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: 160-26901-1
TestAmerica Sample Delivery Group: SL2810
Client Project/Site: S18-002 / X18-005 / I18-005

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

Attn: Mr. Scot Fitzgerald

Authorized for release by:
3/22/2018 4:15:14 PM

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

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 160-26901-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
March 22, 2018
Attention: Scot Fitzgerald

SDG	: SL2810
Number of Samples	: 20 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: February 27, 2018

II. Introduction

On February 22 and 27, 20 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: S18-002, X18-005 and I18-005

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with an LCS/LCS duplicate.

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

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

Job ID: 160-26901-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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: 353370

The continuing calibration verification (CCV) associated with batch analytical batch 160-353370 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. 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. (CCVIS 160-353370/4)

The continuing calibration verification (CCV) associated with batch analytical batch 160-353370 recovered above the upper control limit for Vinyl acetate and Isobutyl alcohol. 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 160-353370/4).

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch analytical batch 160-353370: 2-Butanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes mass ions were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-353370/4)

The laboratory control sample duplicate (LCSD) for analytical batch 160-353370 recovered outside control limits for the following analytes: 2-Hexanone, Isobutyl alcohol, and 1,2-Dibromo-3-Chloropropane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported. (LCSD 160-353370/6) These analytes have been qualified accordingly with an "o" flag in the associated samples.

Job ID: 160-26901-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

The following samples were diluted due to the nature of the sample matrix: B3H679 (160-26901-1), B3H656 (160-26901-4) and B3H534 (160-26901-8). 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 160-353370 recovered outside control limits for the following analytes: 2-Hexanone. Matrix spike and matrix spike duplicate (MS/MSD) had acceptable RPD values demonstrating reproducibility. All samples were non-detect for this analyte. Data is being reported along with this narrative. (LCSD 160-353370/6) This analyte has been flagged accordingly with a "y" flag in the LCSD.

Batch: 353572

The continuing calibration verification (CCV) associated with batch analytical batch 160-353572 recovered above the upper control limit for Vinyl acetate. 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 160-353572/4).

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch analytical batch 160-353572: 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone, and Acetone. A low level CCV was analyzed at the base reporting limit of 1ug/L and the affected analytes mass ions were detected. Affected target analytes recovering above the reporting limit in the associated samples will be qualified and reported. (CCVIS 160-353572/4)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 160-353572. Laboratory control sample (LCS) and duplicate (LCSD) were analyzed in order to demonstrate accuracy and replicate-precision. (LCS 160-353572/5) and (LCSD 160-353572/6)

The following samples were diluted due to the nature of the sample matrix: B3H4N3 (160-26901-2) and B3H4N2 (160-26901-3). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

Tritium

Prep Batch: 355640

The client has requested RPD be reported as precision criteria. The RPD tends to increase 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. B3H878 (160-26901-6), B3H858 (160-26901-9), B3H859 (160-26901-10), (LCS 160-355640/2-A), (MB 160-355640/1-A), (160-26901-A-6-C MS), (160-27004-S-1-B) and (160-27004-S-1-C DU)

Gross Alpha/Beta

Prep Batch: 354187

Gross Beta was detected in method blank MB 160-354187/1-A at a level that was above the MDC but below the requested limit. The method blank and associated samples have been flagged “B”. Activity at this level in the MB is not believed to be due to contamination and does not affect the data.

The client has requested RPD be reported as precision criteria. The RPD tends to increase with 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. B3H5C3 (160-26901-7), (LCS 160-354187/2-A), (LCSB 160-354187/3-A), (MB 160-354187/1-A), (160-26901-A-7-E DU), (160-26901-A-7-C MS) and (160-26901-A-7-D MSBT)

Job ID: 160-26901-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

ICPMS Metals
Alkalinity

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

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-26901-1
SDG Number: SL2810

Login Number: 26901
List Number: 1
Creator: Daniels, Brian J

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	0.8
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	

56lbs

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-551

Page 1 of 1

Collector:	Daniel Klug CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506- 97-63	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715 3753 0720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H679	N	W	FEB 21 2018	1233	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV 1	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By: DANIEL KLUG CHPRC	D. Klug	FEB 21 2018 1255	Received By: Troy Bacon /CHPRC	Troy L. Bacon	FEB 21 2018 1255
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: Troy Bacon /CHPRC	Troy L. Bacon	FEB 21 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: Brian Daniels	B	2/22/18 0920
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 Liquid
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 12/13/2017 FSR ID = FSR55438 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-556

Page 1 of 1

Collector:	Juan Aguilar /CHPRC SL281D	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 -28143	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771537530720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H4N3	N	W	2-21-18	1055	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV 1	14 Days	HCl or H2SO4 to pH <2 / 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			FEB 2 1 2018 1105	Mike Esparza /CHPRC			FEB 2 1 2018 1105
Mike Esparza /CHPRC			FEB 2 1 2018 1100	FEDEX			
FED EX				Brian Davis			2/22/18 0920

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55304 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-555

Collector:	Juan Aguilar /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 -98143	**Ice Chest No.:**	6 WS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715375530720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H4N2	N	W	2-21-18	1055	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV 1	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Juan Aguilar /CHPRC		FEB 2 1 2018 1105	Mike Esparza /CHPRC		FEB 2 1 2018 1105
Mike Esparza /CHPRC		FEB 2 1 2018 1400	FEDEX		
FED EX			Brian Daniels		2/22/18 0920

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55304 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-548

Page 1 of 1

Collector: Juan Aguilar /CHPRC SL2810	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S18-002	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: Sitewide Surv, February 2018	**Logbook No.:** HNF-N-506-98143	**Ice Chest No.:** GWS-391
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771537530120
Protocol SURV	**Priority:** 30 Days	**Offsite Property No.:** N/A

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
B3H656	N	W	2-21-18	0916	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV. 1	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Received By:
Juan Aguilar /CHPRC — FEB 2 1 2018 1025 (Print First and Last Name / Signature / Date/Time)	Mike Esparza /CHPRC — FEB 2 1 2018 1025 (Print First and Last Name / Signature / Date/Time)
Mike Esparza /CHPRC — FEB 2 1 2018 1400 (Print First and Last Name / Signature / Date/Time)	FEDEX (Print First and Last Name / Signature / Date/Time)
FED EX (Print First and Last Name / Signature / Date/Time)	Brian Davies — 2/22/18 0920 (Print First and Last Name / Signature / 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 Liquid
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 12/13/2017 FSR ID = FSR55332 A-6004-842 (REV 3)

03/22/2018 REV.0 3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-543

Page 1 of 2

Collector:	Juan Aguilar /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650 KW 2/24/18
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506-98142	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771537530720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H6K1	N	W	2-20-18	0959	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1)	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
Juan Aguilar /CHPRC			FEB 20 2018 1200	Troy Bacon CHPRC		Troy L. Bacon	FEB 20 2018 1200
Troy Bacon CHPRC		Troy L. Bacon	FEB 20 2018 1240	SSU-1			FEB 20 2018 1240
SSU-1			FEB 21 2018 1130	Lesly Wall /CHPRC		Lesly Wall	FEB 21 2018 1130
Lesly Wall /CHPRC		Lesly Wall	FEB 21 2018 1400	FEDEX			

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55423 A-6004-842 (REV 3)

03/22/2018 REV.0

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 518-002-543

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
		FED EX			Brian Daniels	B-1	2/22/18 0920
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

03/22/2018

REV.0

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-627

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Collector:	Juan Aguilar /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 - 98142	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771537530720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H878	N	W	2-20-18	1144	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

Relinquished By	Print First and Last Name	Signature	Date/Time	Received By	Print First and Last Name	Signature	Date/Time
Juan Aguilar /CHPRC			FEB 20 2018 1200	Troy Bacon CHPRC		Troy L. Bacon	FEB 20 2018 1200
Troy Bacon CHPRC		Troy L. Bacon	FEB 20 2018 1240	SSU-1			FEB 20 2018 1240
SSU-1			FEB 21 2018 1130	Lesly Wall /CHPRC		Lesly Wall	FEB 21 2018 1130
Lesly Wall /CHPRC		Lesly Wall	FEB 21 2018 1400	FEDEX			

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55428 A-6004-842 (REV 3)

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3/22/2018

11 10 9 8 7 6 5 4 3 2 1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. S18-002-627

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
		FED EX			Brian Davis		2/22/18 0920
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

03/22/2018

REV.0

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-540

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Collector:	Daniel Klug CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site ~~96/96~~ 220-10	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 96/96	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771537530720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H5C3	N	W	FEB 20 2018	1109	1x1-L P	9310_ALPHABETA_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
	Daniel Klug CHPRC	D. Klug	FEB 20 2018 1130		Chris Fulton CHPRC		FEB 20 2018 1130
	Chris Fulton CHPRC		FEB 20 2018 1250		SSU-1		FEB 20 2018 1250
	SSU-1		FEB 21 2018 1130		Lesly Wall CHPRC	Lesly Wall	FEB 21 2018 1130
	Lesly Wall CHPRC	Lesly Wall	FEB 21 2018 1400		FEDEX		

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/18/2017 FSR ID = FSR55656 A-6004-842 (REV 3)

3/22/2018

03/22/2018 REV.0

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. S18-002-540

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
		FED EX			Brian Davis	B	2/22/18 0920
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

03/22/2018

REV.0

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# S18-002-554

Collector:	Daniel Klug CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 - 97-63	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715 3753 0720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H534	N	W	FEB 21 2018	1131	5x40-mL aGs*	8260_VOA_GCMS_IX: COMMON REV 1	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By: Daniel Klug CHPRC D. Klug FEB 21 2018 1200 (Print First and Last Name / Signature / Date/Time)		Received By: TIM CALLAWAY CHPRC T. Callaway FEB 21 2018 1200 (Print First and Last Name / Signature / Date/Time)	
Relinquished By: TIM CALLAWAY CHPRC T. Callaway FEB 21 2018 1400 (Print First and Last Name / Signature / Date/Time)		Received By: FEDEX ~~FEB 21 2018~~ 2/21/18 (Print First and Last Name / Signature / Date/Time)	
Relinquished By: FED EX (Print First and Last Name / Signature / Date/Time)		Received By: Brian Daniels 2/22/18 0920 (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 Liquid
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 12/13/2017 FSR ID = FSR55303 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-613

Page 1 of 1

Collector:	Malcom Chunn CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506-99	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715 3753 0720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H858	N	W	2/21/18	1143	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

Relinquished By:	Received By:
Malcom Chunn CHPRC — Print First and Last Name / Signature / FEB 21 2018 1155 Date/Time	Mike Esperza /CHPRC — Print First and Last Name / Signature / FEB 21 2018 1155 Date/Time
Mike Esperza /CHPRC — Print First and Last Name / Signature / FEB 21 2018 1400 Date/Time	FEDEX — Print First and Last Name / Signature / Date/Time
FED EX — Print First and Last Name / Signature / Date/Time	Brian Daniels — Print First and Last Name / Signature / 2/22/18 0920 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 Liquid
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 1/16/2018 FSR ID = FSR57269 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-614

Page 1 of 1

Collector: Malcom Chunn CHPRC SL2810	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S18-002	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: Sitewide Surv, February 2018	**Logbook No.:** HNF-N-506-99	**Ice Chest No.:** GWS-391
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771537530720
Protocol SURV	**Priority:** 30 Days	**Offsite Property No.:** N/A

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
B3H859	N	W	2/21/18	1143	1x250-mL P	906.0_TRITIUM_LSC: COMMON	6 Months	None

Relinquished By:	Received By:
Malcom Chunn CHPRC — Print First and Last Name — Signature — FEB 21 2018 1155 Date/Time	Mike Esperza CHPRC — Print First and Last Name — Signature — FEB 21 2018 1155 Date/Time
Mike Esperza CHPRC — Print First and Last Name — Signature — FEB 21 2018 1400 Date/Time	FEDEX — Print First and Last Name — Signature — Date/Time
FED EX — Print First and Last Name — Signature — Date/Time	Brian Daniels — Print First and Last Name — Signature — 2/22/18 0920 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 Liquid
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 1/16/2018 FSR ID = FSR57269 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X18-005-176

Collector:	Juan Aguilar /CHPRC SL2810	**Contact/Requester:**	WATERS-HUSTED, K	**Telephone No.:**	376-4650
SAF No.:	X18-005	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Groundwater Background Study,	**Logbook No.:**	HNF-N-506 - 98143	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715 3753 0720
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3HLB7	N	W	2-21-18	0916	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Juan Aguilar /CHPRC		FEB 2 1 2018 1025	Mike Esparza /CHPRC		FEB 2 1 2018 1025
Mike Esparza /CHPRC		FEB 2 1 2018 1400	FEDEX		2-21-18 FEB 2 1 2018
FED EX					2/22/18 0920

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 1/11/2018 FSR ID = FSR56190 A-6004-842 (REV 3)

03/22/2018 REV.0

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I18-005-005 Page 1 of 1

Collector: Daniel Klug CHPRC SL2810	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I18-005	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: GW-IA Monitoring, February 201	**Logbook No.:** HNF-N-506 ~97~63	**Ice Chest No.:** GWS-39
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7715 3753 0720
Protocol SURV	**Priority:** 30 Days	**Offsite Property No.:** N/A

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
B3H2V5	N	W	FEB 21 2018	1131	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

Relinquished By: Daniel Klug CHPRC	D. Klug	FEB 21 2018 1200	Received By: TIM CALLAWAY CHPRC	R. Callaway	FEB ~~63~~ 21 2018 1200
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: TIM CALLAWAY CHPRC	R. Callaway	FEB 21 2018 1400	Received By: FEDEX		~~FEB 21 2018~~ 2/21/2018
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: FED EX			Received By: Brian Daniels	B	2/22/18 0920
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 Liquid
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 12/13/2017 FSR ID = FSR55303 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# I18-005-006

Page 1 of 1

Collector:	Juan Aguilar /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	I18-005	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	GW-IA Monitoring, February 201	**Logbook No.:**	HNF-N-506 - 98143	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771537530020
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H2V9	N	W	2-21-18	1055	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1)	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
Juan Aguilar /CHPRC			FEB 2 1 2018 1105	Mike Esperza /CHPRC			FEB 2 1 2018 1105
Mike Esperza /CHPRC			FEB 2 1 2018 1400	FEDEX			
FED EX				Brian Daniels			2/22/18 0920

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55304 A-6004-842 (REV 3)

03/22/2018

REV.0

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I18-005-007

Page 1 of 1

Collector:	Juan Aguilar /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	I18-005	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	GW-IA Monitoring, February 201	**Logbook No.:**	HNF-N-506-98143	**Ice Chest No.:**	GWS-391
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715375307 20
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H2W0	N	W	2-21-18	1055	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Juan Aguilar /CHPRC		FEB 2 1 2018 1105	Mike Esparza /CHPRC		FEB 2 1 2018 1105
Mike Esparza /CHPRC		FEB 2 1 2018 1400	FEDEX		
FED EX			Brian Daniels		2/22/18 0920

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55304 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

IMPORTANT!
FedEx is closely monitoring the winter storms across the U.S. Learn More

FedEx ® Tracking

771537530720

Ship date:
Wed 2/21/2018

Richland, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery:
Thu 2/22/2018 9:10 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
▪ 2/22/2018 - Thursday		
9:10 am	Delivered	EARTH CITY, MO
7:40 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:35 am	At local FedEx facility	EARTH CITY, MO
6:21 am	At destination sort facility	BERKELEY, MO
5:39 am	Departed FedEx location	MEMPHIS, TN
1:15 am	Arrived at FedEx location	MEMPHIS, TN
▪ 2/21/2018 - Wednesday		
4:53 pm	Left FedEx origin facility	PASCO, WA
3:46 pm	Shipment information sent to FedEx	
3:17 pm	Picked up	PASCO, WA

Shipment Facts

Tracking Number	771537530720	**Service**	FedEx Standard Overnight
Weight	56 lbs / 25.4 kgs	**Dimensions**	25x15x15 in.
Delivered To	Shipping/Receiving	**Total pieces**	1
Total shipment weight	56 lbs / 25.4 kgs	**Terms**	Recipient
Shipper reference	GWS-391	**Packaging**	Your Packaging
Special handling section	Deliver Weekday, Additional Handling Surcharge	**Standard transit**	2/22/2018 by 3:00 pm

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-26982-1
SDG Number: SL2810

Login Number: 26982
List Number: 1
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CH2MHill Plateau Remediation Company

20165

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-523

Page 1 of 1

Collector:	Mike Esparza /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 -97-65	**Ice Chest No.:**	GWS-700
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771589441104
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H5M7	Y		FEB 2 6 2018	1205	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3H5M4	N		FEB 2 6 2018	1205	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	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
	Mike Esparza /CHPRC		FEB 2 6 2018 1250		Daniel Klug CHPRC		FEB 2 6 2018 1250
	Daniel Klug CHPRC		FEB 2 6 2018 1400 1315 02/27/18		FEDEX		
	FED EX				Brian Davis		2/27/18 0935

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55348 A-6004-842 (REV 3)

03/22/2018 REV.0 3/22/2018

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-528

Collector:	Mike Esparza /CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 - 97165	**Ice Chest No.:**	GWS-700
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771589441101
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H4D4	N	W	2/26/18	1055	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3H4D7	Y	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	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
Mike Esparza /CHPRC			FEB 2 6 2018 1105	Daniel Klug CHPRC		D. Klug	FEB 2 6 2018 1105
Daniel Klug CHPRC		D. Klug	FEB 2 6 2018 1400	FEDEX			
FED EX					Brian Daniels		2/27/18 0935

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55363 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-526

Page 1 of 12

Collector:	Daniel Klug CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650 12 02-26-18
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 - 97-64	**Ice Chest No.:**	GWS-700
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715 8944 1104
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H4W5	N	W	FEB 2 2 2018	1113	1x250-mL G/P	310.1_ALKALINITY: COMMON	14 Days	Cool <=6C

Relinquished By: Daniel Klug CHPRC	D. Klug	FEB 2 2 2018 1120	Received By: Franck Hall CHPRC		FEB 2 2 2018 1120
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: Frank Hall /CHPRC		FEB 2 2 2018 1155	Received By: SSU-1		FEB 2 2 2018 1155
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: SSU-1		FEB 2 6 2018 1145	Received By: Janelle Zunker CHPRC		FEB 2 6 2018 1145
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: Janelle Zunker CHPRC		FEB 2 6 2018 1400	Received By: FEDEX		
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 Liquid
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 12/13/2017 FSR ID = FSR55318 A-6004-842 (REV 3)

03/22/2018 REV.0 3/22/2018

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 518-002526

Page 2 of 2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
		FED EX		Brian Daniels			2/21/18 0935
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-002-525

Page 1 of ~~1~~ 2

Collector:	Daniel Klug CHPRC SL2810	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650 9222618
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 - 92-64	**Ice Chest No.:**	GWS-700
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7715 8944 1104
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	N/A

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
B3H4V8	N	W	FEB 22 2018	1005	1x250-mL G/P	310.1_ALKALINITY: COMMON	14 Days	Cool <=6C

Relinquished By:	Received By:
Daniel Klug CHPRC — Print First and Last Name; Signature; FEB 22 2018 1045 — Date/Time	Frank Hall CHPRC — Print First and Last Name; Signature; FEB 22 2018 1045 — Date/Time
Frank Hall CHPRC — Print First and Last Name; Signature; FEB 22 2018 1145 — Date/Time	SSU-1 — Print First and Last Name; Signature; FEB 22 2018 1145 — Date/Time
SSU-1 — Print First and Last Name; Signature; FEB 26 2018 1145 — Date/Time	Janelle Zunker CHPRC — Print First and Last Name; Signature; FEB 26 2018 1145 — Date/Time
Janelle Zunker CHPRC — Print First and Last Name; Signature; FEB 26 2018 1400 — Date/Time	FEDEX — Print First and Last Name; Signature; Date/Time

Matrix *

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquid
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 12/13/2017 FSR ID = FSR55317 A-6004-842 (REV 3)

03/22/2018

REV.0

3/22/2018

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 318-002523

Page 2 of 2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	FED EX				Brian Davies	B C	2/27/18 0935
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

03/22/2018

REV.0

IMPORTANT!
FedEx is closely monitoring the winter storms across the U.S. Learn More

FedEx ® Tracking

771589441104

Ship date:
Mon 2/26/2018

Richland, WA US

Delivered
Signed for by: J.CLARKE

Actual delivery:
Tue 2/27/2018 9:24 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 2/27/2018 - Tuesday		
9:24 am	Delivered	EARTH CITY, MO
7:53 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:48 am	At local FedEx facility	EARTH CITY, MO
6:22 am	At destination sort facility	BERKELEY, MO
5:33 am	Departed FedEx location	MEMPHIS, TN
12:13 am	Arrived at FedEx location	MEMPHIS, TN
- 2/26/2018 - Monday		
4:47 pm	Left FedEx origin facility	PASCO, WA
3:29 pm	Shipment information sent to FedEx	
3:21 pm	Picked up	PASCO, WA

Shipment Facts

Tracking Number	771589441104	**Service**	FedEx Standard Overnight
Weight	20 lbs / 9.07 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	20 lbs / 9.07 kgs
Terms	Recipient	**Shipper reference**	GWS-700
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge
Standard transit	2/27/2018 by 3:00 pm		

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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.
o	LCS, LCSD: Recovery exceeds upper or lower control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
y	Duplicate analysis not within control limits.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	MS, MSD: Recovery exceeds upper or lower control limits.

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
U	Analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Rad

Qualifier	Qualifier Description
B	Possible laboratory contamination: analyte was detected in the associated method blank above the MDC.
y	Duplicate analysis not within control limits.
U	Result is less than the sample detection limit.

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)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-002 / X18-005 / I18-005

TestAmerica Job ID: 160-26901-1
SDG: SL2810

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
906.0	Tritium, Total (LSC)	EPA	TAL SL
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-002 / X18-005 / I18-005

TestAmerica Job ID: 160-26901-1
SDG: SL2810

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-26901-1	B3H679	Water	02/21/18 12:33	02/22/18 09:20
160-26901-2	B3H4N3	Water	02/21/18 10:55	02/22/18 09:20
160-26901-3	B3H4N2	Water	02/21/18 10:55	02/22/18 09:20
160-26901-4	B3H656	Water	02/21/18 09:16	02/22/18 09:20
160-26901-5	B3H6K1	Water	02/20/18 09:59	02/22/18 09:20
160-26901-6	B3H878	Water	02/20/18 11:44	02/22/18 09:20
160-26901-7	B3H5C3	Water	02/20/18 11:09	02/22/18 09:20
160-26901-8	B3H534	Water	02/21/18 11:31	02/22/18 09:20
160-26901-9	B3H858	Water	02/21/18 11:43	02/22/18 09:20
160-26901-10	B3H859	Water	02/21/18 11:43	02/22/18 09:20
160-26901-11	B3HLB7	Water	02/21/18 09:16	02/22/18 09:20
160-26901-12	B3H2V5	Water	02/21/18 11:31	02/22/18 09:20
160-26901-13	B3H2V9	Water	02/21/18 10:55	02/22/18 09:20
160-26901-14	B3H2W0	Water	02/21/18 10:55	02/22/18 09:20
160-26982-1	B3H5M7	Water	02/26/18 12:05	02/27/18 09:35
160-26982-2	B3H5M4	Water	02/26/18 12:05	02/27/18 09:35
160-26982-3	B3H4D4	Water	02/26/18 10:55	02/27/18 09:35
160-26982-4	B3H4D7	Water	02/26/18 10:55	02/27/18 09:35
160-26982-5	B3H4W5	Water	02/22/18 11:13	02/27/18 09:35
160-26982-6	B3H4V8	Water	02/22/18 10:05	02/27/18 09:35

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

Client Sample ID: B3H679
Date Collected: 02/21/18 12:33
Date Received: 02/22/18 09:20

Lab Sample ID: 160-26901-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	1.2	U D	10	1.2	ug/L			02/28/18 19:43	10
1,1,1-Trichloroethane	1.7	U D	10	1.7	ug/L			02/28/18 19:43	10
1,1,2,2-Tetrachloroethane	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
1,1,2-Trichloroethane	1.3	U D	10	1.3	ug/L			02/28/18 19:43	10
1,1-Dichloroethane	0.70	U D	10	0.70	ug/L			02/28/18 19:43	10
1,1-Dichloroethene	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
1,2,3-Trichloropropane	1.8	U D	10	1.8	ug/L			02/28/18 19:43	10
1,2-Dibromo-3-Chloropropane	4.1	U o D	10	4.1	ug/L			02/28/18 19:43	10
1,2-Dibromoethane (EDB)	1.3	U D	10	1.3	ug/L			02/28/18 19:43	10
1,2-Dichloroethane	**7.6**	**J D**	10	2.2	ug/L			02/28/18 19:43	10
1,2-Dichloropropane	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
1,4-Dichlorobenzene	**3.3**	**J D**	10	1.0	ug/L			02/28/18 19:43	10
2-Butanone (MEK)	**43**	**J D**	50	4.7	ug/L			02/28/18 19:43	10
2-Hexanone	2.5	U o D y	50	2.5	ug/L			02/28/18 19:43	10
4-Methyl-2-pentanone (MIBK)	2.2	U D	50	2.2	ug/L			02/28/18 19:43	10
Acetone	**23**	**D**	20	5.5	ug/L			02/28/18 19:43	10
Acetonitrile	37	U D	100	37	ug/L			02/28/18 19:43	10
Acrolein	28	U D	100	28	ug/L			02/28/18 19:43	10
Acrylonitrile	7.3	U D	100	7.3	ug/L			02/28/18 19:43	10
Allyl chloride	1.0	U D	20	1.0	ug/L			02/28/18 19:43	10
Benzene	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
Bromodichloromethane	1.4	U D	10	1.4	ug/L			02/28/18 19:43	10
Bromoform	1.7	U D	10	1.7	ug/L			02/28/18 19:43	10
Bromomethane	2.5	U D	20	2.5	ug/L			02/28/18 19:43	10
Carbon disulfide	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
Carbon tetrachloride	**1400**	**D**	100	18	ug/L			02/28/18 14:13	100
Chlorobenzene	1.1	U D	10	1.1	ug/L			02/28/18 19:43	10
Chloroethane	1.6	U D	20	1.6	ug/L			02/28/18 19:43	10
Chloroform	**8.6**	**J D**	10	1.0	ug/L			02/28/18 19:43	10
Chloromethane	1.0	U D	20	1.0	ug/L			02/28/18 19:43	10
Chloroprene	1.6	U D	10	1.6	ug/L			02/28/18 19:43	10
cis-1,2-Dichloroethylene	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
cis-1,3-Dichloropropene	1.6	U D	10	1.6	ug/L			02/28/18 19:43	10
Dibromochloromethane	1.4	U D	10	1.4	ug/L			02/28/18 19:43	10
Dibromomethane	2.1	U D	10	2.1	ug/L			02/28/18 19:43	10
Dichlorodifluoromethane	1.4	U D	20	1.4	ug/L			02/28/18 19:43	10
Ethyl Cyanide	14	U D	100	14	ug/L			02/28/18 19:43	10
Ethyl methacrylate	1.7	U D	10	1.7	ug/L			02/28/18 19:43	10
Ethylbenzene	1.2	U D	10	1.2	ug/L			02/28/18 19:43	10
Iodomethane	1.0	U D	20	1.0	ug/L			02/28/18 19:43	10
Isobutyl alcohol	**91**	**J o D**	800	83	ug/L			02/28/18 19:43	10
Methacrylonitrile	12	U D	100	12	ug/L			02/28/18 19:43	10
Methyl methacrylate	2.7	U D	20	2.7	ug/L			02/28/18 19:43	10
Methylene Chloride	2.7	U D	10	2.7	ug/L			02/28/18 19:43	10
Styrene	1.3	U D	10	1.3	ug/L			02/28/18 19:43	10
Tetrachloroethene	1.8	U D	10	1.8	ug/L			02/28/18 19:43	10
Toluene	1.4	U D	10	1.4	ug/L			02/28/18 19:43	10
trans-1,2-Dichloroethylene	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10
trans-1,3-Dichloropropene	1.0	U D	10	1.0	ug/L			02/28/18 19:43	10

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

Client Sample ID: B3H679 **Lab Sample ID: 160-26901-1**
Date Collected: 02/21/18 12:33 **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	2.9	U D	20	2.9	ug/L			02/28/18 19:43	10
Trichloroethene	**5.4**	**J D**	10	2.5	ug/L			02/28/18 19:43	10
Trichloromonofluoromethane	1.1	U D	10	1.1	ug/L			02/28/18 19:43	10
Vinyl acetate	1.8	U D	20	1.8	ug/L			02/28/18 19:43	10
Vinyl chloride	1.9	U D	20	1.9	ug/L			02/28/18 19:43	10
Xylenes, Total	2.7	U D	30	2.7	ug/L			02/28/18 19:43	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*43*	*N*	*ug/L*		*3.28*			*02/28/18 19:43*	*10*
Trichloroacetyl chloride	*49*	*N J*	*ug/L*		*8.11*	*76-02-8*		*02/28/18 19:43*	*10*
Tentatively Identified Compound	*None*		*ug/L*					*02/28/18 14:13*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 129*		*02/28/18 14:13*	*100*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 129*		*02/28/18 19:43*	*10*
4-Bromofluorobenzene (Surr)	*100*		*81 - 130*		*02/28/18 14:13*	*100*
4-Bromofluorobenzene (Surr)	*94*		*81 - 130*		*02/28/18 19:43*	*10*
Dibromofluoromethane (Surr)	*99*		*81 - 124*		*02/28/18 14:13*	*100*
Dibromofluoromethane (Surr)	*107*		*81 - 124*		*02/28/18 19:43*	*10*
Toluene-d8 (Surr)	*102*		*87 - 128*		*02/28/18 14:13*	*100*
Toluene-d8 (Surr)	*102*		*87 - 128*		*02/28/18 19:43*	*10*

Client Sample ID: B3H4N3 **Lab Sample ID: 160-26901-2**
Date Collected: 02/21/18 10:55 **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.12	U	1.0	0.12	ug/L			02/28/18 14:39	1
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			02/28/18 14:39	1
1,1,2,2-Tetrachloroethane	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			02/28/18 14:39	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			02/28/18 14:39	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
1,2,3-Trichloropropane	0.18	U	1.0	0.18	ug/L			02/28/18 14:39	1
1,2-Dibromo-3-Chloropropane	0.41	U o	1.0	0.41	ug/L			02/28/18 14:39	1
1,2-Dibromoethane (EDB)	0.13	U	1.0	0.13	ug/L			02/28/18 14:39	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			02/28/18 14:39	1
1,2-Dichloropropane	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			02/28/18 14:39	1
2-Hexanone	0.25	U o y	5.0	0.25	ug/L			02/28/18 14:39	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			02/28/18 14:39	1
Acetone	**2.1**		2.0	0.55	ug/L			02/28/18 14:39	1
Acetonitrile	3.7	U	10	3.7	ug/L			02/28/18 14:39	1
Acrolein	2.8	U	10	2.8	ug/L			02/28/18 14:39	1
Acrylonitrile	0.73	U	10	0.73	ug/L			02/28/18 14:39	1
Allyl chloride	0.10	U	2.0	0.10	ug/L			02/28/18 14:39	1
Benzene	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 14:39	1
Bromoform	0.17	U	1.0	0.17	ug/L			02/28/18 14:39	1
Bromomethane	0.25	U	2.0	0.25	ug/L			02/28/18 14:39	1

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

Client Sample ID: B3H4N3
Date Collected: 02/21/18 10:55
Date Received: 02/22/18 09:20

Lab Sample ID: 160-26901-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
Carbon tetrachloride	**49**	**D**	5.0	0.91	ug/L			03/01/18 11:14	5
Chlorobenzene	0.11	U	1.0	0.11	ug/L			02/28/18 14:39	1
Chloroethane	0.16	U	2.0	0.16	ug/L			02/28/18 14:39	1
Chloroform	**1.2**		1.0	0.10	ug/L			02/28/18 14:39	1
Chloromethane	0.10	U	2.0	0.10	ug/L			02/28/18 14:39	1
Chloroprene	0.16	U	1.0	0.16	ug/L			02/28/18 14:39	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
cis-1,3-Dichloropropene	0.16	U	1.0	0.16	ug/L			02/28/18 14:39	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 14:39	1
Dibromomethane	0.21	U	1.0	0.21	ug/L			02/28/18 14:39	1
Dichlorodifluoromethane	0.14	U	2.0	0.14	ug/L			02/28/18 14:39	1
Ethyl Cyanide	1.4	U	10	1.4	ug/L			02/28/18 14:39	1
Ethyl methacrylate	0.17	U	1.0	0.17	ug/L			02/28/18 14:39	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			02/28/18 14:39	1
Iodomethane	0.10	U	2.0	0.10	ug/L			02/28/18 14:39	1
Isobutyl alcohol	8.3	U o	80	8.3	ug/L			02/28/18 14:39	1
Methacrylonitrile	1.2	U	10	1.2	ug/L			02/28/18 14:39	1
Methyl methacrylate	0.27	U	2.0	0.27	ug/L			02/28/18 14:39	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			02/28/18 14:39	1
Styrene	0.13	U	1.0	0.13	ug/L			02/28/18 14:39	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			02/28/18 14:39	1
Toluene	0.14	U	1.0	0.14	ug/L			02/28/18 14:39	1
trans-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
trans-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L			02/28/18 14:39	1
trans-1,4-Dichloro-2-butene	0.29	U	2.0	0.29	ug/L			02/28/18 14:39	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			02/28/18 14:39	1
Trichloromonofluoromethane	0.11	U	1.0	0.11	ug/L			02/28/18 14:39	1
Vinyl acetate	0.18	U	2.0	0.18	ug/L			02/28/18 14:39	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			02/28/18 14:39	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			02/28/18 14:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.1*	*N*	*ug/L*		*8.11*			*02/28/18 14:39*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*03/01/18 11:14*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 129*		*02/28/18 14:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 129*		*03/01/18 11:14*	*5*
4-Bromofluorobenzene (Surr)	*104*		*81 - 130*		*02/28/18 14:39*	*1*
4-Bromofluorobenzene (Surr)	*104*		*81 - 130*		*03/01/18 11:14*	*5*
Dibromofluoromethane (Surr)	*101*		*81 - 124*		*02/28/18 14:39*	*1*
Dibromofluoromethane (Surr)	*97*		*81 - 124*		*03/01/18 11:14*	*5*
Toluene-d8 (Surr)	*103*		*87 - 128*		*02/28/18 14:39*	*1*
Toluene-d8 (Surr)	*104*		*87 - 128*		*03/01/18 11:14*	*5*

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

Client Sample ID: B3H4N2
Date Collected: 02/21/18 10:55
Date Received: 02/22/18 09:20

Lab Sample ID: 160-26901-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.12	U	1.0	0.12	ug/L			02/28/18 15:04	1
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			02/28/18 15:04	1
1,1,2,2-Tetrachloroethane	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			02/28/18 15:04	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			02/28/18 15:04	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
1,2,3-Trichloropropane	0.18	U	1.0	0.18	ug/L			02/28/18 15:04	1
1,2-Dibromo-3-Chloropropane	0.41	U o	1.0	0.41	ug/L			02/28/18 15:04	1
1,2-Dibromoethane (EDB)	0.13	U	1.0	0.13	ug/L			02/28/18 15:04	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			02/28/18 15:04	1
1,2-Dichloropropane	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			02/28/18 15:04	1
2-Hexanone	0.25	U o y	5.0	0.25	ug/L			02/28/18 15:04	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			02/28/18 15:04	1
Acetone	0.55	U	2.0	0.55	ug/L			02/28/18 15:04	1
Acetonitrile	3.7	U	10	3.7	ug/L			02/28/18 15:04	1
Acrolein	2.8	U	10	2.8	ug/L			02/28/18 15:04	1
Acrylonitrile	0.73	U	10	0.73	ug/L			02/28/18 15:04	1
Allyl chloride	0.10	U	2.0	0.10	ug/L			02/28/18 15:04	1
Benzene	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 15:04	1
Bromoform	0.17	U	1.0	0.17	ug/L			02/28/18 15:04	1
Bromomethane	0.25	U	2.0	0.25	ug/L			02/28/18 15:04	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
Carbon tetrachloride	**50**	**D**	5.0	0.91	ug/L			03/01/18 11:40	5
Chlorobenzene	0.11	U	1.0	0.11	ug/L			02/28/18 15:04	1
Chloroethane	0.16	U	2.0	0.16	ug/L			02/28/18 15:04	1
Chloroform	**1.1**		1.0	0.10	ug/L			02/28/18 15:04	1
Chloromethane	0.10	U	2.0	0.10	ug/L			02/28/18 15:04	1
Chloroprene	0.16	U	1.0	0.16	ug/L			02/28/18 15:04	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
cis-1,3-Dichloropropene	0.16	U	1.0	0.16	ug/L			02/28/18 15:04	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 15:04	1
Dibromomethane	0.21	U	1.0	0.21	ug/L			02/28/18 15:04	1
Dichlorodifluoromethane	0.14	U	2.0	0.14	ug/L			02/28/18 15:04	1
Ethyl Cyanide	1.4	U	10	1.4	ug/L			02/28/18 15:04	1
Ethyl methacrylate	0.17	U	1.0	0.17	ug/L			02/28/18 15:04	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			02/28/18 15:04	1
Iodomethane	0.10	U	2.0	0.10	ug/L			02/28/18 15:04	1
Isobutyl alcohol	8.3	U o	80	8.3	ug/L			02/28/18 15:04	1
Methacrylonitrile	1.2	U	10	1.2	ug/L			02/28/18 15:04	1
Methyl methacrylate	0.27	U	2.0	0.27	ug/L			02/28/18 15:04	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			02/28/18 15:04	1
Styrene	0.13	U	1.0	0.13	ug/L			02/28/18 15:04	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			02/28/18 15:04	1
Toluene	0.14	U	1.0	0.14	ug/L			02/28/18 15:04	1
trans-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1
trans-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L			02/28/18 15:04	1

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

Client Sample ID: B3H4N2 **Lab Sample ID: 160-26901-3**
Date Collected: 02/21/18 10:55 **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	0.29	U	2.0	0.29	ug/L			02/28/18 15:04	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			02/28/18 15:04	1
Trichloromonofluoromethane	0.11	U	1.0	0.11	ug/L			02/28/18 15:04	1
Vinyl acetate	0.18	U	2.0	0.18	ug/L			02/28/18 15:04	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			02/28/18 15:04	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			02/28/18 15:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Trichloroacetyl chloride	*1.1*	*N J*	*ug/L*		*8.11*	*76-02-8*		*02/28/18 15:04*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*03/01/18 11:40*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 129*		*02/28/18 15:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 129*		*03/01/18 11:40*	*5*
4-Bromofluorobenzene (Surr)	*100*		*81 - 130*		*02/28/18 15:04*	*1*
4-Bromofluorobenzene (Surr)	*103*		*81 - 130*		*03/01/18 11:40*	*5*
Dibromofluoromethane (Surr)	*102*		*81 - 124*		*02/28/18 15:04*	*1*
Dibromofluoromethane (Surr)	*96*		*81 - 124*		*03/01/18 11:40*	*5*
Toluene-d8 (Surr)	*100*		*87 - 128*		*02/28/18 15:04*	*1*
Toluene-d8 (Surr)	*102*		*87 - 128*		*03/01/18 11:40*	*5*

Client Sample ID: B3H656 **Lab Sample ID: 160-26901-4**
Date Collected: 02/21/18 09:16 **Matrix: Water**
Date Received: 02/22/18 09:20

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			02/28/18 15:29	5
1,1,1-Trichloroethane	0.86	U D	5.0	0.86	ug/L			02/28/18 15:29	5
1,1,2,2-Tetrachloroethane	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
1,1,2-Trichloroethane	0.66	U D	5.0	0.66	ug/L			02/28/18 15:29	5
1,1-Dichloroethane	0.35	U D	5.0	0.35	ug/L			02/28/18 15:29	5
1,1-Dichloroethene	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
1,2,3-Trichloropropane	0.92	U D	5.0	0.92	ug/L			02/28/18 15:29	5
1,2-Dibromo-3-Chloropropane	2.1	U o D	5.0	2.1	ug/L			02/28/18 15:29	5
1,2-Dibromoethane (EDB)	0.65	U D	5.0	0.65	ug/L			02/28/18 15:29	5
1,2-Dichloroethane	1.1	U D	5.0	1.1	ug/L			02/28/18 15:29	5
1,2-Dichloropropane	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
1,4-Dichlorobenzene	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
2-Butanone (MEK)	2.3	U D	25	2.3	ug/L			02/28/18 15:29	5
2-Hexanone	1.2	U o D y	25	1.2	ug/L			02/28/18 15:29	5
4-Methyl-2-pentanone (MIBK)	1.1	U D	25	1.1	ug/L			02/28/18 15:29	5
Acetone	2.8	U D	10	2.8	ug/L			02/28/18 15:29	5
Acetonitrile	18	U D	50	18	ug/L			02/28/18 15:29	5
Acrolein	14	U D	50	14	ug/L			02/28/18 15:29	5
Acrylonitrile	3.7	U D	50	3.7	ug/L			02/28/18 15:29	5
Allyl chloride	0.50	U D	10	0.50	ug/L			02/28/18 15:29	5
Benzene	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
Bromodichloromethane	0.69	U D	5.0	0.69	ug/L			02/28/18 15:29	5
Bromoform	0.85	U D	5.0	0.85	ug/L			02/28/18 15:29	5
Bromomethane	1.3	U D	10	1.3	ug/L			02/28/18 15:29	5
Carbon disulfide	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5

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

Client Sample ID: B3H656 — **Lab Sample ID: 160-26901-4**
Date Collected: 02/21/18 09:16 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	**770**	**D**	50	9.1	ug/L			02/28/18 20:08	50
Chlorobenzene	0.55	U D	5.0	0.55	ug/L			02/28/18 15:29	5
Chloroethane	0.82	U D	10	0.82	ug/L			02/28/18 15:29	5
Chloroform	**9.3**	**D**	5.0	0.50	ug/L			02/28/18 15:29	5
Chloromethane	0.51	U D	10	0.51	ug/L			02/28/18 15:29	5
Chloroprene	0.80	U D	5.0	0.80	ug/L			02/28/18 15:29	5
cis-1,2-Dichloroethylene	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
cis-1,3-Dichloropropene	0.79	U D	5.0	0.79	ug/L			02/28/18 15:29	5
Dibromochloromethane	0.72	U D	5.0	0.72	ug/L			02/28/18 15:29	5
Dibromomethane	1.1	U D	5.0	1.1	ug/L			02/28/18 15:29	5
Dichlorodifluoromethane	0.69	U D	10	0.69	ug/L			02/28/18 15:29	5
Ethyl Cyanide	6.8	U D	50	6.8	ug/L			02/28/18 15:29	5
Ethyl methacrylate	0.87	U D	5.0	0.87	ug/L			02/28/18 15:29	5
Ethylbenzene	0.61	U D	5.0	0.61	ug/L			02/28/18 15:29	5
Iodomethane	0.50	U D	10	0.50	ug/L			02/28/18 15:29	5
Isobutyl alcohol	41	U o D	400	41	ug/L			02/28/18 15:29	5
Methacrylonitrile	6.2	U D	50	6.2	ug/L			02/28/18 15:29	5
Methyl methacrylate	1.3	U D	10	1.3	ug/L			02/28/18 15:29	5
Methylene Chloride	1.4	U D	5.0	1.4	ug/L			02/28/18 15:29	5
Styrene	0.67	U D	5.0	0.67	ug/L			02/28/18 15:29	5
Tetrachloroethene	0.90	U D	5.0	0.90	ug/L			02/28/18 15:29	5
Toluene	0.70	U D	5.0	0.70	ug/L			02/28/18 15:29	5
trans-1,2-Dichloroethylene	0.52	U D	5.0	0.52	ug/L			02/28/18 15:29	5
trans-1,3-Dichloropropene	0.50	U D	5.0	0.50	ug/L			02/28/18 15:29	5
trans-1,4-Dichloro-2-butene	1.5	U D	10	1.5	ug/L			02/28/18 15:29	5
Trichloroethene	**4.4**	**J D**	5.0	1.3	ug/L			02/28/18 15:29	5
Trichloromonofluoromethane	0.55	U D	5.0	0.55	ug/L			02/28/18 15:29	5
Vinyl acetate	0.90	U D	10	0.90	ug/L			02/28/18 15:29	5
Vinyl chloride	0.97	U D	10	0.97	ug/L			02/28/18 15:29	5
Xylenes, Total	1.4	U D	15	1.4	ug/L			02/28/18 15:29	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Trichloroacetyl chloride	*19*	*N J*	*ug/L*		*8.11*	*76-02-8*		*02/28/18 15:29*	*5*
Tentatively Identified Compound	*None*		*ug/L*					*02/28/18 20:08*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 129*		*02/28/18 15:29*	*5*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 129*		*02/28/18 20:08*	*50*
4-Bromofluorobenzene (Surr)	*103*		*81 - 130*		*02/28/18 15:29*	*5*
4-Bromofluorobenzene (Surr)	*103*		*81 - 130*		*02/28/18 20:08*	*50*
Dibromofluoromethane (Surr)	*105*		*81 - 124*		*02/28/18 15:29*	*5*
Dibromofluoromethane (Surr)	*101*		*81 - 124*		*02/28/18 20:08*	*50*
Toluene-d8 (Surr)	*100*		*87 - 128*		*02/28/18 15:29*	*5*
Toluene-d8 (Surr)	*100*		*87 - 128*		*02/28/18 20:08*	*50*

Client Sample ID: B3H534 — **Lab Sample ID: 160-26901-8**
Date Collected: 02/21/18 11:31 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.12	U	1.0	0.12	ug/L			02/28/18 20:34	1

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

Client Sample ID: B3H534
Date Collected: 02/21/18 11:31
Date Received: 02/22/18 09:20

Lab Sample ID: 160-26901-8
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			02/28/18 20:34	1
1,1,2,2-Tetrachloroethane	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			02/28/18 20:34	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			02/28/18 20:34	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
1,2,3-Trichloropropane	0.18	U	1.0	0.18	ug/L			02/28/18 20:34	1
1,2-Dibromo-3-Chloropropane	0.41	U o	1.0	0.41	ug/L			02/28/18 20:34	1
1,2-Dibromoethane (EDB)	0.13	U	1.0	0.13	ug/L			02/28/18 20:34	1
1,2-Dichloroethane	**0.70**	**J**	1.0	0.22	ug/L			02/28/18 20:34	1
1,2-Dichloropropane	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
2-Butanone (MEK)	**0.48**	**J**	5.0	0.47	ug/L			02/28/18 20:34	1
2-Hexanone	0.25	U o y	5.0	0.25	ug/L			02/28/18 20:34	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			02/28/18 20:34	1
Acetone	**1.9**	**J**	2.0	0.55	ug/L			02/28/18 20:34	1
Acetonitrile	3.7	U	10	3.7	ug/L			02/28/18 20:34	1
Acrolein	2.8	U	10	2.8	ug/L			02/28/18 20:34	1
Acrylonitrile	0.73	U	10	0.73	ug/L			02/28/18 20:34	1
Allyl chloride	0.10	U	2.0	0.10	ug/L			02/28/18 20:34	1
Benzene	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 20:34	1
Bromoform	0.17	U	1.0	0.17	ug/L			02/28/18 20:34	1
Bromomethane	0.25	U	2.0	0.25	ug/L			02/28/18 20:34	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
Carbon tetrachloride	**74**	**D**	5.0	0.91	ug/L			02/28/18 15:55	5
Chlorobenzene	0.11	U	1.0	0.11	ug/L			02/28/18 20:34	1
Chloroethane	0.16	U	2.0	0.16	ug/L			02/28/18 20:34	1
Chloroform	**2.1**		1.0	0.10	ug/L			02/28/18 20:34	1
Chloromethane	0.10	U	2.0	0.10	ug/L			02/28/18 20:34	1
Chloroprene	0.16	U	1.0	0.16	ug/L			02/28/18 20:34	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
cis-1,3-Dichloropropene	0.16	U	1.0	0.16	ug/L			02/28/18 20:34	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 20:34	1
Dibromomethane	0.21	U	1.0	0.21	ug/L			02/28/18 20:34	1
Dichlorodifluoromethane	0.14	U	2.0	0.14	ug/L			02/28/18 20:34	1
Ethyl Cyanide	1.4	U	10	1.4	ug/L			02/28/18 20:34	1
Ethyl methacrylate	0.17	U	1.0	0.17	ug/L			02/28/18 20:34	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			02/28/18 20:34	1
Iodomethane	0.10	U	2.0	0.10	ug/L			02/28/18 20:34	1
Isobutyl alcohol	8.3	U o	80	8.3	ug/L			02/28/18 20:34	1
Methacrylonitrile	1.2	U	10	1.2	ug/L			02/28/18 20:34	1
Methyl methacrylate	0.27	U	2.0	0.27	ug/L			02/28/18 20:34	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			02/28/18 20:34	1
Styrene	0.13	U	1.0	0.13	ug/L			02/28/18 20:34	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			02/28/18 20:34	1
Toluene	0.14	U	1.0	0.14	ug/L			02/28/18 20:34	1
trans-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
trans-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L			02/28/18 20:34	1
trans-1,4-Dichloro-2-butene	0.29	U	2.0	0.29	ug/L			02/28/18 20:34	1

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

Client Sample ID: B3H534 — **Lab Sample ID: 160-26901-8**
Date Collected: 02/21/18 11:31 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**2.2**		1.0	0.25	ug/L			02/28/18 20:34	1
Trichloromonofluoromethane	0.11	U	1.0	0.11	ug/L			02/28/18 20:34	1
Vinyl acetate	0.18	U	2.0	0.18	ug/L			02/28/18 20:34	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			02/28/18 20:34	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			02/28/18 20:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.9*	*N*	*ug/L*		*8.11*			*02/28/18 20:34*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*02/28/18 15:55*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 129*		*02/28/18 15:55*	*5*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 129*		*02/28/18 20:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*81 - 130*		*02/28/18 15:55*	*5*
4-Bromofluorobenzene (Surr)	*100*		*81 - 130*		*02/28/18 20:34*	*1*
Dibromofluoromethane (Surr)	*99*		*81 - 124*		*02/28/18 15:55*	*5*
Dibromofluoromethane (Surr)	*102*		*81 - 124*		*02/28/18 20:34*	*1*
Toluene-d8 (Surr)	*100*		*87 - 128*		*02/28/18 15:55*	*5*
Toluene-d8 (Surr)	*99*		*87 - 128*		*02/28/18 20:34*	*1*

Client Sample ID: B3HLB7 — **Lab Sample ID: 160-26901-11**
Date Collected: 02/21/18 09:16 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			02/28/18 12:31	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			02/28/18 12:31	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			02/28/18 12:31	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			02/28/18 12:31	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			02/28/18 12:31	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			02/28/18 12:31	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			02/28/18 12:31	1
Acetone	0.55	U	2.0	0.55	ug/L			02/28/18 12:31	1
Benzene	0.10	U	1.0	0.10	ug/L			02/28/18 12:31	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			02/28/18 12:31	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			02/28/18 12:31	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			02/28/18 12:31	1
Chloroform	0.10	U	1.0	0.10	ug/L			02/28/18 12:31	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			02/28/18 12:31	1
Methylene Chloride	**27**		1.0	0.27	ug/L			02/28/18 12:31	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			02/28/18 12:31	1
Toluene	0.14	U	1.0	0.14	ug/L			02/28/18 12:31	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			02/28/18 12:31	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			02/28/18 12:31	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			02/28/18 12:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*19*	*T*	*ug/L*		*6.01*	*67-63-0*		*02/28/18 12:31*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*02/28/18 12:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 129*		*02/28/18 12:31*	*1*

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

Client Sample ID: B3HLB7 — **Lab Sample ID: 160-26901-11**
Date Collected: 02/21/18 09:16 — **Matrix: Water**
Date Received: 02/22/18 09:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		81 - 130		02/28/18 12:31	1
Dibromofluoromethane (Surr)	96		81 - 124		02/28/18 12:31	1
Toluene-d8 (Surr)	103		87 - 128		02/28/18 12:31	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B3H6K1 — **Lab Sample ID: 160-26901-5**
Date Collected: 02/20/18 09:59 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	21.4	D	1.0	0.40	ug/L		02/23/18 12:43	02/28/18 01:48	2

Client Sample ID: B3H2V5 — **Lab Sample ID: 160-26901-12**
Date Collected: 02/21/18 11:31 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	1.7	D	1.0	0.40	ug/L		02/23/18 12:43	02/28/18 02:19	2

Client Sample ID: B3H2V9 — **Lab Sample ID: 160-26901-13**
Date Collected: 02/21/18 10:55 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	31.8	D	1.0	0.40	ug/L		02/23/18 12:43	02/28/18 02:23	2

Client Sample ID: B3H2W0 — **Lab Sample ID: 160-26901-14**
Date Collected: 02/21/18 10:55 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	30.6	D	1.0	0.40	ug/L		02/23/18 12:43	02/28/18 02:28	2

Client Sample ID: B3H5M4 — **Lab Sample ID: 160-26982-2**
Date Collected: 02/26/18 12:05 — **Matrix: Water**
Date Received: 02/27/18 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		02/28/18 13:29	03/16/18 20:07	2

Client Sample ID: B3H4D4 — **Lab Sample ID: 160-26982-3**
Date Collected: 02/26/18 10:55 — **Matrix: Water**
Date Received: 02/27/18 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	14.2	D	10.0	4.0	ug/L		02/28/18 13:29	03/16/18 20:13	2

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

Client Sample ID: B3H5M7 — **Lab Sample ID: 160-26982-1**
Date Collected: 02/26/18 12:05 — **Matrix: Water**
Date Received: 02/27/18 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		02/28/18 13:29	03/16/18 20:00	2

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

Client Sample ID: B3H4D7 — **Lab Sample ID: 160-26982-4**
Date Collected: 02/26/18 10:55 — **Matrix: Water**
Date Received: 02/27/18 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	13.9	D	10.0	4.0	ug/L		02/28/18 13:29	03/16/18 20:20	2

General Chemistry

Client Sample ID: B3H4W5 — **Lab Sample ID: 160-26982-5**
Date Collected: 02/22/18 11:13 — **Matrix: Water**
Date Received: 02/27/18 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	122		5.0	0.54	mg/L			03/06/18 22:46	1

Client Sample ID: B3H4V8 — **Lab Sample ID: 160-26982-6**
Date Collected: 02/22/18 10:05 — **Matrix: Water**
Date Received: 02/27/18 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	142		5.0	0.54	mg/L			03/06/18 23:37	1

Method: 906.0 - Tritium, Total (LSC)

Client Sample ID: B3H878 — **Lab Sample ID: 160-26901-6**
Date Collected: 02/20/18 11:44 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	2180		332	384	500	331	pCi/L	03/14/18 11:10	03/14/18 21:20	1

Client Sample ID: B3H858 — **Lab Sample ID: 160-26901-9**
Date Collected: 02/21/18 11:43 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	1470		292	320	500	330	pCi/L	03/14/18 11:10	03/14/18 22:05	1

Client Sample ID: B3H859 — **Lab Sample ID: 160-26901-10**
Date Collected: 02/21/18 11:43 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	1480		295	322	500	332	pCi/L	03/14/18 11:10	03/14/18 22:28	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Client Sample ID: B3H5C3 — **Lab Sample ID: 160-26901-7**
Date Collected: 02/20/18 11:09 — **Matrix: Water**
Date Received: 02/22/18 09:20

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	3.52		1.68	1.73	3.00	2.02	pCi/L	03/06/18 17:29	03/08/18 15:45	1

Method: 9310 - Gross Alpha / Beta (GFPC) (Continued)

Client Sample ID: B3H5C3
Date Collected: 02/20/18 11:09
Date Received: 02/22/18 09:20

Lab Sample ID: 160-26901-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Beta	19.1	B	1.57	2.48	4.00	1.06	pCi/L	03/06/18 17:29	03/08/18 15:45	1

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

Lab Sample ID: MB 160-353370/8
Matrix: Water
Analysis Batch: 353370

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			02/28/18 11:15	1
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			02/28/18 11:15	1
1,1,2,2-Tetrachloroethane	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			02/28/18 11:15	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			02/28/18 11:15	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
1,2,3-Trichloropropane	0.18	U	1.0	0.18	ug/L			02/28/18 11:15	1
1,2-Dibromo-3-Chloropropane	0.41	U	1.0	0.41	ug/L			02/28/18 11:15	1
1,2-Dibromoethane (EDB)	0.13	U	1.0	0.13	ug/L			02/28/18 11:15	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			02/28/18 11:15	1
1,2-Dichloropropane	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			02/28/18 11:15	1
2-Hexanone	0.25	U	5.0	0.25	ug/L			02/28/18 11:15	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			02/28/18 11:15	1
Acetone	0.55	U	2.0	0.55	ug/L			02/28/18 11:15	1
Acetonitrile	3.7	U	10	3.7	ug/L			02/28/18 11:15	1
Acrolein	2.8	U	10	2.8	ug/L			02/28/18 11:15	1
Acrylonitrile	0.73	U	10	0.73	ug/L			02/28/18 11:15	1
Allyl chloride	0.10	U	2.0	0.10	ug/L			02/28/18 11:15	1
Benzene	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 11:15	1
Bromoform	0.17	U	1.0	0.17	ug/L			02/28/18 11:15	1
Bromomethane	0.25	U	2.0	0.25	ug/L			02/28/18 11:15	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			02/28/18 11:15	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			02/28/18 11:15	1
Chloroethane	0.16	U	2.0	0.16	ug/L			02/28/18 11:15	1
Chloroform	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
Chloromethane	0.10	U	2.0	0.10	ug/L			02/28/18 11:15	1
Chloroprene	0.16	U	1.0	0.16	ug/L			02/28/18 11:15	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
cis-1,3-Dichloropropene	0.16	U	1.0	0.16	ug/L			02/28/18 11:15	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			02/28/18 11:15	1
Dibromomethane	0.21	U	1.0	0.21	ug/L			02/28/18 11:15	1
Dichlorodifluoromethane	0.14	U	2.0	0.14	ug/L			02/28/18 11:15	1
Ethyl Cyanide	1.4	U	10	1.4	ug/L			02/28/18 11:15	1
Ethyl methacrylate	0.17	U	1.0	0.17	ug/L			02/28/18 11:15	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			02/28/18 11:15	1
Iodomethane	0.10	U	2.0	0.10	ug/L			02/28/18 11:15	1
Isobutyl alcohol	8.3	U	80	8.3	ug/L			02/28/18 11:15	1
Methacrylonitrile	1.2	U	10	1.2	ug/L			02/28/18 11:15	1
Methyl methacrylate	0.27	U	2.0	0.27	ug/L			02/28/18 11:15	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			02/28/18 11:15	1
Styrene	0.13	U	1.0	0.13	ug/L			02/28/18 11:15	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			02/28/18 11:15	1
Toluene	0.14	U	1.0	0.14	ug/L			02/28/18 11:15	1
trans-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1

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

Lab Sample ID: MB 160-353370/8 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353370

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L			02/28/18 11:15	1
trans-1,4-Dichloro-2-butene	0.29	U	2.0	0.29	ug/L			02/28/18 11:15	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			02/28/18 11:15	1
Trichloromonofluoromethane	0.11	U	1.0	0.11	ug/L			02/28/18 11:15	1
Vinyl acetate	0.18	U	2.0	0.18	ug/L			02/28/18 11:15	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			02/28/18 11:15	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			02/28/18 11:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*02/28/18 11:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 129*		*02/28/18 11:15*	*1*
4-Bromofluorobenzene (Surr)	*100*		*81 - 130*		*02/28/18 11:15*	*1*
Dibromofluoromethane (Surr)	*96*		*81 - 124*		*02/28/18 11:15*	*1*
Toluene-d8 (Surr)	*102*		*87 - 128*		*02/28/18 11:15*	*1*

Lab Sample ID: LCS 160-353370/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353370

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	10.0	11.4		ug/L		114	80 - 120
1,1,1-Trichloroethane	10.0	9.99		ug/L		100	85 - 116
1,1,2,2-Tetrachloroethane	10.0	9.65		ug/L		96	80 - 120
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	80 - 120
1,1-Dichloroethane	10.0	10.2		ug/L		102	80 - 120
1,1-Dichloroethene	10.0	9.87		ug/L		99	80 - 120
1,2,3-Trichloropropane	10.0	9.95		ug/L		100	77 - 117
1,2-Dibromo-3-Chloropropane	10.0	11.5		ug/L		115	73 - 123
1,2-Dibromoethane (EDB)	10.0	10.5		ug/L		105	80 - 120
1,2-Dichloroethane	10.0	10.4		ug/L		104	80 - 115
1,2-Dichloropropane	10.0	10.3		ug/L		103	80 - 120
1,4-Dichlorobenzene	10.0	9.97		ug/L		100	80 - 120
2-Butanone (MEK)	10.0	10.5		ug/L		105	67 - 127
2-Hexanone	10.0	10.1		ug/L		101	70 - 123
4-Methyl-2-pentanone (MIBK)	10.0	10.4		ug/L		104	75 - 126
Acetone	10.0	10.5		ug/L		105	69 - 129
Acetonitrile	100	101		ug/L		101	67 - 122
Acrolein	50.0	50.2		ug/L		100	58 - 140
Acrylonitrile	100	105		ug/L		105	80 - 122
Allyl chloride	10.0	10.8		ug/L		108	25 - 140
Benzene	10.0	9.98		ug/L		100	80 - 120
Bromodichloromethane	10.0	10.8		ug/L		108	80 - 120
Bromoform	10.0	11.1		ug/L		111	80 - 120
Bromomethane	10.0	9.15		ug/L		91	70 - 124
Carbon disulfide	10.0	9.67		ug/L		97	80 - 121

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

Lab Sample ID: LCS 160-353370/5
Matrix: Water
Analysis Batch: 353370

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	10.0	11.3		ug/L		113	83 - 125
Chlorobenzene	10.0	10.4		ug/L		104	80 - 120
Chloroethane	10.0	9.63		ug/L		96	73 - 119
Chloroform	10.0	10.2		ug/L		102	80 - 120
Chloromethane	10.0	9.45		ug/L		94	72 - 124
Chloroprene	10.0	10.4		ug/L		104	79 - 132
cis-1,2-Dichloroethylene	10.0	10.1		ug/L		101	80 - 120
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	80 - 120
Dibromochloromethane	10.0	12.0		ug/L		120	80 - 120
Dibromomethane	10.0	10.0		ug/L		100	80 - 120
Dichlorodifluoromethane	10.0	7.78		ug/L		78	24 - 140
Ethyl Cyanide	100	106		ug/L		106	77 - 121
Ethyl methacrylate	10.0	10.7		ug/L		107	69 - 123
Ethylbenzene	10.0	10.4		ug/L		104	80 - 120
Iodomethane	10.0	9.95		ug/L		100	69 - 129
Isobutyl alcohol	250	292		ug/L		117	64 - 124
Methacrylonitrile	100	112		ug/L		112	79 - 126
Methyl methacrylate	20.0	20.8		ug/L		104	70 - 123
Methylene Chloride	10.0	9.84		ug/L		98	80 - 120
Styrene	10.0	11.2		ug/L		112	81 - 133
Tetrachloroethene	10.0	11.0		ug/L		110	83 - 123
Toluene	10.0	10.1		ug/L		101	80 - 120
trans-1,2-Dichloroethylene	10.0	9.74		ug/L		97	80 - 120
trans-1,3-Dichloropropene	10.0	10.8		ug/L		108	82 - 124
trans-1,4-Dichloro-2-butene	10.0	9.81		ug/L		98	64 - 137
Trichloroethene	10.0	9.68		ug/L		97	80 - 120
Trichloromonofluoromethane	10.0	9.23		ug/L		92	71 - 132
Vinyl acetate	10.0	12.7		ug/L		127	63 - 140
Vinyl chloride	10.0	9.35		ug/L		94	77 - 122
Xylenes, Total	20.0	21.5		ug/L		108	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 129*
4-Bromofluorobenzene (Surr)	*87*		*81 - 130*
Dibromofluoromethane (Surr)	*104*		*81 - 124*
Toluene-d8 (Surr)	*100*		*87 - 128*

Lab Sample ID: LCSD 160-353370/6
Matrix: Water
Analysis Batch: 353370

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	11.3		ug/L		113	80 - 120	0	20
1,1,1-Trichloroethane	10.0	9.67		ug/L		97	85 - 116	3	20
1,1,2,2-Tetrachloroethane	10.0	9.90		ug/L		99	80 - 120	3	20
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	80 - 120	0	20
1,1-Dichloroethane	10.0	9.96		ug/L		100	80 - 120	3	20
1,1-Dichloroethene	10.0	9.55		ug/L		95	80 - 120	3	20

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

Lab Sample ID: LCSD 160-353370/6
Matrix: Water
Analysis Batch: 353370

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
1,2,3-Trichloropropane	10.0	10.0		ug/L		100	77 - 117	1	20
1,2-Dibromo-3-Chloropropane	10.0	12.4	o	ug/L		124	73 - 123	7	20
1,2-Dibromoethane (EDB)	10.0	10.7		ug/L		107	80 - 120	2	20
1,2-Dichloroethane	10.0	10.5		ug/L		105	80 - 115	1	20
1,2-Dichloropropane	10.0	10.2		ug/L		102	80 - 120	1	20
1,4-Dichlorobenzene	10.0	10.2		ug/L		102	80 - 120	2	20
2-Butanone (MEK)	10.0	11.1		ug/L		111	67 - 127	6	20
2-Hexanone	10.0	12.5	o y	ug/L		125	70 - 123	22	20
4-Methyl-2-pentanone (MIBK)	10.0	11.7		ug/L		117	75 - 126	11	20
Acetone	10.0	12.1		ug/L		121	69 - 129	14	20
Acetonitrile	100	101		ug/L		101	67 - 122	0	20
Acrolein	50.0	51.4		ug/L		103	58 - 140	2	20
Acrylonitrile	100	111		ug/L		111	80 - 122	6	20
Allyl chloride	10.0	10.2		ug/L		102	25 - 140	5	20
Benzene	10.0	9.72		ug/L		97	80 - 120	3	20
Bromodichloromethane	10.0	10.8		ug/L		108	80 - 120	1	20
Bromoform	10.0	11.5		ug/L		115	80 - 120	3	20
Bromomethane	10.0	8.74		ug/L		87	70 - 124	5	20
Carbon disulfide	10.0	9.40		ug/L		94	80 - 121	3	20
Carbon tetrachloride	10.0	10.8		ug/L		108	83 - 125	4	20
Chlorobenzene	10.0	10.2		ug/L		102	80 - 120	2	20
Chloroethane	10.0	9.48		ug/L		95	73 - 119	2	20
Chloroform	10.0	9.97		ug/L		100	80 - 120	2	20
Chloromethane	10.0	9.13		ug/L		91	72 - 124	3	20
Chloroprene	10.0	10.1		ug/L		101	79 - 132	3	20
cis-1,2-Dichloroethylene	10.0	9.86		ug/L		99	80 - 120	3	20
cis-1,3-Dichloropropene	10.0	10.9		ug/L		109	80 - 120	0	20
Dibromochloromethane	10.0	12.0		ug/L		120	80 - 120	0	20
Dibromomethane	10.0	10.2		ug/L		102	80 - 120	2	20
Dichlorodifluoromethane	10.0	7.56		ug/L		76	24 - 140	3	20
Ethyl Cyanide	100	113		ug/L		113	77 - 121	6	20
Ethyl methacrylate	10.0	11.7		ug/L		117	69 - 123	9	20
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120	2	20
Iodomethane	10.0	9.89		ug/L		99	69 - 129	1	20
Isobutyl alcohol	250	330	o	ug/L		132	64 - 124	12	20
Methacrylonitrile	100	116		ug/L		116	79 - 126	4	20
Methyl methacrylate	20.0	22.6		ug/L		113	70 - 123	8	20
Methylene Chloride	10.0	9.64		ug/L		96	80 - 120	2	20
Styrene	10.0	11.3		ug/L		113	81 - 133	0	20
Tetrachloroethene	10.0	10.6		ug/L		106	83 - 123	3	20
Toluene	10.0	9.84		ug/L		98	80 - 120	3	20
trans-1,2-Dichloroethylene	10.0	9.59		ug/L		96	80 - 120	2	20
trans-1,3-Dichloropropene	10.0	10.9		ug/L		109	82 - 124	1	20
trans-1,4-Dichloro-2-butene	10.0	10.5		ug/L		105	64 - 137	7	20
Trichloroethene	10.0	9.59		ug/L		96	80 - 120	1	20
Trichloromonofluoromethane	10.0	8.93		ug/L		89	71 - 132	3	20
Vinyl acetate	10.0	13.1		ug/L		131	63 - 140	3	20
Vinyl chloride	10.0	9.13		ug/L		91	77 - 122	2	20

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

Lab Sample ID: LCSD 160-353370/6
Matrix: Water
Analysis Batch: 353370

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
Xylenes, Total			20.0	21.3		ug/L		107	80 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 129*
4-Bromofluorobenzene (Surr)	*86*		*81 - 130*
Dibromofluoromethane (Surr)	*103*		*81 - 124*
Toluene-d8 (Surr)	*97*		*87 - 128*

Lab Sample ID: 160-26901-11 MS
Matrix: Water
Analysis Batch: 353370

Client Sample ID: B3HLB7
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	10.6		ug/L		106	80 - 120
1,1,1-Trichloroethane	0.17	U	10.0	9.51		ug/L		95	82 - 124
1,1,2,2-Tetrachloroethane	0.10	U	10.0	8.16		ug/L		82	75 - 121
1,1,2-Trichloroethane	0.13	U	10.0	8.99		ug/L		90	80 - 120
1,1-Dichloroethane	0.070	U	10.0	9.73		ug/L		97	80 - 122
1,1-Dichloroethene	0.10	U	10.0	9.57		ug/L		96	80 - 120
1,2,3-Trichloropropane	0.18	U	10.0	8.28		ug/L		83	71 - 119
1,2-Dibromo-3-Chloropropane	0.41	U o	10.0	9.18		ug/L		92	64 - 130
1,2-Dibromoethane (EDB)	0.13	U	10.0	9.10		ug/L		91	82 - 122
1,2-Dichloroethane	0.22	U	10.0	9.44		ug/L		94	80 - 120
1,2-Dichloropropane	0.10	U	10.0	9.78		ug/L		98	80 - 120
1,4-Dichlorobenzene	0.10	U	10.0	9.70		ug/L		97	80 - 120
2-Butanone (MEK)	0.47	U	10.0	8.96		ug/L		90	53 - 145
2-Hexanone	0.25	U o y	10.0	9.40		ug/L		94	59 - 132
4-Methyl-2-pentanone (MIBK)	0.22	U	10.0	8.36		ug/L		84	70 - 131
Acetone	0.55	U	10.0	9.57		ug/L		96	50 - 137
Acetonitrile	3.7	U	100	88.0		ug/L		88	67 - 138
Acrolein	2.8	U	50.0	46.9		ug/L		94	52 - 150
Acrylonitrile	0.73	U	100	92.6		ug/L		93	73 - 137
Allyl chloride	0.10	U	10.0	10.2		ug/L		102	49 - 150
Benzene	0.10	U	10.0	9.66		ug/L		97	80 - 120
Bromodichloromethane	0.14	U	10.0	9.97		ug/L		100	80 - 120
Bromoform	0.17	U	10.0	8.96		ug/L		90	81 - 121
Bromomethane	0.25	U	10.0	8.33		ug/L		83	55 - 137
Carbon disulfide	0.10	U	10.0	9.26		ug/L		93	80 - 121
Carbon tetrachloride	0.18	U	10.0	10.6		ug/L		106	77 - 131
Chlorobenzene	0.11	U	10.0	9.98		ug/L		100	80 - 120
Chloroethane	0.16	U	10.0	8.94		ug/L		89	71 - 126
Chloroform	0.10	U	10.0	9.62		ug/L		96	80 - 120
Chloromethane	0.10	U	10.0	9.15		ug/L		91	62 - 132
Chloroprene	0.16	U	10.0	10.1		ug/L		101	74 - 137
cis-1,2-Dichloroethylene	0.10	U	10.0	9.55		ug/L		96	80 - 120
cis-1,3-Dichloropropene	0.16	U	10.0	9.75		ug/L		97	83 - 127
Dibromochloromethane	0.14	U	10.0	10.5		ug/L		105	84 - 123
Dibromomethane	0.21	U	10.0	9.14		ug/L		91	78 - 122

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

Lab Sample ID: 160-26901-11 MS **Client Sample ID: B3HLB7**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 353370

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	0.14	U	10.0	7.71		ug/L		77	67 - 135
Ethyl Cyanide	1.4	U	100	94.2		ug/L		94	67 - 141
Ethyl methacrylate	0.17	U	10.0	9.11		ug/L		91	69 - 123
Ethylbenzene	0.12	U	10.0	10.2		ug/L		102	84 - 125
Iodomethane	0.10	U	10.0	9.09		ug/L		91	53 - 141
Isobutyl alcohol	8.3	U o	250	244		ug/L		98	59 - 138
Methacrylonitrile	1.2	U	100	100		ug/L		100	70 - 142
Methyl methacrylate	0.27	U	20.0	18.0		ug/L		90	66 - 131
Methylene Chloride	27		10.0	36.0		ug/L		87	80 - 120
Styrene	0.13	U	10.0	10.9		ug/L		109	77 - 139
Tetrachloroethene	0.18	U	10.0	10.6		ug/L		106	80 - 126
Toluene	0.14	U	10.0	9.67		ug/L		97	85 - 123
trans-1,2-Dichloroethylene	0.10	U	10.0	9.46		ug/L		95	80 - 120
trans-1,3-Dichloropropene	0.10	U	10.0	9.50		ug/L		95	83 - 125
trans-1,4-Dichloro-2-butene	0.29	U	10.0	7.94		ug/L		79	56 - 139
Trichloroethene	0.25	U	10.0	9.52		ug/L		95	81 - 125
Trichloromonofluoromethane	0.11	U	10.0	8.56		ug/L		86	69 - 133
Vinyl acetate	0.18	U	10.0	11.6		ug/L		116	58 - 150
Vinyl chloride	0.19	U	10.0	8.84		ug/L		88	70 - 129
Xylenes, Total	0.27	U	20.0	21.0		ug/L		105	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 129*
4-Bromofluorobenzene (Surr)	*86*		*81 - 130*
Dibromofluoromethane (Surr)	*102*		*81 - 124*
Toluene-d8 (Surr)	*96*		*87 - 128*

Lab Sample ID: 160-26901-11 MSD **Client Sample ID: B3HLB7**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 353370

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	10.8		ug/L		108	80 - 120	2	20
1,1,1-Trichloroethane	0.17	U	10.0	9.96		ug/L		100	82 - 124	5	20
1,1,2,2-Tetrachloroethane	0.10	U	10.0	8.48		ug/L		85	75 - 121	4	20
1,1,2-Trichloroethane	0.13	U	10.0	9.38		ug/L		94	80 - 120	4	20
1,1-Dichloroethane	0.070	U	10.0	9.95		ug/L		99	80 - 122	2	20
1,1-Dichloroethene	0.10	U	10.0	9.73		ug/L		97	80 - 120	2	20
1,2,3-Trichloropropane	0.18	U	10.0	9.19		ug/L		92	71 - 119	10	20
1,2-Dibromo-3-Chloropropane	0.41	U o	10.0	9.81		ug/L		98	64 - 130	7	20
1,2-Dibromoethane (EDB)	0.13	U	10.0	9.89		ug/L		99	82 - 122	8	20
1,2-Dichloroethane	0.22	U	10.0	9.67		ug/L		97	80 - 120	2	20
1,2-Dichloropropane	0.10	U	10.0	10.1		ug/L		101	80 - 120	3	20
1,4-Dichlorobenzene	0.10	U	10.0	10.2		ug/L		102	80 - 120	5	20
2-Butanone (MEK)	0.47	U	10.0	9.25		ug/L		93	53 - 145	3	20
2-Hexanone	0.25	U o y	10.0	9.52		ug/L		95	59 - 132	1	20
4-Methyl-2-pentanone (MIBK)	0.22	U	10.0	9.29		ug/L		93	70 - 131	11	20
Acetone	0.55	U	10.0	9.07		ug/L		91	50 - 137	5	20

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

Lab Sample ID: 160-26901-11 MSD
Matrix: Water
Analysis Batch: 353370

Client Sample ID: B3HLB7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetonitrile	3.7	U	100	90.8		ug/L		91	67 - 138	3	20
Acrolein	2.8	U	50.0	47.7		ug/L		95	52 - 150	2	20
Acrylonitrile	0.73	U	100	98.8		ug/L		99	73 - 137	6	20
Allyl chloride	0.10	U	10.0	10.6		ug/L		106	49 - 150	4	20
Benzene	0.10	U	10.0	9.83		ug/L		98	80 - 120	2	20
Bromodichloromethane	0.14	U	10.0	10.2		ug/L		102	80 - 120	3	20
Bromoform	0.17	U	10.0	9.39		ug/L		94	81 - 121	5	20
Bromomethane	0.25	U	10.0	8.71		ug/L		87	55 - 137	4	20
Carbon disulfide	0.10	U	10.0	9.55		ug/L		96	80 - 121	3	20
Carbon tetrachloride	0.18	U	10.0	10.8		ug/L		108	77 - 131	2	20
Chlorobenzene	0.11	U	10.0	10.3		ug/L		103	80 - 120	3	20
Chloroethane	0.16	U	10.0	9.57		ug/L		96	71 - 126	7	20
Chloroform	0.10	U	10.0	9.79		ug/L		98	80 - 120	2	20
Chloromethane	0.10	U	10.0	9.41		ug/L		94	62 - 132	3	20
Chloroprene	0.16	U	10.0	10.4		ug/L		104	74 - 137	4	20
cis-1,2-Dichloroethylene	0.10	U	10.0	9.85		ug/L		99	80 - 120	3	20
cis-1,3-Dichloropropene	0.16	U	10.0	9.85		ug/L		99	83 - 127	1	20
Dibromochloromethane	0.14	U	10.0	10.8		ug/L		108	84 - 123	3	20
Dibromomethane	0.21	U	10.0	9.53		ug/L		95	78 - 122	4	20
Dichlorodifluoromethane	0.14	U	10.0	8.07		ug/L		81	67 - 135	5	20
Ethyl Cyanide	1.4	U	100	98.0		ug/L		98	67 - 141	4	20
Ethyl methacrylate	0.17	U	10.0	9.76		ug/L		98	69 - 123	7	20
Ethylbenzene	0.12	U	10.0	10.4		ug/L		104	84 - 125	3	20
Iodomethane	0.10	U	10.0	9.75		ug/L		98	53 - 141	7	20
Isobutyl alcohol	8.3	U o	250	271		ug/L		109	59 - 138	10	20
Methacrylonitrile	1.2	U	100	102		ug/L		102	70 - 142	1	20
Methyl methacrylate	0.27	U	20.0	18.5		ug/L		92	66 - 131	3	20
Methylene Chloride	27		10.0	36.0		ug/L		87	80 - 120	0	20
Styrene	0.13	U	10.0	11.2		ug/L		112	77 - 139	3	20
Tetrachloroethene	0.18	U	10.0	11.0		ug/L		110	80 - 126	4	20
Toluene	0.14	U	10.0	9.94		ug/L		99	85 - 123	3	20
trans-1,2-Dichloroethylene	0.10	U	10.0	9.70		ug/L		97	80 - 120	3	20
trans-1,3-Dichloropropene	0.10	U	10.0	9.81		ug/L		98	83 - 125	3	20
trans-1,4-Dichloro-2-butene	0.29	U	10.0	8.57		ug/L		86	56 - 139	8	20
Trichloroethene	0.25	U	10.0	9.81		ug/L		98	81 - 125	3	20
Trichloromonofluoromethane	0.11	U	10.0	9.11		ug/L		91	69 - 133	6	20
Vinyl acetate	0.18	U	10.0	11.8		ug/L		118	58 - 150	2	20
Vinyl chloride	0.19	U	10.0	9.50		ug/L		95	70 - 129	7	20
Xylenes, Total	0.27	U	20.0	21.9		ug/L		110	80 - 120	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 129*
4-Bromofluorobenzene (Surr)	*83*		*81 - 130*
Dibromofluoromethane (Surr)	*101*		*81 - 124*
Toluene-d8 (Surr)	*98*		*87 - 128*

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

Lab Sample ID: MB 160-353572/8
Matrix: Water
Analysis Batch: 353572

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			03/01/18 10:49	1
1,1,1-Trichloroethane	0.17	U	1.0	0.17	ug/L			03/01/18 10:49	1
1,1,2,2-Tetrachloroethane	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
1,1,2-Trichloroethane	0.13	U	1.0	0.13	ug/L			03/01/18 10:49	1
1,1-Dichloroethane	0.070	U	1.0	0.070	ug/L			03/01/18 10:49	1
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
1,2,3-Trichloropropane	0.18	U	1.0	0.18	ug/L			03/01/18 10:49	1
1,2-Dibromo-3-Chloropropane	0.41	U	1.0	0.41	ug/L			03/01/18 10:49	1
1,2-Dibromoethane (EDB)	0.13	U	1.0	0.13	ug/L			03/01/18 10:49	1
1,2-Dichloroethane	0.22	U	1.0	0.22	ug/L			03/01/18 10:49	1
1,2-Dichloropropane	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
1,4-Dichlorobenzene	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
2-Butanone (MEK)	0.47	U	5.0	0.47	ug/L			03/01/18 10:49	1
2-Hexanone	0.25	U	5.0	0.25	ug/L			03/01/18 10:49	1
4-Methyl-2-pentanone (MIBK)	0.22	U	5.0	0.22	ug/L			03/01/18 10:49	1
Acetone	0.55	U	2.0	0.55	ug/L			03/01/18 10:49	1
Acetonitrile	3.7	U	10	3.7	ug/L			03/01/18 10:49	1
Acrolein	2.8	U	10	2.8	ug/L			03/01/18 10:49	1
Acrylonitrile	0.73	U	10	0.73	ug/L			03/01/18 10:49	1
Allyl chloride	0.10	U	2.0	0.10	ug/L			03/01/18 10:49	1
Benzene	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			03/01/18 10:49	1
Bromoform	0.17	U	1.0	0.17	ug/L			03/01/18 10:49	1
Bromomethane	0.25	U	2.0	0.25	ug/L			03/01/18 10:49	1
Carbon disulfide	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			03/01/18 10:49	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			03/01/18 10:49	1
Chloroethane	0.16	U	2.0	0.16	ug/L			03/01/18 10:49	1
Chloroform	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
Chloromethane	0.10	U	2.0	0.10	ug/L			03/01/18 10:49	1
Chloroprene	0.16	U	1.0	0.16	ug/L			03/01/18 10:49	1
cis-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
cis-1,3-Dichloropropene	0.16	U	1.0	0.16	ug/L			03/01/18 10:49	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			03/01/18 10:49	1
Dibromomethane	0.21	U	1.0	0.21	ug/L			03/01/18 10:49	1
Dichlorodifluoromethane	0.14	U	2.0	0.14	ug/L			03/01/18 10:49	1
Ethyl Cyanide	1.4	U	10	1.4	ug/L			03/01/18 10:49	1
Ethyl methacrylate	0.17	U	1.0	0.17	ug/L			03/01/18 10:49	1
Ethylbenzene	0.12	U	1.0	0.12	ug/L			03/01/18 10:49	1
Iodomethane	0.10	U	2.0	0.10	ug/L			03/01/18 10:49	1
Isobutyl alcohol	8.3	U	80	8.3	ug/L			03/01/18 10:49	1
Methacrylonitrile	1.2	U	10	1.2	ug/L			03/01/18 10:49	1
Methyl methacrylate	0.27	U	2.0	0.27	ug/L			03/01/18 10:49	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			03/01/18 10:49	1
Styrene	0.13	U	1.0	0.13	ug/L			03/01/18 10:49	1
Tetrachloroethene	0.18	U	1.0	0.18	ug/L			03/01/18 10:49	1
Toluene	0.14	U	1.0	0.14	ug/L			03/01/18 10:49	1
trans-1,2-Dichloroethylene	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1

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

Lab Sample ID: MB 160-353572/8 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L			03/01/18 10:49	1
trans-1,4-Dichloro-2-butene	0.29	U	2.0	0.29	ug/L			03/01/18 10:49	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			03/01/18 10:49	1
Trichloromonofluoromethane	0.11	U	1.0	0.11	ug/L			03/01/18 10:49	1
Vinyl acetate	0.18	U	2.0	0.18	ug/L			03/01/18 10:49	1
Vinyl chloride	0.19	U	2.0	0.19	ug/L			03/01/18 10:49	1
Xylenes, Total	0.27	U	3.0	0.27	ug/L			03/01/18 10:49	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*03/01/18 10:49*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 129*		*03/01/18 10:49*	*1*
4-Bromofluorobenzene (Surr)	*99*		*81 - 130*		*03/01/18 10:49*	*1*
Dibromofluoromethane (Surr)	*95*		*81 - 124*		*03/01/18 10:49*	*1*
Toluene-d8 (Surr)	*102*		*87 - 128*		*03/01/18 10:49*	*1*

Lab Sample ID: LCS 160-353572/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353572

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	9.83		ug/L		98	85 - 116
1,1,2,2-Tetrachloroethane	10.0	8.59		ug/L		86	80 - 120
1,1,2-Trichloroethane	10.0	8.85		ug/L		88	80 - 120
1,1-Dichloroethane	10.0	9.91		ug/L		99	80 - 120
1,1-Dichloroethene	10.0	9.92		ug/L		99	80 - 120
1,2,3-Trichloropropane	10.0	8.39		ug/L		84	77 - 117
1,2-Dibromo-3-Chloropropane	10.0	9.82		ug/L		98	73 - 123
1,2-Dibromoethane (EDB)	10.0	9.44		ug/L		94	80 - 120
1,2-Dichloroethane	10.0	9.53		ug/L		95	80 - 115
1,2-Dichloropropane	10.0	9.70		ug/L		97	80 - 120
1,4-Dichlorobenzene	10.0	9.79		ug/L		98	80 - 120
2-Butanone (MEK)	10.0	9.25		ug/L		93	67 - 127
2-Hexanone	10.0	9.46		ug/L		95	70 - 123
4-Methyl-2-pentanone (MIBK)	10.0	9.56		ug/L		96	75 - 126
Acetone	10.0	9.12		ug/L		91	69 - 129
Acetonitrile	100	92.1		ug/L		92	67 - 122
Acrolein	50.0	48.4		ug/L		97	58 - 140
Acrylonitrile	100	97.4		ug/L		97	80 - 122
Allyl chloride	10.0	10.7		ug/L		107	25 - 140
Benzene	10.0	9.69		ug/L		97	80 - 120
Bromodichloromethane	10.0	9.96		ug/L		100	80 - 120
Bromoform	10.0	10.0		ug/L		100	80 - 120
Bromomethane	10.0	9.42		ug/L		94	70 - 124
Carbon disulfide	10.0	10.2		ug/L		102	80 - 121

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

Lab Sample ID: LCS 160-353572/5
Matrix: Water
Analysis Batch: 353572

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	10.0	11.1		ug/L		111	83 - 125
Chlorobenzene	10.0	9.83		ug/L		98	80 - 120
Chloroethane	10.0	9.87		ug/L		99	73 - 119
Chloroform	10.0	9.70		ug/L		97	80 - 120
Chloromethane	10.0	10.6		ug/L		106	72 - 124
Chloroprene	10.0	10.4		ug/L		104	79 - 132
cis-1,2-Dichloroethylene	10.0	9.57		ug/L		96	80 - 120
cis-1,3-Dichloropropene	10.0	9.99		ug/L		100	80 - 120
Dibromochloromethane	10.0	10.6		ug/L		106	80 - 120
Dibromomethane	10.0	9.38		ug/L		94	80 - 120
Dichlorodifluoromethane	10.0	10.5		ug/L		105	24 - 140
Ethyl Cyanide	100	95.6		ug/L		96	77 - 121
Ethyl methacrylate	10.0	9.29		ug/L		93	69 - 123
Ethylbenzene	10.0	9.98		ug/L		100	80 - 120
Iodomethane	10.0	10.4		ug/L		104	69 - 129
Isobutyl alcohol	250	240		ug/L		96	64 - 124
Methacrylonitrile	100	102		ug/L		102	79 - 126
Methyl methacrylate	20.0	19.2		ug/L		96	70 - 123
Methylene Chloride	10.0	9.53		ug/L		95	80 - 120
Styrene	10.0	10.5		ug/L		105	81 - 133
Tetrachloroethene	10.0	10.7		ug/L		107	83 - 123
Toluene	10.0	9.70		ug/L		97	80 - 120
trans-1,2-Dichloroethylene	10.0	9.72		ug/L		97	80 - 120
trans-1,3-Dichloropropene	10.0	9.86		ug/L		99	82 - 124
trans-1,4-Dichloro-2-butene	10.0	9.59		ug/L		96	64 - 137
Trichloroethene	10.0	9.72		ug/L		97	80 - 120
Trichloromonofluoromethane	10.0	9.43		ug/L		94	71 - 132
Vinyl acetate	10.0	12.2		ug/L		122	63 - 140
Vinyl chloride	10.0	10.3		ug/L		103	77 - 122
Xylenes, Total	20.0	20.8		ug/L		104	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 129*
4-Bromofluorobenzene (Surr)	*84*		*81 - 130*
Dibromofluoromethane (Surr)	*100*		*81 - 124*
Toluene-d8 (Surr)	*96*		*87 - 128*

Lab Sample ID: LCSD 160-353572/6
Matrix: Water
Analysis Batch: 353572

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	10.6		ug/L		106	80 - 120	4	20
1,1,1-Trichloroethane	10.0	10.0		ug/L		100	85 - 116	2	20
1,1,2,2-Tetrachloroethane	10.0	8.87		ug/L		89	80 - 120	3	20
1,1,2-Trichloroethane	10.0	9.50		ug/L		95	80 - 120	7	20
1,1-Dichloroethane	10.0	9.96		ug/L		100	80 - 120	0	20
1,1-Dichloroethene	10.0	10.4		ug/L		104	80 - 120	4	20

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

Lab Sample ID: LCSD 160-353572/6
Matrix: Water
Analysis Batch: 353572

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
1,2,3-Trichloropropane	10.0	9.41		ug/L		94	77 - 117	12	20
1,2-Dibromo-3-Chloropropane	10.0	10.8		ug/L		108	73 - 123	9	20
1,2-Dibromoethane (EDB)	10.0	9.85		ug/L		99	80 - 120	4	20
1,2-Dichloroethane	10.0	9.92		ug/L		99	80 - 115	4	20
1,2-Dichloropropane	10.0	9.82		ug/L		98	80 - 120	1	20
1,4-Dichlorobenzene	10.0	9.92		ug/L		99	80 - 120	1	20
2-Butanone (MEK)	10.0	9.76		ug/L		98	67 - 127	5	20
2-Hexanone	10.0	11.1		ug/L		111	70 - 123	16	20
4-Methyl-2-pentanone (MIBK)	10.0	10.3		ug/L		103	75 - 126	7	20
Acetone	10.0	10.3		ug/L		103	69 - 129	12	20
Acetonitrile	100	94.7		ug/L		95	67 - 122	3	20
Acrolein	50.0	51.2		ug/L		102	58 - 140	6	20
Acrylonitrile	100	102		ug/L		102	80 - 122	4	20
Allyl chloride	10.0	10.8		ug/L		108	25 - 140	1	20
Benzene	10.0	9.78		ug/L		98	80 - 120	1	20
Bromodichloromethane	10.0	10.1		ug/L		101	80 - 120	2	20
Bromoform	10.0	10.6		ug/L		106	80 - 120	5	20
Bromomethane	10.0	9.47		ug/L		95	70 - 124	1	20
Carbon disulfide	10.0	10.3		ug/L		103	80 - 121	1	20
Carbon tetrachloride	10.0	11.2		ug/L		112	83 - 125	1	20
Chlorobenzene	10.0	9.95		ug/L		99	80 - 120	1	20
Chloroethane	10.0	10.1		ug/L		101	73 - 119	2	20
Chloroform	10.0	9.88		ug/L		99	80 - 120	2	20
Chloromethane	10.0	10.8		ug/L		108	72 - 124	2	20
Chloroprene	10.0	10.6		ug/L		106	79 - 132	1	20
cis-1,2-Dichloroethylene	10.0	9.66		ug/L		97	80 - 120	1	20
cis-1,3-Dichloropropene	10.0	10.2		ug/L		102	80 - 120	2	20
Dibromochloromethane	10.0	11.1		ug/L		111	80 - 120	5	20
Dibromomethane	10.0	9.73		ug/L		97	80 - 120	4	20
Dichlorodifluoromethane	10.0	10.7		ug/L		107	24 - 140	2	20
Ethyl Cyanide	100	102		ug/L		102	77 - 121	7	20
Ethyl methacrylate	10.0	10.6		ug/L		106	69 - 123	13	20
Ethylbenzene	10.0	10.0		ug/L		100	80 - 120	1	20
Iodomethane	10.0	10.7		ug/L		107	69 - 129	2	20
Isobutyl alcohol	250	268		ug/L		107	64 - 124	11	20
Methacrylonitrile	100	108		ug/L		108	79 - 126	5	20
Methyl methacrylate	20.0	20.2		ug/L		101	70 - 123	5	20
Methylene Chloride	10.0	9.75		ug/L		98	80 - 120	2	20
Styrene	10.0	10.7		ug/L		107	81 - 133	2	20
Tetrachloroethene	10.0	10.8		ug/L		108	83 - 123	2	20
Toluene	10.0	9.86		ug/L		99	80 - 120	2	20
trans-1,2-Dichloroethylene	10.0	9.92		ug/L		99	80 - 120	2	20
trans-1,3-Dichloropropene	10.0	10.3		ug/L		103	82 - 124	4	20
trans-1,4-Dichloro-2-butene	10.0	9.54		ug/L		95	64 - 137	1	20
Trichloroethene	10.0	9.73		ug/L		97	80 - 120	0	20
Trichloromonofluoromethane	10.0	9.68		ug/L		97	71 - 132	3	20
Vinyl acetate	10.0	12.4		ug/L		124	63 - 140	2	20
Vinyl chloride	10.0	10.5		ug/L		105	77 - 122	2	20

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

Lab Sample ID: LCSD 160-353572/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353572

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total			20.0	20.7		ug/L		104	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 129*
4-Bromofluorobenzene (Surr)	*86*		*81 - 130*
Dibromofluoromethane (Surr)	*99*		*81 - 124*
Toluene-d8 (Surr)	*97*		*87 - 128*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-352710/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353358 — **Prep Batch: 352710**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	0.40	U D	1.0	0.40	ug/L		02/23/18 12:43	02/28/18 01:39	2

Lab Sample ID: LCS 160-352710/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353358 — **Prep Batch: 352710**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Uranium			1000	990.6	D	ug/L		99	80 - 120		

Lab Sample ID: 160-26901-5 MS — **Client Sample ID: B3H6K1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353358 — **Prep Batch: 352710**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Uranium	21.4	D	1000	1016	D	ug/L		99	75 - 125		

Lab Sample ID: 160-26901-5 MSD — **Client Sample ID: B3H6K1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353358 — **Prep Batch: 352710**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	21.4	D	1000	1028	D	ug/L		101	75 - 125	1	20

Lab Sample ID: MB 160-353512/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356220 — **Prep Batch: 353512**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	4.0	U D	10.0	4.0	ug/L		02/28/18 13:29	03/16/18 18:46	2

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

Lab Sample ID: LCS 160-353512/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356220 — **Prep Batch: 353512**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1000	1049	D	ug/L		105	80 - 120

Lab Sample ID: 160-26920-F-14-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356220 — **Prep Batch: 353512**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	26.0	D	1000	1066	D	ug/L		104	75 - 125

Lab Sample ID: 160-26920-F-14-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356220 — **Prep Batch: 353512**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	26.0	D	1000	1051	D	ug/L		102	75 - 125	1	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-354199/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			03/06/18 21:55	1

Lab Sample ID: HLCS 160-354199/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354199

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	378.0		mg/L		94	90 - 110

Lab Sample ID: LCS 160-354199/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	191.0		mg/L		95	90 - 110

Lab Sample ID: 160-26982-5 MS — **Client Sample ID: B3H4W5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	122		100	226.0		mg/L		104	80 - 120

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: 160-26982-5 DU — **Client Sample ID: B3H4W5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354199

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	122			120.0		mg/L				2	20

Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-355640/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 355816 — **Prep Batch: 355640**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	211.7	U	211	211	500	344	pCi/L	03/14/18 11:10	03/14/18 18:19	1

Lab Sample ID: LCS 160-355640/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 355816 — **Prep Batch: 355640**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium			2780	2446		407	500	330	pCi/L	88	80 - 120		

Lab Sample ID: 160-26901-6 MS — **Client Sample ID: B3H878**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 355816 — **Prep Batch: 355640**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Tritium	2180		2780	5577		684	500	328	pCi/L	122	75 - 125		

Lab Sample ID: 160-27004-S-1-C DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 355816 — **Prep Batch: 355640**

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RPD	RPD Limit
Tritium	833			1275	y	300	500	326	pCi/L			42	20

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-354187/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354492 — **Prep Batch: 354187**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.912	U	0.640	0.648	3.00	0.933	pCi/L	03/06/18 17:29	03/08/18 15:48	1
Gross Beta	0.901	B	0.535	0.543	4.00	0.776	pCi/L	03/06/18 17:29	03/08/18 15:48	1

Method: 9310 - Gross Alpha / Beta (GFPC) (Continued)

Lab Sample ID: LCS 160-354187/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354492 — **Prep Batch: 354187**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	49.8	43.72		6.42	3.00	1.44	pCi/L	88	80 - 120

Lab Sample ID: LCSB 160-354187/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354494 — **Prep Batch: 354187**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	88.9	88.35		9.37	4.00	0.881	pCi/L	99	80 - 120

Lab Sample ID: 160-26901-7 MS — **Client Sample ID: B3H5C3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354494 — **Prep Batch: 354187**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	3.52		49.8	40.40		6.46	3.00	1.64	pCi/L	74	60 - 140

Lab Sample ID: 160-26901-7 MSBT — **Client Sample ID: B3H5C3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354494 — **Prep Batch: 354187**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	19.1	B	88.9	111.1		11.7	4.00	1.04	pCi/L	104	60 - 140

Lab Sample ID: 160-26901-7 DU — **Client Sample ID: B3H5C3**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354494 — **Prep Batch: 354187**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RPD	RPD Limit
Gross Alpha	3.52		2.774	y	1.59	3.00	1.95	pCi/L	24	20
Gross Beta	19.1	B	20.58		2.61	4.00	0.981	pCi/L	7	20

GC/MS VOA

Analysis Batch: 353370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-1	B3H679	Total/NA	Water	8260C	
160-26901-1	B3H679	Total/NA	Water	8260C	
160-26901-2	B3H4N3	Total/NA	Water	8260C	
160-26901-3	B3H4N2	Total/NA	Water	8260C	
160-26901-4	B3H656	Total/NA	Water	8260C	
160-26901-4	B3H656	Total/NA	Water	8260C	
160-26901-8	B3H534	Total/NA	Water	8260C	
160-26901-8	B3H534	Total/NA	Water	8260C	
160-26901-11	B3HLB7	Total/NA	Water	8260C	
MB 160-353370/8	Method Blank	Total/NA	Water	8260C	
LCS 160-353370/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-353370/6	Lab Control Sample Dup	Total/NA	Water	8260C	
160-26901-11 MS	B3HLB7	Total/NA	Water	8260C	
160-26901-11 MSD	B3HLB7	Total/NA	Water	8260C	

Analysis Batch: 353572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-2	B3H4N3	Total/NA	Water	8260C	
160-26901-3	B3H4N2	Total/NA	Water	8260C	
MB 160-353572/8	Method Blank	Total/NA	Water	8260C	
LCS 160-353572/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-353572/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Metals

Prep Batch: 352710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-5	B3H6K1	Total/NA	Water	3010A	
160-26901-12	B3H2V5	Total/NA	Water	3010A	
160-26901-13	B3H2V9	Total/NA	Water	3010A	
160-26901-14	B3H2W0	Total/NA	Water	3010A	
MB 160-352710/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-352710/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-26901-5 MS	B3H6K1	Total/NA	Water	3010A	
160-26901-5 MSD	B3H6K1	Total/NA	Water	3010A	

Analysis Batch: 353358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-5	B3H6K1	Total/NA	Water	6020A	352710
160-26901-12	B3H2V5	Total/NA	Water	6020A	352710
160-26901-13	B3H2V9	Total/NA	Water	6020A	352710
160-26901-14	B3H2W0	Total/NA	Water	6020A	352710
MB 160-352710/1-A	Method Blank	Total/NA	Water	6020A	352710
LCS 160-352710/2-A	Lab Control Sample	Total/NA	Water	6020A	352710
160-26901-5 MS	B3H6K1	Total/NA	Water	6020A	352710
160-26901-5 MSD	B3H6K1	Total/NA	Water	6020A	352710

Prep Batch: 353512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26982-1	B3H5M7	Dissolved	Water	3010A	

Metals (Continued)

Prep Batch: 353512 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26982-2	B3H5M4	Total/NA	Water	3010A	
160-26982-3	B3H4D4	Total/NA	Water	3010A	
160-26982-4	B3H4D7	Dissolved	Water	3010A	
MB 160-353512/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-353512/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-26920-F-14-B MS	Matrix Spike	Total/NA	Water	3010A	
160-26920-F-14-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

Analysis Batch: 356220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26982-1	B3H5M7	Dissolved	Water	6020A	353512
160-26982-2	B3H5M4	Total/NA	Water	6020A	353512
160-26982-3	B3H4D4	Total/NA	Water	6020A	353512
160-26982-4	B3H4D7	Dissolved	Water	6020A	353512
MB 160-353512/1-A	Method Blank	Total/NA	Water	6020A	353512
LCS 160-353512/2-A	Lab Control Sample	Total/NA	Water	6020A	353512
160-26920-F-14-B MS	Matrix Spike	Total/NA	Water	6020A	353512
160-26920-F-14-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020A	353512

General Chemistry

Analysis Batch: 354199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26982-5	B3H4W5	Total/NA	Water	310.1	
160-26982-6	B3H4V8	Total/NA	Water	310.1	
MB 160-354199/1	Method Blank	Total/NA	Water	310.1	
HLCS 160-354199/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-354199/2	Lab Control Sample	Total/NA	Water	310.1	
160-26982-5 MS	B3H4W5	Total/NA	Water	310.1	
160-26982-5 DU	B3H4W5	Total/NA	Water	310.1	

Rad

Prep Batch: 354187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-7	B3H5C3	Total/NA	Water	Evaporation	
MB 160-354187/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-354187/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-354187/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
160-26901-7 MS	B3H5C3	Total/NA	Water	Evaporation	
160-26901-7 MSBT	B3H5C3	Total/NA	Water	Evaporation	
160-26901-7 DU	B3H5C3	Total/NA	Water	Evaporation	

Prep Batch: 355640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-6	B3H878	Total/NA	Water	LSC_Dist_Susp	
160-26901-9	B3H858	Total/NA	Water	LSC_Dist_Susp	
160-26901-10	B3H859	Total/NA	Water	LSC_Dist_Susp	
MB 160-355640/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-355640/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

Rad (Continued)

Prep Batch: 355640 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26901-6 MS	B3H878	Total/NA	Water	LSC_Dist_Susp	
160-27004-S-1-C DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-002 / X18-005 / I18-005

TestAmerica Job ID: 160-26901-1
SDG: SL2810

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)
160-26901-1	B3H679	93	100	99	102
160-26901-1	B3H679	101	94	107	102
160-26901-2	B3H4N3	93	104	101	103
160-26901-2	B3H4N3	94	104	97	104
160-26901-3	B3H4N2	92	100	102	100
160-26901-3	B3H4N2	93	103	96	102
160-26901-4	B3H656	96	103	105	100
160-26901-4	B3H656	101	103	101	100
160-26901-8	B3H534	95	101	99	100
160-26901-8	B3H534	95	100	102	99
160-26901-11	B3HLB7	89	99	96	103
160-26901-11 MS	B3HLB7	97	86	102	96
160-26901-11 MSD	B3HLB7	95	83	101	98
LCS 160-353370/5	Lab Control Sample	100	87	104	100
LCS 160-353572/5	Lab Control Sample	96	84	100	96
LCSD 160-353370/6	Lab Control Sample Dup	102	86	103	97
LCSD 160-353572/6	Lab Control Sample Dup	99	86	99	97
MB 160-353370/8	Method Blank	96	100	96	102
MB 160-353572/8	Method Blank	93	99	95	102

Surrogate Legend

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