48
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	2170		375	421	500	420	pCi/L	12/13/18 14:52	12/18/18 00:40	1

Client Sample ID: B3LX01
Date Collected: 11/27/18 10:48
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	3020		415	493	500	418	pCi/L	12/13/18 14:52	12/18/18 01:02	1

Client Sample ID: B3LK07
Date Collected: 11/27/18 12:37
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-19
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	4320		473	607	500	420	pCi/L	12/13/18 14:52	12/18/18 01:25	1

Client Sample ID: B3LL37
Date Collected: 11/27/18 12:09
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-20
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	3720		440	548	500	408	pCi/L	12/13/18 14:52	12/18/18 01:48	1

TestAmerica St. Louis

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method: SR-03-RC - Total Beta Strontium (GFPC)

Client Sample ID: B3LX00
Date Collected: 11/27/18 10:48
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	-0.0086	U	0.0779	0.0779	2.00	0.141	pCi/L	12/03/18 18:47	12/10/18 05:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*81.3*		*40 - 110*	*12/03/18 18:47*	*12/10/18 05:31*	*1*

Client Sample ID: B3LX01
Date Collected: 11/27/18 10:48
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	-0.013	U	0.0694	0.0694	2.00	0.127	pCi/L	12/03/18 18:47	12/10/18 05:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*86.5*		*40 - 110*	*12/03/18 18:47*	*12/10/18 05:31*	*1*

Client Sample ID: B3LL37
Date Collected: 11/27/18 12:09
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-20
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	-0.038	U	0.0712	0.0713	2.00	0.136	pCi/L	12/03/18 18:47	12/10/18 05:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*83.7*		*40 - 110*	*12/03/18 18:47*	*12/10/18 05:31*	*1*

Method: ST-RC-0079 - Selenium-79 (LSC)

Client Sample ID: B3LL37
Date Collected: 11/27/18 12:09
Date Received: 11/28/18 09:45

Lab Sample ID: 160-32023-20
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Se-79	0.535	U	2.40	2.40	50.0	4.17	pCi/L	12/06/18 09:11	12/14/18 01:41	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Se	*88.5*		*40 - 110*	*12/06/18 09:11*	*12/14/18 01:41*	*1*

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: MB 160-404238/8
Matrix: Water
Analysis Batch: 404238

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			12/05/18 16:51	1
1,1,2-Trichloroethane	0.25	U	1.0	0.25	ug/L			12/05/18 16:51	1
1,1-Dichloroethane	0.093	U	1.0	0.093	ug/L			12/05/18 16:51	1
1,1-Dichloroethene	0.12	U	1.0	0.12	ug/L			12/05/18 16:51	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			12/05/18 16:51	1
2-Butanone (MEK)	0.72	U	5.0	0.72	ug/L			12/05/18 16:51	1
4-Methyl-2-pentanone (MIBK)	0.51	U	5.0	0.51	ug/L			12/05/18 16:51	1
Acetone	0.91	U	2.0	0.91	ug/L			12/05/18 16:51	1
Benzene	0.10	U	1.0	0.10	ug/L			12/05/18 16:51	1
Carbon disulfide	0.13	U	1.0	0.13	ug/L			12/05/18 16:51	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			12/05/18 16:51	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			12/05/18 16:51	1
Chloroform	0.24	U	1.0	0.24	ug/L			12/05/18 16:51	1
Ethylbenzene	0.13	U	1.0	0.13	ug/L			12/05/18 16:51	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			12/05/18 16:51	1
Tetrachloroethene	0.19	U	1.0	0.19	ug/L			12/05/18 16:51	1
Toluene	0.19	U	1.0	0.19	ug/L			12/05/18 16:51	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			12/05/18 16:51	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			12/05/18 16:51	1
Xylenes, Total	0.45	U	3.0	0.45	ug/L			12/05/18 16:51	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*12/05/18 16:51*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 129*		*12/05/18 16:51*	*1*
4-Bromofluorobenzene (Surr)	*121*		*81 - 130*		*12/05/18 16:51*	*1*
Dibromofluoromethane (Surr)	*103*		*81 - 124*		*12/05/18 16:51*	*1*
Toluene-d8 (Surr)	*115*		*87 - 128*		*12/05/18 16:51*	*1*

Lab Sample ID: LCS 160-404238/5
Matrix: Water
Analysis Batch: 404238

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	9.85		ug/L		98	85 - 116
1,1,2-Trichloroethane	10.0	9.64		ug/L		96	80 - 120
1,1-Dichloroethane	10.0	9.78		ug/L		98	80 - 120
1,1-Dichloroethene	10.0	9.61		ug/L		96	80 - 120
1,2-Dichloroethane	10.0	9.71		ug/L		97	80 - 115
2-Butanone (MEK)	10.0	9.34		ug/L		93	67 - 127
4-Methyl-2-pentanone (MIBK)	10.0	10.9		ug/L		109	75 - 126
Acetone	10.0	10.3		ug/L		103	69 - 129
Benzene	10.0	9.57		ug/L		96	80 - 120
Carbon disulfide	10.0	9.11		ug/L		91	80 - 121
Carbon tetrachloride	10.0	9.65		ug/L		96	83 - 125
Chlorobenzene	10.0	9.62		ug/L		96	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: LCS 160-404238/5
Matrix: Water
Analysis Batch: 404238

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	10.0	9.67		ug/L		97	80 - 120
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
Methylene Chloride	10.0	9.42		ug/L		94	80 - 120
Tetrachloroethene	10.0	9.94		ug/L		99	83 - 123
Toluene	10.0	10.3		ug/L		103	80 - 120
Trichloroethene	10.0	9.54		ug/L		95	80 - 120
Vinyl chloride	10.0	9.04		ug/L		90	77 - 122
Xylenes, Total	20.0	21.5		ug/L		108	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 129*
4-Bromofluorobenzene (Surr)	*104*		*81 - 130*
Dibromofluoromethane (Surr)	*102*		*81 - 124*
Toluene-d8 (Surr)	*108*		*87 - 128*

Lab Sample ID: LCSD 160-404238/6
Matrix: Water
Analysis Batch: 404238

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	9.90		ug/L		99	85 - 116	1	20
1,1,2-Trichloroethane	10.0	9.94		ug/L		99	80 - 120	3	20
1,1-Dichloroethane	10.0	9.81		ug/L		98	80 - 120	0	20
1,1-Dichloroethene	10.0	9.53		ug/L		95	80 - 120	1	20
1,2-Dichloroethane	10.0	9.91		ug/L		99	80 - 115	2	20
2-Butanone (MEK)	10.0	9.99		ug/L		100	67 - 127	7	20
4-Methyl-2-pentanone (MIBK)	10.0	11.0		ug/L		110	75 - 126	2	20
Acetone	10.0	10.2		ug/L		102	69 - 129	0	20
Benzene	10.0	9.56		ug/L		96	80 - 120	0	20
Carbon disulfide	10.0	9.29		ug/L		93	80 - 121	2	20
Carbon tetrachloride	10.0	9.62		ug/L		96	83 - 125	0	20
Chlorobenzene	10.0	9.57		ug/L		96	80 - 120	0	20
Chloroform	10.0	9.79		ug/L		98	80 - 120	1	20
Ethylbenzene	10.0	9.94		ug/L		99	80 - 120	3	20
Methylene Chloride	10.0	9.57		ug/L		96	80 - 120	2	20
Tetrachloroethene	10.0	9.77		ug/L		98	83 - 123	2	20
Toluene	10.0	10.0		ug/L		100	80 - 120	2	20
Trichloroethene	10.0	9.57		ug/L		96	80 - 120	0	20
Vinyl chloride	10.0	9.26		ug/L		93	77 - 122	2	20
Xylenes, Total	20.0	20.8		ug/L		104	80 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 129*
4-Bromofluorobenzene (Surr)	*106*		*81 - 130*
Dibromofluoromethane (Surr)	*104*		*81 - 124*
Toluene-d8 (Surr)	*106*		*87 - 128*

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32023-2 MS
Matrix: Water
Analysis Batch: 404238

Client Sample ID: B3L6F3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.17	U	10.0	9.82		ug/L		98	82 - 124
1,1,2-Trichloroethane	0.25	U	10.0	11.4		ug/L		114	80 - 120
1,1-Dichloroethane	0.093	U	10.0	10.1		ug/L		101	80 - 122
1,1-Dichloroethene	0.12	U	10.0	9.50		ug/L		95	80 - 120
1,2-Dichloroethane	0.22	U	10.0	11.1		ug/L		111	80 - 120
2-Butanone (MEK)	0.72	U	10.0	9.85		ug/L		99	53 - 145
4-Methyl-2-pentanone (MIBK)	0.51	U	10.0	12.7		ug/L		127	70 - 131
Acetone	0.91	U	10.0	13.1		ug/L		131	50 - 137
Benzene	0.10	U	10.0	9.74		ug/L		97	80 - 120
Carbon disulfide	0.13	U	10.0	8.78		ug/L		88	80 - 121
Carbon tetrachloride	0.18	U	10.0	8.82		ug/L		88	77 - 131
Chlorobenzene	0.11	U	10.0	9.40		ug/L		94	80 - 120
Chloroform	0.24	U	10.0	10.3		ug/L		103	80 - 120
Ethylbenzene	0.13	U	10.0	8.94		ug/L		89	84 - 125
Methylene Chloride	3.1		10.0	13.4		ug/L		103	80 - 120
Tetrachloroethene	0.19	U T	10.0	8.39		ug/L		84	80 - 126
Toluene	0.19	U	10.0	9.92		ug/L		99	85 - 123
Trichloroethene	0.25	U	10.0	8.97		ug/L		90	81 - 125
Vinyl chloride	0.19	U	10.0	9.23		ug/L		92	70 - 129
Xylenes, Total	0.45	U	20.0	19.4		ug/L		97	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 129*
4-Bromofluorobenzene (Surr)	*107*		*81 - 130*
Dibromofluoromethane (Surr)	*112*		*81 - 124*
Toluene-d8 (Surr)	*105*		*87 - 128*

Lab Sample ID: 160-32023-2 MSD
Matrix: Water
Analysis Batch: 404238

Client Sample ID: B3L6F3
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	0.17	U	10.0	9.45		ug/L		95	82 - 124	4	20
1,1,2-Trichloroethane	0.25	U	10.0	11.1		ug/L		111	80 - 120	2	20
1,1-Dichloroethane	0.093	U	10.0	10.1		ug/L		101	80 - 122	0	20
1,1-Dichloroethene	0.12	U	10.0	9.28		ug/L		93	80 - 120	2	20
1,2-Dichloroethane	0.22	U	10.0	10.9		ug/L		109	80 - 120	2	20
2-Butanone (MEK)	0.72	U	10.0	9.99		ug/L		100	53 - 145	1	20
4-Methyl-2-pentanone (MIBK)	0.51	U	10.0	12.1		ug/L		121	70 - 131	5	20
Acetone	0.91	U	10.0	11.4		ug/L		114	50 - 137	14	20
Benzene	0.10	U	10.0	9.34		ug/L		93	80 - 120	4	20
Carbon disulfide	0.13	U	10.0	8.44		ug/L		84	80 - 121	4	20
Carbon tetrachloride	0.18	U	10.0	8.85		ug/L		89	77 - 131	0	20
Chlorobenzene	0.11	U	10.0	9.17		ug/L		92	80 - 120	2	20
Chloroform	0.24	U	10.0	10.1		ug/L		101	80 - 120	3	20
Ethylbenzene	0.13	U	10.0	8.42		ug/L		84	84 - 125	6	20
Methylene Chloride	3.1		10.0	13.2		ug/L		102	80 - 120	1	20
Tetrachloroethene	0.19	U T	10.0	7.50	T	ug/L		75	80 - 126	11	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32023-2 MSD
Matrix: Water
Analysis Batch: 404238

Client Sample ID: B3L6F3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.19	U	10.0	9.46		ug/L		95	85 - 123	5	20
Trichloroethene	0.25	U	10.0	8.33		ug/L		83	81 - 125	7	20
Vinyl chloride	0.19	U	10.0	9.42		ug/L		94	70 - 129	2	20
Xylenes, Total	0.45	U	20.0	18.5		ug/L		92	80 - 120	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 129*
4-Bromofluorobenzene (Surr)	*105*		*81 - 130*
Dibromofluoromethane (Surr)	*109*		*81 - 124*
Toluene-d8 (Surr)	*105*		*87 - 128*

Lab Sample ID: MB 160-404259/8
Matrix: Water
Analysis Batch: 404259

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.12	U	1.0	0.12	ug/L			12/06/18 10:09	1
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			12/06/18 10:09	1
1,1,2,2-Tetrachloroethane	0.22	U	1.0	0.22	ug/L			12/06/18 10:09	1
1,1,2-Trichloroethane	0.25	U	1.0	0.25	ug/L			12/06/18 10:09	1
1,1-Dichloroethane	0.093	U	1.0	0.093	ug/L			12/06/18 10:09	1
1,1-Dichloroethene	0.12	U	1.0	0.12	ug/L			12/06/18 10:09	1
1,2,3-Trichloropropane	0.40	U	1.0	0.40	ug/L			12/06/18 10:09	1
1,2-Dibromo-3-Chloropropane	0.62	U	1.0	0.62	ug/L			12/06/18 10:09	1
1,2-Dibromoethane (EDB)	0.20	U	1.0	0.20	ug/L			12/06/18 10:09	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			12/06/18 10:09	1
1,2-Dichloropropane	0.10	U	1.0	0.10	ug/L			12/06/18 10:09	1
1,4-Dichlorobenzene	0.30	U	1.0	0.30	ug/L			12/06/18 10:09	1
2-Butanone (MEK)	0.72	U	5.0	0.72	ug/L			12/06/18 10:09	1
2-Hexanone	0.51	U	5.0	0.51	ug/L			12/06/18 10:09	1
4-Methyl-2-pentanone (MIBK)	0.51	U	5.0	0.51	ug/L			12/06/18 10:09	1
Acetone	0.91	U	2.0	0.91	ug/L			12/06/18 10:09	1
Acetonitrile	3.7	U	10	3.7	ug/L			12/06/18 10:09	1
Acrolein	2.8	U	10	2.8	ug/L			12/06/18 10:09	1
Acrylonitrile	1.6	U	10	1.6	ug/L			12/06/18 10:09	1
Allyl chloride	0.13	U	2.0	0.13	ug/L			12/06/18 10:09	1
Benzene	0.10	U	1.0	0.10	ug/L			12/06/18 10:09	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			12/06/18 10:09	1
Bromoform	0.25	U	1.0	0.25	ug/L			12/06/18 10:09	1
Bromomethane	0.38	U	2.0	0.38	ug/L			12/06/18 10:09	1
Carbon disulfide	0.13	U	1.0	0.13	ug/L			12/06/18 10:09	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			12/06/18 10:09	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			12/06/18 10:09	1
Chloroethane	0.18	U	2.0	0.18	ug/L			12/06/18 10:09	1
Chloroform	0.24	U	1.0	0.24	ug/L			12/06/18 10:09	1
Chloromethane	0.20	U	2.0	0.20	ug/L			12/06/18 10:09	1
Chloroprene	0.20	U	1.0	0.20	ug/L			12/06/18 10:09	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			12/06/18 10:09	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: MB 160-404259/8
Matrix: Water
Analysis Batch: 404259

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.18	U	1.0	0.18	ug/L			12/06/18 10:09	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			12/06/18 10:09	1
Dibromomethane	0.28	U	1.0	0.28	ug/L			12/06/18 10:09	1
Dichlorodifluoromethane	0.14	U	2.0	0.14	ug/L			12/06/18 10:09	1
Ethyl Cyanide	2.9	U	10	2.9	ug/L			12/06/18 10:09	1
Ethyl methacrylate	0.57	U	1.0	0.57	ug/L			12/06/18 10:09	1
Ethylbenzene	0.13	U	1.0	0.13	ug/L			12/06/18 10:09	1
Iodomethane	1.1	U	2.0	1.1	ug/L			12/06/18 10:09	1
Isobutyl alcohol	8.3	U	80	8.3	ug/L			12/06/18 10:09	1
Methacrylonitrile	1.2	U	10	1.2	ug/L			12/06/18 10:09	1
Methyl methacrylate	0.73	U	2.0	0.73	ug/L			12/06/18 10:09	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			12/06/18 10:09	1
Styrene	0.21	U	1.0	0.21	ug/L			12/06/18 10:09	1
Tetrachloroethene	0.19	U	1.0	0.19	ug/L			12/06/18 10:09	1
Toluene	0.19	U	1.0	0.19	ug/L			12/06/18 10:09	1
trans-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			12/06/18 10:09	1
trans-1,3-Dichloropropene	0.27	U	1.0	0.27	ug/L			12/06/18 10:09	1
trans-1,4-Dichloro-2-butene	0.32	U	2.0	0.32	ug/L			12/06/18 10:09	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			12/06/18 10:09	1
Trichloromonofluoromethane	0.16	U	1.0	0.16	ug/L			12/06/18 10:09	1
Vinyl acetate	0.21	U	2.0	0.21	ug/L			12/06/18 10:09	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			12/06/18 10:09	1
Xylenes, Total	0.45	U	3.0	0.45	ug/L			12/06/18 10:09	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*12/06/18 10:09*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 129*		*12/06/18 10:09*	*1*
4-Bromofluorobenzene (Surr)	*120*		*81 - 130*		*12/06/18 10:09*	*1*
Dibromofluoromethane (Surr)	*101*		*81 - 124*		*12/06/18 10:09*	*1*
Toluene-d8 (Surr)	*116*		*87 - 128*		*12/06/18 10:09*	*1*

Lab Sample ID: LCS 160-404259/5
Matrix: Water
Analysis Batch: 404259

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	80 - 120
1,1,1-Trichloroethane	10.0	9.97		ug/L		100	85 - 116
1,1,2,2-Tetrachloroethane	10.0	9.71		ug/L		97	80 - 120
1,1,2-Trichloroethane	10.0	9.86		ug/L		99	80 - 120
1,1-Dichloroethane	10.0	10.0		ug/L		100	80 - 120
1,1-Dichloroethene	10.0	9.50		ug/L		95	80 - 120
1,2,3-Trichloropropane	10.0	9.69		ug/L		97	77 - 117
1,2-Dibromo-3-Chloropropane	10.0	11.3		ug/L		113	73 - 123
1,2-Dibromoethane (EDB)	10.0	10.2		ug/L		102	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: LCS 160-404259/5
Matrix: Water
Analysis Batch: 404259

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	10.0	10.3		ug/L		103	80 - 115
1,2-Dichloropropane	10.0	10.5		ug/L		105	80 - 120
1,4-Dichlorobenzene	10.0	9.32		ug/L		93	80 - 120
2-Butanone (MEK)	10.0	10.2		ug/L		102	67 - 127
2-Hexanone	10.0	11.0		ug/L		110	70 - 123
4-Methyl-2-pentanone (MIBK)	10.0	11.2		ug/L		112	75 - 126
Acetone	10.0	12.3		ug/L		123	69 - 129
Acetonitrile	100	103		ug/L		103	67 - 122
Acrolein	50.0	69.5		ug/L		139	58 - 140
Acrylonitrile	100	108		ug/L		108	80 - 122
Allyl chloride	10.0	10.4		ug/L		104	25 - 140
Benzene	10.0	9.68		ug/L		97	80 - 120
Bromodichloromethane	10.0	10.4		ug/L		104	80 - 120
Bromoform	10.0	10.0		ug/L		100	80 - 120
Bromomethane	10.0	7.92		ug/L		79	70 - 124
Carbon disulfide	10.0	9.00		ug/L		90	80 - 121
Carbon tetrachloride	10.0	9.51		ug/L		95	83 - 125
Chlorobenzene	10.0	9.61		ug/L		96	80 - 120
Chloroethane	10.0	8.58		ug/L		86	73 - 119
Chloroform	10.0	10.0		ug/L		100	80 - 120
Chloromethane	10.0	9.57		ug/L		96	72 - 124
Chloroprene	10.0	10.8		ug/L		108	79 - 132
cis-1,2-Dichloroethylene	10.0	10.1		ug/L		101	80 - 120
cis-1,3-Dichloropropene	10.0	10.8		ug/L		108	80 - 120
Dibromochloromethane	10.0	10.4		ug/L		104	80 - 120
Dibromomethane	10.0	9.89		ug/L		99	80 - 120
Dichlorodifluoromethane	10.0	7.40		ug/L		74	24 - 140
Ethyl Cyanide	100	105		ug/L		105	77 - 121
Ethyl methacrylate	10.0	11.8		ug/L		118	69 - 123
Ethylbenzene	10.0	10.0		ug/L		100	80 - 120
Iodomethane	10.0	7.53		ug/L		75	69 - 129
Isobutyl alcohol	250	298		ug/L		119	64 - 124
Methacrylonitrile	100	107		ug/L		107	79 - 126
Methyl methacrylate	20.0	22.5		ug/L		112	70 - 123
Methylene Chloride	10.0	9.83		ug/L		98	80 - 120
Styrene	10.0	11.1		ug/L		111	81 - 133
Tetrachloroethene	10.0	9.68		ug/L		97	83 - 123
Toluene	10.0	10.1		ug/L		101	80 - 120
trans-1,2-Dichloroethylene	10.0	9.86		ug/L		99	80 - 120
trans-1,3-Dichloropropene	10.0	10.3		ug/L		103	82 - 124
trans-1,4-Dichloro-2-butene	10.0	9.40		ug/L		94	64 - 137
Trichloroethene	10.0	9.63		ug/L		96	80 - 120
Trichloromonofluoromethane	10.0	9.05		ug/L		90	71 - 132
Vinyl acetate	10.0	11.4		ug/L		114	63 - 140
Vinyl chloride	10.0	8.99		ug/L		90	77 - 122
Xylenes, Total	20.0	21.4		ug/L		107	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: LCS 160-404259/5
Matrix: Water
Analysis Batch: 404259

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

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

Lab Sample ID: LCSD 160-404259/6
Matrix: Water
Analysis Batch: 404259

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
1,1,1,2-Tetrachloroethane			10.0	10.1		ug/L		101	80 - 120	1	20
1,1,1-Trichloroethane			10.0	9.98		ug/L		100	85 - 116	0	20
1,1,2,2-Tetrachloroethane			10.0	9.85		ug/L		99	80 - 120	1	20
1,1,2-Trichloroethane			10.0	10.1		ug/L		101	80 - 120	2	20
1,1-Dichloroethane			10.0	9.92		ug/L		99	80 - 120	1	20
1,1-Dichloroethene			10.0	9.68		ug/L		97	80 - 120	2	20
1,2,3-Trichloropropane			10.0	9.90		ug/L		99	77 - 117	2	20
1,2-Dibromo-3-Chloropropane			10.0	11.6		ug/L		116	73 - 123	3	20
1,2-Dibromoethane (EDB)			10.0	10.5		ug/L		105	80 - 120	4	20
1,2-Dichloroethane			10.0	10.3		ug/L		103	80 - 115	1	20
1,2-Dichloropropane			10.0	10.4		ug/L		104	80 - 120	2	20
1,4-Dichlorobenzene			10.0	9.50		ug/L		95	80 - 120	2	20
2-Butanone (MEK)			10.0	10.3		ug/L		103	67 - 127	1	20
2-Hexanone			10.0	11.7		ug/L		117	70 - 123	6	20
4-Methyl-2-pentanone (MIBK)			10.0	11.5		ug/L		115	75 - 126	3	20
Acetone			10.0	11.0		ug/L		110	69 - 129	11	20
Acetonitrile			100	101		ug/L		101	67 - 122	2	20
Acrolein			50.0	35.0	y	ug/L		70	58 - 140	66	20
Acrylonitrile			100	109		ug/L		109	80 - 122	1	20
Allyl chloride			10.0	10.5		ug/L		105	25 - 140	1	20
Benzene			10.0	9.63		ug/L		96	80 - 120	0	20
Bromodichloromethane			10.0	10.4		ug/L		104	80 - 120	0	20
Bromoform			10.0	10.6		ug/L		106	80 - 120	6	20
Bromomethane			10.0	9.57		ug/L		96	70 - 124	19	20
Carbon disulfide			10.0	9.07		ug/L		91	80 - 121	1	20
Carbon tetrachloride			10.0	9.72		ug/L		97	83 - 125	2	20
Chlorobenzene			10.0	9.64		ug/L		96	80 - 120	0	20
Chloroethane			10.0	9.03		ug/L		90	73 - 119	5	20
Chloroform			10.0	9.98		ug/L		100	80 - 120	0	20
Chloromethane			10.0	8.91		ug/L		89	72 - 124	7	20
Chloroprene			10.0	10.9		ug/L		109	79 - 132	0	20
cis-1,2-Dichloroethylene			10.0	10.1		ug/L		101	80 - 120	1	20
cis-1,3-Dichloropropene			10.0	11.1		ug/L		111	80 - 120	2	20
Dibromochloromethane			10.0	10.6		ug/L		106	80 - 120	1	20
Dibromomethane			10.0	10.2		ug/L		102	80 - 120	3	20
Dichlorodifluoromethane			10.0	7.31		ug/L		73	24 - 140	1	20
Ethyl Cyanide			100	109		ug/L		109	77 - 121	4	20
Ethyl methacrylate			10.0	11.8		ug/L		118	69 - 123	1	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: LCSD 160-404259/6
Matrix: Water
Analysis Batch: 404259

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
Ethylbenzene			10.0	10.0		ug/L		100	80 - 120	0	20
Iodomethane			10.0	11.1	y	ug/L		111	69 - 129	38	20
Isobutyl alcohol			250	307		ug/L		123	64 - 124	3	20
Methacrylonitrile			100	107		ug/L		107	79 - 126	0	20
Methyl methacrylate			20.0	23.0		ug/L		115	70 - 123	2	20
Methylene Chloride			10.0	9.84		ug/L		98	80 - 120	0	20
Styrene			10.0	11.0		ug/L		110	81 - 133	0	20
Tetrachloroethene			10.0	9.69		ug/L		97	83 - 123	0	20
Toluene			10.0	10.0		ug/L		100	80 - 120	0	20
trans-1,2-Dichloroethylene			10.0	9.74		ug/L		97	80 - 120	1	20
trans-1,3-Dichloropropene			10.0	10.8		ug/L		108	82 - 124	4	20
trans-1,4-Dichloro-2-butene			10.0	9.88		ug/L		99	64 - 137	5	20
Trichloroethene			10.0	9.82		ug/L		98	80 - 120	2	20
Trichloromonofluoromethane			10.0	9.40		ug/L		94	71 - 132	4	20
Vinyl acetate			10.0	11.0		ug/L		110	63 - 140	4	20
Vinyl chloride			10.0	9.03		ug/L		90	77 - 122	1	20
Xylenes, Total			20.0	21.4		ug/L		107	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 129*
4-Bromofluorobenzene (Surr)	*106*		*81 - 130*
Dibromofluoromethane (Surr)	*103*		*81 - 124*
Toluene-d8 (Surr)	*104*		*87 - 128*

Lab Sample ID: 160-32023-6 MS
Matrix: Water
Analysis Batch: 404259

Client Sample ID: B3LW25
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.12	U	10.0	10.5		ug/L		105	80 - 120
1,1,1-Trichloroethane	0.17	U	10.0	9.99		ug/L		100	82 - 124
1,1,2,2-Tetrachloroethane	0.22	U	10.0	11.0		ug/L		110	75 - 121
1,1,2-Trichloroethane	0.25	U	10.0	10.6		ug/L		106	80 - 120
1,1-Dichloroethane	0.093	U	10.0	9.91		ug/L		99	80 - 122
1,1-Dichloroethene	0.12	U	10.0	9.38		ug/L		94	80 - 120
1,2,3-Trichloropropane	0.40	U	10.0	11.0		ug/L		110	71 - 119
1,2-Dibromo-3-Chloropropane	0.62	U	10.0	12.4		ug/L		124	64 - 130
1,2-Dibromoethane (EDB)	0.20	U	10.0	11.4		ug/L		114	82 - 122
1,2-Dichloroethane	0.22	U	10.0	10.6		ug/L		106	80 - 120
1,2-Dichloropropane	0.10	U	10.0	10.4		ug/L		104	80 - 120
1,4-Dichlorobenzene	0.30	U	10.0	9.20		ug/L		92	80 - 120
2-Butanone (MEK)	0.72	U	10.0	9.64		ug/L		96	53 - 145
2-Hexanone	0.51	U	10.0	11.1		ug/L		111	59 - 132
4-Methyl-2-pentanone (MIBK)	0.51	U	10.0	11.6		ug/L		116	70 - 131
Acetone	0.91	U	10.0	9.97		ug/L		100	50 - 137
Acetonitrile	3.7	U	100	103		ug/L		103	67 - 138
Acrolein	2.8	U y	50.0	46.6		ug/L		93	52 - 150
Acrylonitrile	1.6	U	100	110		ug/L		110	73 - 137

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32023-6 MS
Matrix: Water
Analysis Batch: 404259

Client Sample ID: B3LW25
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Allyl chloride	0.13	U	10.0	10.6		ug/L		106	49 - 150
Benzene	0.10	U	10.0	9.55		ug/L		96	80 - 120
Bromodichloromethane	0.14	U	10.0	10.5		ug/L		105	80 - 120
Bromoform	0.25	U	10.0	11.4		ug/L		114	81 - 121
Bromomethane	0.38	U	10.0	9.36		ug/L		94	55 - 137
Carbon disulfide	0.13	U	10.0	8.91		ug/L		89	80 - 121
Carbon tetrachloride	0.18	U	10.0	9.58		ug/L		96	77 - 131
Chlorobenzene	0.11	U	10.0	9.41		ug/L		94	80 - 120
Chloroethane	0.18	U	10.0	8.60		ug/L		86	71 - 126
Chloroform	0.24	U	10.0	10.3		ug/L		103	80 - 120
Chloromethane	0.20	U	10.0	8.74		ug/L		87	62 - 132
Chloroprene	0.20	U	10.0	10.5		ug/L		105	74 - 137
cis-1,2-Dichloroethylene	0.10	U	10.0	9.92		ug/L		99	80 - 120
cis-1,3-Dichloropropene	0.18	U	10.0	10.3		ug/L		103	83 - 127
Dibromochloromethane	0.14	U	10.0	11.0		ug/L		110	84 - 123
Dibromomethane	0.28	U	10.0	10.3		ug/L		103	78 - 122
Dichlorodifluoromethane	0.14	U	10.0	6.87		ug/L		69	67 - 135
Ethyl Cyanide	2.9	U	100	111		ug/L		111	67 - 141
Ethyl methacrylate	0.57	U	10.0	12.2		ug/L		122	69 - 123
Ethylbenzene	0.13	U	10.0	9.38		ug/L		94	84 - 125
Iodomethane	1.1	U y	10.0	8.66		ug/L		87	53 - 141
Isobutyl alcohol	8.3	U	250	298		ug/L		119	59 - 138
Methacrylonitrile	1.2	U	100	110		ug/L		110	70 - 142
Methyl methacrylate	0.73	U	20.0	22.4		ug/L		112	66 - 131
Methylene Chloride	0.27	U	10.0	10.0		ug/L		100	80 - 120
Styrene	0.21	U	10.0	10.6		ug/L		106	77 - 139
Tetrachloroethene	0.19	U	10.0	9.27		ug/L		93	80 - 126
Toluene	0.19	U	10.0	9.89		ug/L		99	85 - 123
trans-1,2-Dichloroethylene	0.10	U	10.0	9.44		ug/L		94	80 - 120
trans-1,3-Dichloropropene	0.27	U	10.0	10.9		ug/L		109	83 - 125
trans-1,4-Dichloro-2-butene	0.32	U	10.0	10.4		ug/L		104	56 - 139
Trichloroethene	2.7		10.0	12.8		ug/L		102	81 - 125
Trichloromonofluoromethane	0.16	U	10.0	10.2		ug/L		102	69 - 133
Vinyl acetate	0.21	U	10.0	11.5		ug/L		115	58 - 150
Vinyl chloride	0.19	U	10.0	8.40		ug/L		84	70 - 129
Xylenes, Total	0.45	U	20.0	20.0		ug/L		100	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 129*
4-Bromofluorobenzene (Surr)	*107*		*81 - 130*
Dibromofluoromethane (Surr)	*105*		*81 - 124*
Toluene-d8 (Surr)	*106*		*87 - 128*

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32023-6 MSD
Matrix: Water
Analysis Batch: 404259

Client Sample ID: B3LW25
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	0.12	U	10.0	10.2		ug/L		102	80 - 120	2	20
1,1,1-Trichloroethane	0.17	U	10.0	9.52		ug/L		95	82 - 124	5	20
1,1,2,2-Tetrachloroethane	0.22	U	10.0	10.4		ug/L		104	75 - 121	5	20
1,1,2-Trichloroethane	0.25	U	10.0	10.5		ug/L		105	80 - 120	2	20
1,1-Dichloroethane	0.093	U	10.0	9.71		ug/L		97	80 - 122	2	20
1,1-Dichloroethene	0.12	U	10.0	9.03		ug/L		90	80 - 120	4	20
1,2,3-Trichloropropane	0.40	U	10.0	10.9		ug/L		109	71 - 119	0	20
1,2-Dibromo-3-Chloropropane	0.62	U	10.0	12.1		ug/L		121	64 - 130	3	20
1,2-Dibromoethane (EDB)	0.20	U	10.0	11.0		ug/L		110	82 - 122	4	20
1,2-Dichloroethane	0.22	U	10.0	10.3		ug/L		103	80 - 120	3	20
1,2-Dichloropropane	0.10	U	10.0	10.2		ug/L		102	80 - 120	2	20
1,4-Dichlorobenzene	0.30	U	10.0	9.13		ug/L		91	80 - 120	1	20
2-Butanone (MEK)	0.72	U	10.0	9.75		ug/L		98	53 - 145	1	20
2-Hexanone	0.51	U	10.0	11.8		ug/L		118	59 - 132	6	20
4-Methyl-2-pentanone (MIBK)	0.51	U	10.0	11.8		ug/L		118	70 - 131	2	20
Acetone	0.91	U	10.0	11.0		ug/L		110	50 - 137	10	20
Acetonitrile	3.7	U	100	100		ug/L		100	67 - 138	2	20
Acrolein	2.8	U y	50.0	50.8		ug/L		102	52 - 150	9	20
Acrylonitrile	1.6	U	100	110		ug/L		110	73 - 137	0	20
Allyl chloride	0.13	U	10.0	10.1		ug/L		101	49 - 150	5	20
Benzene	0.10	U	10.0	9.28		ug/L		93	80 - 120	3	20
Bromodichloromethane	0.14	U	10.0	10.3		ug/L		103	80 - 120	1	20
Bromoform	0.25	U	10.0	11.0		ug/L		110	81 - 121	3	20
Bromomethane	0.38	U	10.0	9.29		ug/L		93	55 - 137	1	20
Carbon disulfide	0.13	U	10.0	8.61		ug/L		86	80 - 121	3	20
Carbon tetrachloride	0.18	U	10.0	9.28		ug/L		93	77 - 131	3	20
Chlorobenzene	0.11	U	10.0	9.37		ug/L		94	80 - 120	0	20
Chloroethane	0.18	U	10.0	8.57		ug/L		86	71 - 126	0	20
Chloroform	0.24	U	10.0	9.97		ug/L		100	80 - 120	3	20
Chloromethane	0.20	U	10.0	8.87		ug/L		89	62 - 132	2	20
Chloroprene	0.20	U	10.0	10.3		ug/L		103	74 - 137	3	20
cis-1,2-Dichloroethylene	0.10	U	10.0	9.85		ug/L		98	80 - 120	1	20
cis-1,3-Dichloropropene	0.18	U	10.0	10.3		ug/L		103	83 - 127	0	20
Dibromochloromethane	0.14	U	10.0	10.8		ug/L		108	84 - 123	2	20
Dibromomethane	0.28	U	10.0	10.3		ug/L		103	78 - 122	1	20
Dichlorodifluoromethane	0.14	U	10.0	6.93		ug/L		69	67 - 135	1	20
Ethyl Cyanide	2.9	U	100	107		ug/L		107	67 - 141	4	20
Ethyl methacrylate	0.57	U	10.0	12.0		ug/L		120	69 - 123	1	20
Ethylbenzene	0.13	U	10.0	9.40		ug/L		94	84 - 125	0	20
Iodomethane	1.1	U y	10.0	8.70		ug/L		87	53 - 141	1	20
Isobutyl alcohol	8.3	U	250	301		ug/L		120	59 - 138	1	20
Methacrylonitrile	1.2	U	100	109		ug/L		109	70 - 142	1	20
Methyl methacrylate	0.73	U	20.0	23.1		ug/L		116	66 - 131	3	20
Methylene Chloride	0.27	U	10.0	9.78		ug/L		98	80 - 120	2	20
Styrene	0.21	U	10.0	10.6		ug/L		106	77 - 139	0	20
Tetrachloroethene	0.19	U	10.0	9.03		ug/L		90	80 - 126	3	20
Toluene	0.19	U	10.0	9.77		ug/L		98	85 - 123	1	20
trans-1,2-Dichloroethylene	0.10	U	10.0	9.27		ug/L		93	80 - 120	2	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32023-6 MSD
Matrix: Water
Analysis Batch: 404259

Client Sample ID: B3LW25
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	0.27	U	10.0	10.9		ug/L		109	83 - 125	1	20
trans-1,4-Dichloro-2-butene	0.32	U	10.0	10.2		ug/L		102	56 - 139	2	20
Trichloroethene	2.7		10.0	12.6		ug/L		99	81 - 125	2	20
Trichloromonofluoromethane	0.16	U	10.0	9.91		ug/L		99	69 - 133	3	20
Vinyl acetate	0.21	U	10.0	11.6		ug/L		116	58 - 150	1	20
Vinyl chloride	0.19	U	10.0	8.53		ug/L		85	70 - 129	2	20
Xylenes, Total	0.45	U	20.0	20.2		ug/L		101	80 - 120	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 129*
4-Bromofluorobenzene (Surr)	*105*		*81 - 130*
Dibromofluoromethane (Surr)	*105*		*81 - 124*
Toluene-d8 (Surr)	*104*		*87 - 128*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 160-405742/1-A
Matrix: Water
Analysis Batch: 406522

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405742

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25.0	U	100	25.0	ug/L		12/13/18 17:57	12/18/18 22:38	1
Calcium	890.9	B	1000	300	ug/L		12/13/18 17:57	12/18/18 22:38	1
Iron	30.0	U	100	30.0	ug/L		12/13/18 17:57	12/18/18 22:38	1
Magnesium	300	U	1000	300	ug/L		12/13/18 17:57	12/18/18 22:38	1
Potassium	1500	U	5000	1500	ug/L		12/13/18 17:57	12/18/18 22:38	1
Sodium	300	U	1000	300	ug/L		12/13/18 17:57	12/18/18 22:38	1
Vanadium	4.0	U	50.0	4.0	ug/L		12/13/18 17:57	12/18/18 22:38	1

Lab Sample ID: LCS 160-405742/2-A
Matrix: Water
Analysis Batch: 406522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405742

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	200	200.5		ug/L		100	80 - 120
Calcium	10000	9677		ug/L		97	80 - 120
Iron	10000	9759		ug/L		98	80 - 120
Magnesium	10000	9448		ug/L		94	80 - 120
Potassium	10000	9456		ug/L		95	80 - 120
Sodium	10000	9455		ug/L		95	80 - 120
Vanadium	1000	955.6		ug/L		96	80 - 120

Lab Sample ID: 160-32228-A-1-E MS
Matrix: Water
Analysis Batch: 406522

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 405742

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	25.0	U	200	218.8		ug/L		109	75 - 125

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32228-A-1-E MS
Matrix: Water
Analysis Batch: 406522

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 405742

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	29200		10000	38830		ug/L		96	75 - 125
Iron	30.0	U	10000	9780		ug/L		98	75 - 125
Magnesium	9960		10000	19380		ug/L		94	75 - 125
Potassium	3480	B	10000	12980		ug/L		95	75 - 125
Sodium	19300		10000	28930		ug/L		97	75 - 125
Vanadium	24.1	B	1000	998.4		ug/L		97	75 - 125

Lab Sample ID: 160-32228-A-1-F MSD
Matrix: Water
Analysis Batch: 406522

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 405742

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	25.0	U	200	222.2		ug/L		111	75 - 125	2	20
Calcium	29200		10000	38450		ug/L		92	75 - 125	1	20
Iron	30.0	U	10000	9721		ug/L		97	75 - 125	1	20
Magnesium	9960		10000	19370		ug/L		94	75 - 125	0	20
Potassium	3480	B	10000	12920		ug/L		94	75 - 125	0	20
Sodium	19300		10000	28850		ug/L		96	75 - 125	0	20
Vanadium	24.1	B	1000	989.9		ug/L		97	75 - 125	1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 160-405741/1-A
Matrix: Water
Analysis Batch: 408313

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405741

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	25.68	B D	50.0	20.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Antimony	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Arsenic	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Barium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 02:37	2
Beryllium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 02:37	2
Cadmium	0.20	U D	0.50	0.20	ug/L		12/13/18 17:56	12/29/18 02:37	2
Chromium	4.0	U D	10.0	4.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Cobalt	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 02:37	2
Copper	1.9	U D	3.0	1.9	ug/L		12/13/18 17:56	12/29/18 02:37	2
Lead	1.0	U D	3.0	1.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Manganese	2.0	U D	4.0	2.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Nickel	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Selenium	2.0	U D	5.0	2.0	ug/L		12/13/18 17:56	12/29/18 02:37	2
Silver	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 02:37	2
Strontium	0.680	B D	5.0	0.50	ug/L		12/13/18 17:56	12/29/18 02:37	2
Thallium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 02:37	2
Thorium	0.90	U D	2.0	0.90	ug/L		12/13/18 17:56	12/29/18 02:37	2
Tin	1.2	U D	2.0	1.2	ug/L		12/13/18 17:56	12/29/18 02:37	2
Uranium	0.40	U D	1.0	0.40	ug/L		12/13/18 17:56	12/29/18 02:37	2
Zinc	7.5	U D	20.0	7.5	ug/L		12/13/18 17:56	12/29/18 02:37	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: LCS 160-405741/2-A
Matrix: Water
Analysis Batch: 408313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405741

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9222	D	ug/L		92	80 - 120
Antimony	500	517.4	D	ug/L		103	80 - 120
Arsenic	1000	908.8	D	ug/L		91	80 - 120
Barium	1000	1043	D	ug/L		104	80 - 120
Beryllium	100	106.1	D	ug/L		106	80 - 120
Cadmium	1000	1035	D	ug/L		104	80 - 120
Chromium	1000	947.0	D	ug/L		95	80 - 120
Cobalt	1000	931.9	D	ug/L		93	80 - 120
Copper	1000	941.9	D	ug/L		94	80 - 120
Lead	1000	1043	D	ug/L		104	80 - 120
Manganese	1000	938.6	D	ug/L		94	80 - 120
Molybdenum	500	523.4	D	ug/L		105	80 - 120
Nickel	1000	952.5	D	ug/L		95	80 - 120
Selenium	500	425.5	D	ug/L		85	80 - 120
Silver	200	210.1	D	ug/L		105	80 - 120
Strontium	1000	1023	D	ug/L		102	80 - 120
Thallium	200	213.4	D	ug/L		107	80 - 120
Thorium	1000	1053	D	ug/L		105	80 - 120
Tin	1000	1039	D	ug/L		104	80 - 120
Uranium	1000	1058	D	ug/L		106	80 - 120
Zinc	1000	907.7	D	ug/L		91	80 - 120

Lab Sample ID: MB 160-405743/1-A
Matrix: Water
Analysis Batch: 406241

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		12/13/18 17:58	12/17/18 19:17	2
Uranium	0.40	U D	1.0	0.40	ug/L		12/13/18 17:58	12/17/18 19:17	2

Lab Sample ID: LCS 160-405743/2-A
Matrix: Water
Analysis Batch: 406241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1000	1047	D	ug/L		105	80 - 120
Uranium	1000	974.5	D	ug/L		97	80 - 120

Lab Sample ID: 160-32228-A-1-B MS
Matrix: Water
Analysis Batch: 408313

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 405741

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	20.0	U D	10000	9211	D	ug/L		92	75 - 125
Antimony	2.0	U D	500	499.5	D	ug/L		100	75 - 125
Arsenic	4.0	U D	1000	929.1	D	ug/L		93	75 - 125
Barium	37.2	D	1000	1026	D	ug/L		99	75 - 125
Beryllium	0.20	U D	100	102.6	D	ug/L		103	75 - 125
Cadmium	0.20	U D	1000	992.2	D	ug/L		99	75 - 125

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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

Lab Sample ID: 160-32228-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 408313 — **Prep Batch: 405741**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	4.0	U D	1000	938.0	D	ug/L		94	75 - 125
Cobalt	0.90	U D	1000	912.8	D	ug/L		91	75 - 125
Copper	1.9	U D	1000	937.3	D	ug/L		94	75 - 125
Lead	1.0	U D	1000	1012	D	ug/L		101	75 - 125
Manganese	2.0	U D	1000	935.2	D	ug/L		94	75 - 125
Molybdenum	10.9	D	500	504.7	D	ug/L		99	75 - 125
Nickel	2.0	U D	1000	932.7	D	ug/L		93	75 - 125
Selenium	3.9	B D	500	453.1	D	ug/L		90	75 - 125
Silver	0.90	U D	200	196.7	D	ug/L		98	75 - 125
Strontium	120	D	1000	1094	D	ug/L		97	75 - 125
Thallium	0.90	U D	200	207.1	D	ug/L		104	75 - 125
Thorium	0.90	U D	1000	1021	D	ug/L		102	75 - 125
Tin	1.2	U D	1000	1000	D	ug/L		100	75 - 125
Uranium	2.6	D	1000	1031	D	ug/L		103	75 - 125
Zinc	7.5	U D	1000	904.3	D	ug/L		90	75 - 125

Lab Sample ID: 160-32228-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 408313 — **Prep Batch: 405741**

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	9149	D	ug/L		91	75 - 125	1	20
Antimony	2.0	U D	500	499.5	D	ug/L		100	75 - 125	0	20
Arsenic	4.0	U D	1000	945.3	D	ug/L		95	75 - 125	2	20
Barium	37.2	D	1000	1033	D	ug/L		100	75 - 125	1	20
Beryllium	0.20	U D	100	102.7	D	ug/L		103	75 - 125	0	20
Cadmium	0.20	U D	1000	996.5	D	ug/L		100	75 - 125	0	20
Chromium	4.0	U D	1000	929.7	D	ug/L		93	75 - 125	1	20
Cobalt	0.90	U D	1000	931.5	D	ug/L		93	75 - 125	2	20
Copper	1.9	U D	1000	947.8	D	ug/L		95	75 - 125	1	20
Lead	1.0	U D	1000	1002	D	ug/L		100	75 - 125	1	20
Manganese	2.0	U D	1000	945.6	D	ug/L		95	75 - 125	1	20
Molybdenum	10.9	D	500	508.2	D	ug/L		99	75 - 125	1	20
Nickel	2.0	U D	1000	949.9	D	ug/L		95	75 - 125	2	20
Selenium	3.9	B D	500	448.1	D	ug/L		89	75 - 125	1	20
Silver	0.90	U D	200	197.5	D	ug/L		99	75 - 125	0	20
Strontium	120	D	1000	1103	D	ug/L		98	75 - 125	1	20
Thallium	0.90	U D	200	206.8	D	ug/L		103	75 - 125	0	20
Thorium	0.90	U D	1000	1027	D	ug/L		103	75 - 125	1	20
Tin	1.2	U D	1000	994.0	D	ug/L		99	75 - 125	1	20
Uranium	2.6	D	1000	1036	D	ug/L		103	75 - 125	1	20
Zinc	7.5	U D	1000	921.5	D	ug/L		92	75 - 125	2	20

Lab Sample ID: 160-32023-3 MS — **Client Sample ID: B3M485**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 406241 — **Prep Batch: 405743**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	41.3	D	1000	1047	D	ug/L		101	75 - 125

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Lab Sample ID: 160-32023-3 MSD
Matrix: Water
Analysis Batch: 406241

Client Sample ID: B3M485
Prep Type: Dissolved
Prep Batch: 405743

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	41.3	D	1000	1071	D	ug/L		103	75 - 125	2	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-403959/1
Matrix: Water
Analysis Batch: 403959

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Bicarbonate Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Carbonate Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1
Hydroxide Alkalinity	1.5	U	5.0	1.5	mg/L			12/04/18 08:51	1

Lab Sample ID: HLCS 160-403959/3
Matrix: Water
Analysis Batch: 403959

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	376.0		mg/L		94	90 - 110
Bicarbonate Alkalinity	400	376.0		mg/L		94	90 - 110

Lab Sample ID: LCS 160-403959/2
Matrix: Water
Analysis Batch: 403959

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	189.0		mg/L		94	90 - 110
Bicarbonate Alkalinity	200	189.0		mg/L		94	90 - 110

Lab Sample ID: 160-32023-10 MS
Matrix: Water
Analysis Batch: 403959

Client Sample ID: B3LNK8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	1.5	U	100	94.00		mg/L		94	80 - 120
Bicarbonate Alkalinity	1.5	U	100	94.00		mg/L		94	80 - 120

Lab Sample ID: 160-32023-10 DU
Matrix: Water
Analysis Batch: 403959

Client Sample ID: B3LNK8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	1.5	U	1.5	U	mg/L		NC	20
Bicarbonate Alkalinity	1.5	U	1.5	U	mg/L		NC	20
Carbonate Alkalinity	1.5	U	1.5	U	mg/L		NC	20
Hydroxide Alkalinity	1.5	U	1.5	U	mg/L		NC	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 160-405129/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405362 — **Prep Batch: 405129**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	3.1	U	5.0	3.1	ug/L		12/11/18 16:40	12/11/18 18:21	1

Lab Sample ID: HLCS 160-405129/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405362 — **Prep Batch: 405129**

Analyte			Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			400	412.0		ug/L		103	85 - 115		

Lab Sample ID: LCS 160-405129/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405362 — **Prep Batch: 405129**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			200	169.2		ug/L		85	85 - 115		

Lab Sample ID: 160-32171-B-4-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405362 — **Prep Batch: 405129**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	21.6		200	212.9		ug/L		96	75 - 125		

Lab Sample ID: 160-32171-B-4-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 405362 — **Prep Batch: 405129**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Cyanide, Total	21.6			21.66		ug/L				0.3	20

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-405531/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406445 — **Prep Batch: 405531**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	27.03	U	234	234	500	408	pCi/L	12/13/18 14:52	12/17/18 17:52	1

Lab Sample ID: LCS 160-405531/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406445 — **Prep Batch: 405531**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2650	2919		484	500	418	pCi/L	110	80 - 120		

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 160-32023-11 MS — **Client Sample ID: B3LTT4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406445 — **Prep Batch: 405531**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Tritium	18800		2660	20720		2040	500	405	pCi/L	73	75 - 125

Lab Sample ID: 160-32023-5 DU — **Client Sample ID: B3LKF1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406445 — **Prep Batch: 405531**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RPD	RPD Limit
Tritium	437		261.3	U y	257	500	417	pCi/L	50	20

Method: SR-03-RC - Total Beta Strontium (GFPC)

Lab Sample ID: MB 160-403945/11-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 404809 — **Prep Batch: 403945**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	-0.0187	U	0.0776	0.0776	2.00	0.144	pCi/L	12/03/18 18:47	12/10/18 05:32	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*76.5*		*40 - 110*	*12/03/18 18:47*	*12/10/18 05:32*	*1*

Lab Sample ID: LCS 160-403945/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 404809 — **Prep Batch: 403945**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Strontium 89/90	8.14	8.020		0.673	2.00	0.143	pCi/L	98	80 - 120

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*77.2*		*40 - 110*

Lab Sample ID: LCSD 160-403945/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 404809 — **Prep Batch: 403945**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RPD	RPD Limit
Strontium 89/90	8.14	8.223		0.683	2.00	0.134	pCi/L	101	80 - 120	2	20

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*82.0*		*40 - 110*

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method: ST-RC-0079 - Selenium-79 (LSC)

Lab Sample ID: MB 160-404261/1-A
Matrix: Water
Analysis Batch: 405805

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 404261

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Se-79	1.857	U	2.71	2.72	50.0	4.54	pCi/L	12/06/18 09:11	12/13/18 22:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Se	*81.4*		*40 - 110*	*12/06/18 09:11*	*12/13/18 22:49*	*1*

Lab Sample ID: 160-31936-C-1-B DU
Matrix: Water
Analysis Batch: 405805

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 404261

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RPD	RPD Limit
Se-79	4.30	U		2.939	U y	2.69	50.0	4.33	pCi/L			38	20

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Se	*84.9*		*40 - 110*

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

GC/MS VOA

Analysis Batch: 404238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-2	B3L6F3	Total/NA	Water	8260C	
MB 160-404238/8	Method Blank	Total/NA	Water	8260C	
LCS 160-404238/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-404238/6	Lab Control Sample Dup	Total/NA	Water	8260C	
160-32023-2 MS	B3L6F3	Total/NA	Water	8260C	
160-32023-2 MSD	B3L6F3	Total/NA	Water	8260C	

Analysis Batch: 404259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-6	B3LW25	Total/NA	Water	8260C	
160-32023-7	B3LY03	Total/NA	Water	8260C	
160-32023-9	B3LTT9	Total/NA	Water	8260C	
160-32023-9	B3LTT9	Total/NA	Water	8260C	
160-32023-11 - DL4	B3LTT4	Total/NA	Water	8260C	
160-32023-11	B3LTT4	Total/NA	Water	8260C	
MB 160-404259/8	Method Blank	Total/NA	Water	8260C	
LCS 160-404259/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-404259/6	Lab Control Sample Dup	Total/NA	Water	8260C	
160-32023-6 MS	B3LW25	Total/NA	Water	8260C	
160-32023-6 MSD	B3LW25	Total/NA	Water	8260C	

Metals

Prep Batch: 405741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-1	B3LNM0	Total/NA	Water	3010A	
160-32023-4	B3LM21	Total/NA	Water	3010A	
160-32023-13	B3LM25	Total/NA	Water	3010A	
160-32023-14	B3M486	Dissolved	Water	3010A	
160-32023-17	B3LXD9	Total/NA	Water	3010A	
160-32023-18	B3LXF3	Dissolved	Water	3010A	
MB 160-405741/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-405741/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-32228-A-1-B MS	Matrix Spike	Dissolved	Water	3010A	
160-32228-A-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	

Prep Batch: 405742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-1	B3LNM0	Total/NA	Water	3010A	
160-32023-4	B3LM21	Total/NA	Water	3010A	
160-32023-13	B3LM25	Total/NA	Water	3010A	
160-32023-14	B3M486	Dissolved	Water	3010A	
160-32023-17	B3LXD9	Total/NA	Water	3010A	
160-32023-18	B3LXF3	Dissolved	Water	3010A	
MB 160-405742/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-405742/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-32228-A-1-E MS	Matrix Spike	Dissolved	Water	3010A	
160-32228-A-1-F MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Metals (Continued)

Prep Batch: 405743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-3	B3M485	Dissolved	Water	3010A	
160-32023-21	B3LY96	Total/NA	Water	3010A	
160-32023-22	B3LY98	Dissolved	Water	3010A	
160-32023-23	B3LXT6	Dissolved	Water	3010A	
160-32023-24	B3LXT4	Total/NA	Water	3010A	
MB 160-405743/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-405743/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-32023-3 MS	B3M485	Dissolved	Water	3010A	
160-32023-3 MSD	B3M485	Dissolved	Water	3010A	

Analysis Batch: 406241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-3	B3M485	Dissolved	Water	6020B	405743
160-32023-21	B3LY96	Total/NA	Water	6020B	405743
160-32023-22	B3LY98	Dissolved	Water	6020B	405743
160-32023-23	B3LXT6	Dissolved	Water	6020B	405743
160-32023-24	B3LXT4	Total/NA	Water	6020B	405743
MB 160-405743/1-A	Method Blank	Total/NA	Water	6020B	405743
LCS 160-405743/2-A	Lab Control Sample	Total/NA	Water	6020B	405743
160-32023-3 MS	B3M485	Dissolved	Water	6020B	405743
160-32023-3 MSD	B3M485	Dissolved	Water	6020B	405743

Analysis Batch: 406522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-1	B3LNM0	Total/NA	Water	6010D	405742
160-32023-4	B3LM21	Total/NA	Water	6010D	405742
160-32023-13	B3LM25	Total/NA	Water	6010D	405742
160-32023-14	B3M486	Dissolved	Water	6010D	405742
160-32023-17	B3LXD9	Total/NA	Water	6010D	405742
160-32023-18	B3LXF3	Dissolved	Water	6010D	405742
MB 160-405742/1-A	Method Blank	Total/NA	Water	6010D	405742
LCS 160-405742/2-A	Lab Control Sample	Total/NA	Water	6010D	405742
160-32228-A-1-E MS	Matrix Spike	Dissolved	Water	6010D	405742
160-32228-A-1-F MSD	Matrix Spike Duplicate	Dissolved	Water	6010D	405742

Analysis Batch: 408313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-1	B3LNM0	Total/NA	Water	6020B	405741
160-32023-4	B3LM21	Total/NA	Water	6020B	405741
160-32023-13	B3LM25	Total/NA	Water	6020B	405741
160-32023-14	B3M486	Dissolved	Water	6020B	405741
160-32023-17	B3LXD9	Total/NA	Water	6020B	405741
160-32023-18	B3LXF3	Dissolved	Water	6020B	405741
MB 160-405741/1-A	Method Blank	Total/NA	Water	6020B	405741
LCS 160-405741/2-A	Lab Control Sample	Total/NA	Water	6020B	405741
160-32228-A-1-B MS	Matrix Spike	Dissolved	Water	6020B	405741
160-32228-A-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	405741

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

General Chemistry

Analysis Batch: 403959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-8	B3LY06	Total/NA	Water	310.1	
160-32023-10	B3LNK8	Total/NA	Water	310.1	
160-32023-12	B3LNK9	Total/NA	Water	310.1	
MB 160-403959/1	Method Blank	Total/NA	Water	310.1	
HLCS 160-403959/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-403959/2	Lab Control Sample	Total/NA	Water	310.1	
160-32023-10 MS	B3LNK8	Total/NA	Water	310.1	
160-32023-10 DU	B3LNK8	Total/NA	Water	310.1	

Prep Batch: 405129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-13	B3LM25	Total/NA	Water	9010C	
160-32023-14	B3M486	Total/NA	Water	9010C	
MB 160-405129/1-A	Method Blank	Total/NA	Water	9010C	
HLCS 160-405129/3-A	Lab Control Sample	Total/NA	Water	9010C	
LCS 160-405129/2-A	Lab Control Sample	Total/NA	Water	9010C	
160-32171-B-4-C MS	Matrix Spike	Total/NA	Water	9010C	
160-32171-B-4-B DU	Duplicate	Total/NA	Water	9010C	

Analysis Batch: 405362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-13	B3LM25	Total/NA	Water	9012B	405129
160-32023-14	B3M486	Total/NA	Water	9012B	405129
MB 160-405129/1-A	Method Blank	Total/NA	Water	9012B	405129
HLCS 160-405129/3-A	Lab Control Sample	Total/NA	Water	9012B	405129
LCS 160-405129/2-A	Lab Control Sample	Total/NA	Water	9012B	405129
160-32171-B-4-C MS	Matrix Spike	Total/NA	Water	9012B	405129
160-32171-B-4-B DU	Duplicate	Total/NA	Water	9012B	405129

Rad

Prep Batch: 403945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-15	B3LX00	Total/NA	Water	PrecSep_0	
160-32023-16	B3LX01	Total/NA	Water	PrecSep_0	
160-32023-20	B3LL37	Total/NA	Water	PrecSep_0	
MB 160-403945/11-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-403945/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-403945/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 404261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-20	B3LL37	Total/NA	Water	Ext_Chrom_LSC	
MB 160-404261/1-A	Method Blank	Total/NA	Water	Ext_Chrom_LSC	
160-31936-C-1-B DU	Duplicate	Total/NA	Water	Ext_Chrom_LSC	

Prep Batch: 405531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-5	B3LKF1	Total/NA	Water	LSC_Dist_Susp	
160-32023-11	B3LTT4	Total/NA	Water	LSC_Dist_Susp	

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Rad (Continued)

Prep Batch: 405531 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32023-15	B3LX00	Total/NA	Water	LSC_Dist_Susp	
160-32023-16	B3LX01	Total/NA	Water	LSC_Dist_Susp	
160-32023-19	B3LK07	Total/NA	Water	LSC_Dist_Susp	
160-32023-20	B3LL37	Total/NA	Water	LSC_Dist_Susp	
MB 160-405531/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-405531/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
160-32023-11 MS	B3LTT4	Total/NA	Water	LSC_Dist_Susp	
160-32023-5 DU	B3LKF1	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

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)
160-32023-2	B3L6F3	114	122	111	112
160-32023-2 MS	B3L6F3	113	107	112	105
160-32023-2 MSD	B3L6F3	112	105	109	105
160-32023-6	B3LW25	104	121	103	118
160-32023-6 MS	B3LW25	108	107	105	106
160-32023-6 MSD	B3LW25	109	105	105	104
160-32023-7	B3LY03	108	119	104	113
160-32023-9	B3LTT9	114	133 X	123	115
160-32023-9	B3LTT9	115	123	114	111
160-32023-11 - DL4	B3LTT4	120	119	116	110
160-32023-11	B3LTT4	125	127	130 X	115
LCS 160-404238/5	Lab Control Sample	101	104	102	108
LCS 160-404259/5	Lab Control Sample	104	104	108	104
LCSD 160-404238/6	Lab Control Sample Dup	104	106	104	106
LCSD 160-404259/6	Lab Control Sample Dup	103	106	103	104
MB 160-404238/8	Method Blank	105	121	103	115
MB 160-404259/8	Method Blank	103	120	101	116

Surrogate Legend

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

Tracer/Carrier Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S19-011/W19-011/X19-002/I19-003/I19-004

TestAmerica Job ID: 160-32023-1
SDG: SL32023-1

Method: SR-03-RC - Total Beta Strontium (GFPC)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Sr Carrier (40-110)
160-32023-15	B3LX00	81.3
160-32023-16	B3LX01	86.5
160-32023-20	B3LL37	83.7
LCS 160-403945/1-A	Lab Control Sample	77.2
LCSD 160-403945/2-A	Lab Control Sample Dup	82.0
MB 160-403945/11-A	Method Blank	76.5

Tracer/Carrier Legend

Sr Carrier = Sr Carrier

Method: ST-RC-0079 - Selenium-79 (LSC)

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

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Se (40-110)
160-31936-C-1-B DU	Duplicate	84.9
160-32023-20	B3LL37	88.5
MB 160-404261/1-A	Method Blank	81.4

Tracer/Carrier Legend

Se = Se