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: 160-27365-1
TestAmerica Sample Delivery Group: SL2826
Client Project/Site: F18-009

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

Attn: Mr. Scot Fitzgerald

Authorized for release by:
4/13/2018 6:13:44 PM

Jayna Awalt, Project Manager II
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jayna.awalt@testamericainc.com

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

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

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Job ID: 160-27365-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
April 13, 2018
Attention: Scot Fitzgerald

SDG	: SL2826
Number of Samples	: 2 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: March 16, 2018

II. Introduction

On March 16, 2 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: F18-009

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.

Job ID: 160-27365-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

IV. Definitions

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

The term “Detection Limit” used in the analytical data report refers to either the lab’s standard reporting limits or contractually required reporting limits, whichever is applicable.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** - For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** - For organic analyses, Method Blank contamination. The Method Blank contains the target analyte above the MDL/RL and Method Blank is greater than 5% of the sample concentration.
- **B** - For inorganics and radiochemistry, Method Blank reported above the MDC/MDL.
- **J** - For organic analyses, the sample is estimated and less than the RL. If on Method Blank, indicates Method Blank contamination.
- **C** - For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL/RL and Method Blank concentration is greater than 5% of the sample concentration.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution. For ICPMS Metals analyses, per standard practice, all samples are initially prepared at a 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner and will not be narrated below. Only dilutions above 2x will be narrated and considered a true dilution for these samples.
- **N** - For inorganics, rad and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** - For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.
- **o** - For all analyses, the LCS (LCSD) recoveries are outside QC limits.
- **P -** For organic analyses (PCB/Pests only), the aroclor target analyte has greater than 25% difference for detected concentrations between the two GC columns.
- **X-** Organics and Anions IC - Sample concentration over calibration and/or surrogate recovery outside QC limits.
- **X-** Inorganics - The analyte present in the original sample is > 4x the spike concentration.
- **X-** Radiochemistry - Carrier or Tracer recovery is outside limits.
- **Z-** Sample was prepped or analyzed beyond the specified sample holding time.
- **y -** RPD is outside established limits.

Semivolatiles

Batch: 357801

The MS/MSD % recoveries are outside of lower control limits for several spike target analytes. The samples associated with these excursions are outside of the 2X holding time window; therefore, they will not be re-prepped and re-analyzed. B3HY98 (160-27365-2), (160-27365-G-2-A MS) and (160-27365-H-2-A MSD) These analytes have been qualified accordingly with a "T" flag in the associated samples.

The surrogate Nitrobenzene-d5 recovered outside of lower control limits in B3HY98 (160-27365-2). The sample is ND for all target analytes. The sample is also outside of the 2X holding time window; therefore, it will not be re-prepped and re-analyzed.

Conductivity

Batch: 359000

Conductivity was detected in method blank MB 160-359000/2 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged “B”. If the associated sample reported a result above the MDL and/or RL and MB is greater than 5% the sample concentration, the result has been flagged “C”.

Job ID: 160-27365-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

Volatiles
TDS
pH

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: 160-27365-1
SDG Number: SL2826

Login Number: 27365
List Number: 1
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8
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	

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F18-009-019	PAGE 1 OF 1
COLLECTOR Frank Hall /CHPRC 312826	**COMPANY CONTACT** MEDLEY, HA	**TELEPHONE NO.** 373-6909	**PROJECT COORDINATOR** MEDLEY, HA	**REQUIRED TAT** 30 Days	
SAMPLING LOCATION TEDF Generator - 283-W (SL-47-P-04) - FTB	**PROJECT DESIGNATION** TEDF Generator Expanded Sampling		**SAF NO.** F18-009	**ORIGINAL**	
ICE CHEST NO. GWS-375	**FIELD LOGBOOK NO.** HNF-N-507-38	**ACTUAL SAMPLE DEPTH** N/A	**PURCHASE ORDER/CHARGE CODE** 301754	**METHOD OF SHIPMENT** FEDERAL EXPRESS	
SHIPPED TO TestAmerica St. Louis	**OFFSITE PROPERTY NO.** 9178		**BILL OF LADING/AIR BILL NO.** 780094934584		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL HANDLING AND/OR STORAGE
N/A

PRESERVATION	HCl or H2SO4 to pH <2/Cool <=6C
HOLDING TIME	14 Days
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	3
VOLUME	40mL
SAMPLE ANALYSIS	VOA for TEDF;

SAMPLE NO.	FILTERED	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B3HY99	N/A	WATER	MAR 15 2018	0700	✓

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Frank Hall /CHPRC	MAR 15 2018 1140	Troy Bacon CHPRC	MAR 15 2018 1140
Troy Bacon CHPRC	MAR 15 2018 1400	FEDEX	
FEDEX		Kristene Taylor K	31618 0900

SPECIAL INSTRUCTIONS
TRVL-18-091;
Samplers are to obtain field data from the generator:
Flow: NA
pH: NA
conductivity: NA
283-W Water Treatment Plant POC is Sam Camp, 373-5824

FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 2/28/2018 | FSR ID = FSR58311 | TRVL NUM = TRVL-18-091 | A-6003-618 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F18-009-018	PAGE 1 OF 1
COLLECTOR Frank Hall /CHPRC SL2826	**COMPANY CONTACT** MEDLEY, HA	**TELEPHONE NO.** 373-6909	**PROJECT COORDINATOR** MEDLEY, HA		**REQUIRED TAT** 30 Days
SAMPLING LOCATION TEDF Generator - 283-W (SL-47-P-04)	**PROJECT DESIGNATION** TEDF Generator Expanded Sampling		**SAF NO.** F18-009		**ORIGINAL**
ICE CHEST NO. GWS-375	**FIELD LOGBOOK NO.** HNF-N-507-34	**ACTUAL SAMPLE DEPTH** N/A	**PURCHASE ORDER/CHARGE CODE** 301754		**METHOD OF SHIPMENT** FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis	**OFFSITE PROPERTY NO.** QW: 3/15/18 N/A 9178		**BILL OF LADING/AIR BILL NO.** 7800 9493 4584		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL HANDLING AND/OR STORAGE
N/A

PRESERVATION	HCl or H2SO4 to pH <2/Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
HOLDING TIME	14 Days	28 Days	7 Days	7/40 Days
TYPE OF CONTAINER	aGs*	G/P	G/P	aG
NO. OF CONTAINER(S)	3	1	1	4
VOLUME	40mL	500mL	500mL	1L
SAMPLE ANALYSIS	VOA for TEDF;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	160.1_TDS: COMMON {Total dissolved solids};	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	FILTERED	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B3HY98	N/A	WATER	MAR 15 2018	1110	✓	✓	✓	✓

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CHAIN OF POSSESSION RELINQUISHED BY/REMOVED FROM	DATE/TIME	SIGN/ PRINT NAMES RECEIVED BY/STORED IN	DATE/TIME
Frank Hall /CHPRC	MAR 15 2018 1140	Troy Bacon CHPRC	MAR 15 2018 1140
Troy Bacon CHPRC	MAR 15 2018 1400	FEDEX	
FEDEX		Kristene Taylor	3/14/18 0900

SPECIAL INSTRUCTIONS
TRVL-18-091;
Samplers are to obtain field data from the generator:
Flow: N/A
pH: 7.67
conductivity: 2527
283-W Water Treatment Plant POC is Sam Camp, 373-5824
(1) 120.1_CONDUCTIVITY: COMMON {Specific Conductance}; 9040_pH (AQUEOUS): COMMON {pH Measurement};
(2) 8270_SVOA_GCMS: CH 01 {1,2,4-Trichlorobenzene, 2,4-Dinitrotoluene, 2-Chlorophenol, 4-Chloro-3-methylphenol, 4-Nitrophenol, Acenaphthene, n-Nitrosodi-n-propylamine}; 8270_SVOA_GCMS: COMMON {1,4-Dichlorobenzene, Bis(2-ethylhexyl) phthalate, Pentachlorophenol, Phenol}; 8270_SVOA_GCMS: COMMON (Add-on) {Pyridine}

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REV.0

FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

4/13/2018

PRINTED ON 2/28/2018 | FSR ID = FSR58310 | TRVL NUM = TRVL-18-091 | A-6003-618 (REV 3)

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

FedEx® Tracking

780094934584

Ship date:		Actual delivery:
Thu 3/15/2018		**Fri 3/16/2018 8:56 am**
Richland, WA US	**Delivered** *Signed for by: K.TAYLOR*	EARTH CITY, MO US

2 Piece shipment

Travel History

Date/Time	Activity	Location
- 3/16/2018 - Friday		
8:56 am	Delivered	EARTH CITY, MO
6:57 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:51 am	At local FedEx facility	EARTH CITY, MO
5:16 am	At destination sort facility	BERKELEY, MO
4:27 am	Departed FedEx location	MEMPHIS, TN
12:41 am	Arrived at FedEx location	MEMPHIS, TN
- 3/15/2018 - Thursday		
4:47 pm	Left FedEx origin facility	PASCO, WA
3:40 pm	Shipment information sent to FedEx	
3:18 pm	Picked up	PASCO, WA

Shipment Facts

Tracking Number	780094934584	**Service**	FedEx Priority Overnight
Master tracking number	780094934551	**Weight**	86 lbs / 39.01 kgs
Dimensions	28x16x16 in.	**Signature services**	Direct signature required
Delivered To	Shipping/Receiving	**Total pieces**	2
Total shipment weight	86 lbs / 39.01 kgs	**Terms**	Third Party
Shipper reference	ptr# 9178	**Packaging**	Your Packaging
Special handling section	Deliver Weekday, Additional Handling Surcharge, Direct Signature Required	**Standard transit**	3/16/2018 by 10:30 am

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

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

GC/MS Semi VOA

Qualifier	Qualifier Description
T	MS, MSD: Recovery exceeds upper or lower control limits.
U	Analyzed for but not detected.
X	See case narrative notes for explanation of the 'X' flag
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
N	Presumptive evidence of material.

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL

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
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F18-009

TestAmerica Job ID: 160-27365-1
SDG: SL2826

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SL
120.1	Conductivity, Specific Conductance	MCAWW	TAL SL
160.1	Solids, Total Dissolved (TDS)	MCAWW	TAL SL
9040C	pH	SW846	TAL SL

Protocol References:

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

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

Laboratory References:

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

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F18-009

TestAmerica Job ID: 160-27365-1
SDG: SL2826

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-27365-1	B3HY99	Water	03/15/18 07:00	03/16/18 09:00
160-27365-2	B3HY98	Water	03/15/18 11:10	03/16/18 09:00

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

Client Sample ID: B3HY99
Date Collected: 03/15/18 07:00
Date Received: 03/16/18 09:00
Lab Sample ID: 160-27365-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			03/20/18 11:33	1
Benzene	0.10	U	1.0	0.10	ug/L			03/20/18 11:33	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			03/20/18 11:33	1
Bromoform	0.17	U	1.0	0.17	ug/L			03/20/18 11:33	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			03/20/18 11:33	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			03/20/18 11:33	1
Chloroform	0.10	U	1.0	0.10	ug/L			03/20/18 11:33	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			03/20/18 11:33	1
Methylene Chloride	**1.7**		1.0	0.27	ug/L			03/20/18 11:33	1
Toluene	0.14	U	1.0	0.14	ug/L			03/20/18 11:33	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			03/20/18 11:33	1
Trihalomethanes, Total	0.55	U	4.0	0.55	ug/L			03/20/18 11:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*03/20/18 11:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*75 - 129*		*03/20/18 11:33*	*1*
4-Bromofluorobenzene (Surr)	*114*		*81 - 130*		*03/20/18 11:33*	*1*
Dibromofluoromethane (Surr)	*88*		*81 - 124*		*03/20/18 11:33*	*1*
Toluene-d8 (Surr)	*105*		*87 - 128*		*03/20/18 11:33*	*1*

Client Sample ID: B3HY98
Date Collected: 03/15/18 11:10
Date Received: 03/16/18 09:00
Lab Sample ID: 160-27365-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			03/20/18 11:59	1
Benzene	0.10	U	1.0	0.10	ug/L			03/20/18 11:59	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			03/20/18 11:59	1
Bromoform	0.17	U	1.0	0.17	ug/L			03/20/18 11:59	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			03/20/18 11:59	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			03/20/18 11:59	1
Chloroform	**1.5**		1.0	0.10	ug/L			03/20/18 11:59	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			03/20/18 11:59	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			03/20/18 11:59	1
Toluene	**0.22**	**J**	1.0	0.14	ug/L			03/20/18 11:59	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			03/20/18 11:59	1
Trihalomethanes, Total	**1.5**	**J**	4.0	0.55	ug/L			03/20/18 11:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*03/20/18 11:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*75 - 129*		*03/20/18 11:59*	*1*
4-Bromofluorobenzene (Surr)	*105*		*81 - 130*		*03/20/18 11:59*	*1*
Dibromofluoromethane (Surr)	*90*		*81 - 124*		*03/20/18 11:59*	*1*
Toluene-d8 (Surr)	*102*		*87 - 128*		*03/20/18 11:59*	*1*

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

Client Sample ID: B3HY98
Date Collected: 03/15/18 11:10
Date Received: 03/16/18 09:00
Lab Sample ID: 160-27365-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.93	U T	9.3	0.93	ug/L		03/19/18 12:10	03/27/18 12:42	1
1,4-Dichlorobenzene	0.93	U T	9.3	0.93	ug/L		03/19/18 12:10	03/27/18 12:42	1
2,4-Dinitrotoluene	0.93	U T	9.3	0.93	ug/L		03/19/18 12:10	03/27/18 12:42	1
2-Chlorophenol	0.93	U T	9.3	0.93	ug/L		03/19/18 12:10	03/27/18 12:42	1
4-Chloro-3-methylphenol	0.93	U	9.3	0.93	ug/L		03/19/18 12:10	03/27/18 12:42	1
4-Nitrophenol	1.9	U	9.3	1.9	ug/L		03/19/18 12:10	03/27/18 12:42	1
Acenaphthene	0.93	U T	9.3	0.93	ug/L		03/19/18 12:10	03/27/18 12:42	1
Bis(2-ethylhexyl) phthalate	1.7	U T	9.3	1.7	ug/L		03/19/18 12:10	03/27/18 12:42	1
N-Nitrosodi-n-propylamine	1.4	U T	9.3	1.4	ug/L		03/19/18 12:10	03/27/18 12:42	1
Pentachlorophenol	1.2	U T	47	1.2	ug/L		03/19/18 12:10	03/27/18 12:42	1
Phenol	1.9	U	9.3	1.9	ug/L		03/19/18 12:10	03/27/18 12:42	1
Pyridine	1.9	U	19	1.9	ug/L		03/19/18 12:10	03/27/18 12:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.2*	*N*	*ug/L*		*12.43*		*03/19/18 12:10*	*03/27/18 12:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*67*		*37 - 120*	*03/19/18 12:10*	*03/27/18 12:42*	*1*
2-Fluorobiphenyl (Surr)	*50*		*43 - 108*	*03/19/18 12:10*	*03/27/18 12:42*	*1*
2-Fluorophenol (Surr)	*23*		*15 - 59*	*03/19/18 12:10*	*03/27/18 12:42*	*1*
Nitrobenzene-d5 (Surr)	*49*	*X*	*50 - 101*	*03/19/18 12:10*	*03/27/18 12:42*	*1*
Phenol-d5 (Surr)	*15*		*10 - 50*	*03/19/18 12:10*	*03/27/18 12:42*	*1*
Terphenyl-d14 (Surr)	*59*		*21 - 97*	*03/19/18 12:10*	*03/27/18 12:42*	*1*

General Chemistry

Client Sample ID: B3HY98
Date Collected: 03/15/18 11:10
Date Received: 03/16/18 09:00
Lab Sample ID: 160-27365-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	**158**		1.00	0.0970	uS/cm			04/04/18 00:07	1
Total Dissolved Solids (TDS)	**62.0**		5.0	3.5	mg/L			03/21/18 09:34	1
pH	**7.86**		0.100	0.100	SU			03/17/18 01:09	1

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

Lab Sample ID: MB 160-356505/7
Matrix: Water
Analysis Batch: 356505

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.10	U	1.0	0.10	ug/L			03/20/18 09:26	1
Benzene	0.10	U	1.0	0.10	ug/L			03/20/18 09:26	1
Bromodichloromethane	0.14	U	1.0	0.14	ug/L			03/20/18 09:26	1
Bromoform	0.17	U	1.0	0.17	ug/L			03/20/18 09:26	1
Carbon tetrachloride	0.18	U	1.0	0.18	ug/L			03/20/18 09:26	1
Chlorobenzene	0.11	U	1.0	0.11	ug/L			03/20/18 09:26	1
Chloroform	0.10	U	1.0	0.10	ug/L			03/20/18 09:26	1
Dibromochloromethane	0.14	U	1.0	0.14	ug/L			03/20/18 09:26	1
Methylene Chloride	0.27	U	1.0	0.27	ug/L			03/20/18 09:26	1
Toluene	0.14	U	1.0	0.14	ug/L			03/20/18 09:26	1
Trichloroethene	0.25	U	1.0	0.25	ug/L			03/20/18 09:26	1
Trihalomethanes, Total	0.55	U	4.0	0.55	ug/L			03/20/18 09:26	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isobutyl alcohol	*15.5*	*J*	*ug/L*		*8.59*	*78-83-1*		*03/20/18 09:26*	*1*
n-Butyl acetate	*0.426*	*J*	*ug/L*		*11.26*	*123-86-4*		*03/20/18 09:26*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*03/20/18 09:26*	*1*
n-Nonyl Aldehyde	*0.929*	*J*	*ug/L*		*15.03*	*124-19-6*		*03/20/18 09:26*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 129*		*03/20/18 09:26*	*1*
4-Bromofluorobenzene (Surr)	*113*		*81 - 130*		*03/20/18 09:26*	*1*
Dibromofluoromethane (Surr)	*90*		*81 - 124*		*03/20/18 09:26*	*1*
Toluene-d8 (Surr)	*105*		*87 - 128*		*03/20/18 09:26*	*1*

Lab Sample ID: LCS 160-356505/4
Matrix: Water
Analysis Batch: 356505

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.47		ug/L		95	80 - 120
Benzene	10.0	9.35		ug/L		94	80 - 120
Bromodichloromethane	10.0	9.32		ug/L		93	80 - 120
Bromoform	10.0	9.72		ug/L		97	80 - 120
Carbon tetrachloride	10.0	10.0		ug/L		100	83 - 125
Chlorobenzene	10.0	9.79		ug/L		98	80 - 120
Chloroform	10.0	9.20		ug/L		92	80 - 120
Dibromochloromethane	10.0	10.1		ug/L		101	80 - 120
Methylene Chloride	10.0	9.22		ug/L		92	80 - 120
Toluene	10.0	9.97		ug/L		100	80 - 120
Trichloroethene	10.0	9.28		ug/L		93	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 129*
4-Bromofluorobenzene (Surr)	*93*		*81 - 130*
Dibromofluoromethane (Surr)	*97*		*81 - 124*
Toluene-d8 (Surr)	*103*		*87 - 128*

Lab Sample ID: LCSD 160-356505/5
Matrix: Water
Analysis Batch: 356505

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-Dichloroethene			10.0	9.35		ug/L		94	80 - 120	1	20
Benzene			10.0	9.45		ug/L		95	80 - 120	1	20
Bromodichloromethane			10.0	9.43		ug/L		94	80 - 120	1	20
Bromoform			10.0	9.49		ug/L		95	80 - 120	2	20
Carbon tetrachloride			10.0	9.96		ug/L		100	83 - 125	1	20
Chlorobenzene			10.0	9.42		ug/L		94	80 - 120	4	20
Chloroform			10.0	9.40		ug/L		94	80 - 120	2	20
Dibromochloromethane			10.0	9.69		ug/L		97	80 - 120	4	20
Methylene Chloride			10.0	9.24		ug/L		92	80 - 120	0	20
Toluene			10.0	9.65		ug/L		96	80 - 120	3	20
Trichloroethene			10.0	9.31		ug/L		93	80 - 120	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 129*
4-Bromofluorobenzene (Surr)	*91*		*81 - 130*
Dibromofluoromethane (Surr)	*92*		*81 - 124*
Toluene-d8 (Surr)	*98*		*87 - 128*

Lab Sample ID: 160-27366-A-1 MS
Matrix: Water
Analysis Batch: 356505

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	0.10	U	10.0	9.36		ug/L		94	80 - 120
Benzene	0.10	U	10.0	9.54		ug/L		95	80 - 120
Bromodichloromethane	0.14	U	10.0	9.22		ug/L		92	80 - 120
Bromoform	0.17	U	10.0	8.87		ug/L		89	81 - 121
Carbon tetrachloride	0.18	U	10.0	10.1		ug/L		101	77 - 131
Chlorobenzene	0.11	U	10.0	9.53		ug/L		95	80 - 120
Chloroform	0.10	U	10.0	9.30		ug/L		93	80 - 120
Dibromochloromethane	0.14	U	10.0	9.65		ug/L		96	84 - 123
Methylene Chloride	1.5		10.0	10.6		ug/L		91	80 - 120
Toluene	0.14	U	10.0	9.74		ug/L		97	85 - 123
Trichloroethene	0.25	U	10.0	9.33		ug/L		93	81 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*75 - 129*
4-Bromofluorobenzene (Surr)	*87*		*81 - 130*
Dibromofluoromethane (Surr)	*94*		*81 - 124*
Toluene-d8 (Surr)	*99*		*87 - 128*

Lab Sample ID: 160-27366-A-1 MSD
Matrix: Water
Analysis Batch: 356505

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	0.10	U	10.0	9.39		ug/L		94	80 - 120	0	20
Benzene	0.10	U	10.0	9.53		ug/L		95	80 - 120	0	20
Bromodichloromethane	0.14	U	10.0	8.98		ug/L		90	80 - 120	3	20
Bromoform	0.17	U	10.0	8.73		ug/L		87	81 - 121	2	20

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

Lab Sample ID: 160-27366-A-1 MSD
Matrix: Water
Analysis Batch: 356505

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	0.18	U	10.0	9.96		ug/L		100	77 - 131	1	20
Chlorobenzene	0.11	U	10.0	9.45		ug/L		95	80 - 120	1	20
Chloroform	0.10	U	10.0	9.16		ug/L		92	80 - 120	1	20
Dibromochloromethane	0.14	U	10.0	9.80		ug/L		98	84 - 123	2	20
Methylene Chloride	1.5		10.0	10.4		ug/L		89	80 - 120	1	20
Toluene	0.14	U	10.0	9.65		ug/L		97	85 - 123	1	20
Trichloroethene	0.25	U	10.0	9.32		ug/L		93	81 - 125	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*75 - 129*
4-Bromofluorobenzene (Surr)	*87*		*81 - 130*
Dibromofluoromethane (Surr)	*93*		*81 - 124*
Toluene-d8 (Surr)	*98*		*87 - 128*

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

Lab Sample ID: MB 160-356443/1-A
Matrix: Water
Analysis Batch: 357801

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 356443

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	10	1.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
1,4-Dichlorobenzene	1.0	U	10	1.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
2,4-Dinitrotoluene	1.0	U	10	1.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
2-Chlorophenol	1.0	U	10	1.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
4-Chloro-3-methylphenol	1.0	U	10	1.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
4-Nitrophenol	2.0	U	10	2.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
Acenaphthene	1.0	U	10	1.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
Bis(2-ethylhexyl) phthalate	1.9	U	10	1.9	ug/L		03/19/18 12:10	03/27/18 11:48	1
N-Nitrosodi-n-propylamine	1.5	U	10	1.5	ug/L		03/19/18 12:10	03/27/18 11:48	1
Pentachlorophenol	1.3	U	50	1.3	ug/L		03/19/18 12:10	03/27/18 11:48	1
Phenol	2.0	U	10	2.0	ug/L		03/19/18 12:10	03/27/18 11:48	1
Pyridine	2.0	U	20	2.0	ug/L		03/19/18 12:10	03/27/18 11:48	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*10.8*	*N*	*ug/L*		*12.43*		*03/19/18 12:10*	*03/27/18 11:48*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*87*		*37 - 120*	*03/19/18 12:10*	*03/27/18 11:48*	*1*
2-Fluorobiphenyl (Surr)	*79*		*43 - 108*	*03/19/18 12:10*	*03/27/18 11:48*	*1*
2-Fluorophenol (Surr)	*45*		*15 - 59*	*03/19/18 12:10*	*03/27/18 11:48*	*1*
Nitrobenzene-d5 (Surr)	*83*		*50 - 101*	*03/19/18 12:10*	*03/27/18 11:48*	*1*
Phenol-d5 (Surr)	*28*		*10 - 50*	*03/19/18 12:10*	*03/27/18 11:48*	*1*
Terphenyl-d14 (Surr)	*93*		*21 - 97*	*03/19/18 12:10*	*03/27/18 11:48*	*1*

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

Lab Sample ID: LCS 160-356443/2-A
Matrix: Water
Analysis Batch: 357801

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 356443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	57.4		ug/L		57	56 - 100
1,4-Dichlorobenzene	100	52.0		ug/L		52	47 - 99
2,4-Dinitrotoluene	100	86.0		ug/L		86	57 - 117
2-Chlorophenol	100	65.6		ug/L		66	47 - 97
4-Chloro-3-methylphenol	100	73.6		ug/L		74	51 - 102
4-Nitrophenol	100	31.6		ug/L		32	20 - 47
Acenaphthene	100	78.4		ug/L		78	58 - 108
Bis(2-ethylhexyl) phthalate	100	84.1		ug/L		84	58 - 111
N-Nitrosodi-n-propylamine	100	74.1		ug/L		74	59 - 115
Pentachlorophenol	100	75.6		ug/L		76	49 - 115
Phenol	100	27.5		ug/L		28	20 - 69

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*92*		*37 - 120*
2-Fluorobiphenyl (Surr)	*81*		*43 - 108*
2-Fluorophenol (Surr)	*42*		*15 - 59*
Nitrobenzene-d5 (Surr)	*78*		*50 - 101*
Phenol-d5 (Surr)	*28*		*10 - 50*
Terphenyl-d14 (Surr)	*88*		*21 - 97*

Lab Sample ID: 160-27365-2 MS
Matrix: Water
Analysis Batch: 357801

Client Sample ID: B3HY98
Prep Type: Total/NA
Prep Batch: 356443

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	0.93	U T	93.5	40.3	T	ug/L		43	61 - 95
1,4-Dichlorobenzene	0.93	U T	93.5	38.8	T	ug/L		41	60 - 94
2,4-Dinitrotoluene	0.93	U T	93.5	63.5		ug/L		68	62 - 112
2-Chlorophenol	0.93	U T	93.5	51.5		ug/L		55	52 - 92
4-Chloro-3-methylphenol	0.93	U	93.5	61.8		ug/L		66	51 - 105
4-Nitrophenol	1.9	U	93.5	25.8		ug/L		28	15 - 42
Acenaphthene	0.93	U T	93.5	52.0	T	ug/L		56	63 - 103
Bis(2-ethylhexyl) phthalate	1.7	U T	93.5	49.3		ug/L		53	53 - 125
N-Nitrosodi-n-propylamine	1.4	U T	93.5	61.5		ug/L		66	64 - 110
Pentachlorophenol	1.2	U T	93.5	47.8	T	ug/L		51	54 - 110
Phenol	1.9	U	93.5	21.3		ug/L		23	15 - 70

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*84*		*37 - 120*
2-Fluorobiphenyl (Surr)	*71*		*43 - 108*
2-Fluorophenol (Surr)	*34*		*15 - 59*
Nitrobenzene-d5 (Surr)	*71*		*50 - 101*
Phenol-d5 (Surr)	*23*		*10 - 50*
Terphenyl-d14 (Surr)	*66*		*21 - 97*

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

Lab Sample ID: 160-27365-2 MSD — **Client Sample ID: B3HY98**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 357801 — **Prep Batch: 356443**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	0.93	U T	93.2	38.5	T	ug/L		41	61 - 95	5	20
1,4-Dichlorobenzene	0.93	U T	93.2	36.4	T	ug/L		39	60 - 94	6	20
2,4-Dinitrotoluene	0.93	U T	93.2	55.4	T	ug/L		59	62 - 112	14	20
2-Chlorophenol	0.93	U T	93.2	47.8	T	ug/L		51	52 - 92	8	20
4-Chloro-3-methylphenol	0.93	U	93.2	55.1		ug/L		59	51 - 105	11	20
4-Nitrophenol	1.9	U	93.2	21.0		ug/L		23	15 - 42	20	20
Acenaphthene	0.93	U T	93.2	47.0	T	ug/L		50	63 - 103	10	20
Bis(2-ethylhexyl) phthalate	1.7	U T	93.2	41.3	T	ug/L		44	53 - 125	18	20
N-Nitrosodi-n-propylamine	1.4	U T	93.2	56.6	T	ug/L		61	64 - 110	8	20
Pentachlorophenol	1.2	U T	93.2	42.0	J T	ug/L		45	54 - 110	13	20
Phenol	1.9	U	93.2	18.8		ug/L		20	15 - 70	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*72*		*37 - 120*
2-Fluorobiphenyl (Surr)	*65*		*43 - 108*
2-Fluorophenol (Surr)	*31*		*15 - 59*
Nitrobenzene-d5 (Surr)	*66*		*50 - 101*
Phenol-d5 (Surr)	*20*		*10 - 50*
Terphenyl-d14 (Surr)	*59*		*21 - 97*

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 160-359000/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359000

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	0.580	B	1.00	0.0970	uS/cm			04/04/18 21:45	1

Lab Sample ID: LCS 160-359000/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359000

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	500	496.0		uS/cm		99	85 - 115

Lab Sample ID: 160-27365-2 MS — **Client Sample ID: B3HY98**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359000

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	158		1410	1828		uS/cm		118	75 - 125

Method: 120.1 - Conductivity, Specific Conductance (Continued)

Lab Sample ID: 160-27365-2 DU — **Client Sample ID: B3HY98**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 359000

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Specific Conductance	158			158.8		uS/cm				0.6	20

Method: 160.1 - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 160-356876/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356876

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	3.5	U	5.0	3.5	mg/L			03/21/18 09:34	1

Lab Sample ID: LCS 160-356876/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356876

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids (TDS)			500	492.0		mg/L		98	90 - 110		

Lab Sample ID: 160-27365-2 DU — **Client Sample ID: B3HY98**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356876

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids (TDS)	62.0			62.00		mg/L				0	5

Method: 9040C - pH

Lab Sample ID: LCS 160-356184/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356184

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.000		SU		100	99.0 - 101.0		

Lab Sample ID: 160-27365-2 DU — **Client Sample ID: B3HY98**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 356184

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.86			7.890		SU				0.4	5

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F18-009

TestAmerica Job ID: 160-27365-1
SDG: SL2826

GC/MS VOA

Analysis Batch: 356505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-27365-1	B3HY99	Total/NA	Water	8260C	
160-27365-2	B3HY98	Total/NA	Water	8260C	
MB 160-356505/7	Method Blank	Total/NA	Water	8260C	
LCS 160-356505/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 160-356505/5	Lab Control Sample Dup	Total/NA	Water	8260C	
160-27366-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
160-27366-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 356443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-27365-2	B3HY98	Total/NA	Water	3510C	
MB 160-356443/1-A	Method Blank	Total/NA	Water	3510C	
LCS 160-356443/2-A	Lab Control Sample	Total/NA	Water	3510C	
160-27365-2 MS	B3HY98	Total/NA	Water	3510C	
160-27365-2 MSD	B3HY98	Total/NA	Water	3510C	

Analysis Batch: 357801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-27365-2	B3HY98	Total/NA	Water	8270D	356443
MB 160-356443/1-A	Method Blank	Total/NA	Water	8270D	356443
LCS 160-356443/2-A	Lab Control Sample	Total/NA	Water	8270D	356443
160-27365-2 MS	B3HY98	Total/NA	Water	8270D	356443
160-27365-2 MSD	B3HY98	Total/NA	Water	8270D	356443

General Chemistry

Analysis Batch: 356184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-27365-2	B3HY98	Total/NA	Water	9040C	
LCS 160-356184/5	Lab Control Sample	Total/NA	Water	9040C	
160-27365-2 DU	B3HY98	Total/NA	Water	9040C	

Analysis Batch: 356876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-27365-2	B3HY98	Total/NA	Water	160.1	
MB 160-356876/1	Method Blank	Total/NA	Water	160.1	
LCS 160-356876/2	Lab Control Sample	Total/NA	Water	160.1	
160-27365-2 DU	B3HY98	Total/NA	Water	160.1	

Analysis Batch: 359000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-27365-2	B3HY98	Total/NA	Water	120.1	
MB 160-359000/2	Method Blank	Total/NA	Water	120.1	
LCS 160-359000/3	Lab Control Sample	Total/NA	Water	120.1	
160-27365-2 MS	B3HY98	Total/NA	Water	120.1	
160-27365-2 DU	B3HY98	Total/NA	Water	120.1	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F18-009

TestAmerica Job ID: 160-27365-1
SDG: SL2826

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)
160-27365-1	B3HY99	87	114	88	105
160-27365-2	B3HY98	86	105	90	102
160-27366-A-1 MS	Matrix Spike	88	87	94	99
160-27366-A-1 MSD	Matrix Spike Duplicate	87	87	93	98
LCS 160-356505/4	Lab Control Sample	94	93	97	103
LCSD 160-356505/5	Lab Control Sample Dup	91	91	92	98
MB 160-356505/7	Method Blank	91	113	90	105

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(37-120)	(43-108)	(15-59)	(50-101)	(10-50)	(21-97)
160-27365-2	B3HY98	67	50	23	49 X	15	59
160-27365-2 MS	B3HY98	84	71	34	71	23	66
160-27365-2 MSD	B3HY98	72	65	31	66	20	59
LCS 160-356443/2-A	Lab Control Sample	92	81	42	78	28	88
MB 160-356443/1-A	Method Blank	87	79	45	83	28	93

Surrogate Legend

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