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: 160-26467-1
TestAmerica Sample Delivery Group: SL2795
Client Project/Site: I18-004/S18-001/A18-001/W18-001

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

Attn: Mr. Scot Fitzgerald

Authorized for release by:
2/22/2018 5:37:11 PM

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

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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: 160-26467-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

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

SDG	: SL2795
Number of Samples	: 25 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: January 23, 2018

II. Introduction

On January 23, 25 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: I18-004, S18-001, A18-001 and W18-001

Walk-in cooler 3 fell below temp on 1/25/18. Samples B3FXC6 and B3FXC3 bottles for TOX were frozen and broken. The lab can use the TOC bottle for TOX analysis for these samples. For sample B3FT55, 1 frozen bottle can be thawed and prepared for 8270. For sample B3FT63, 2 bottles were not frozen and were prepared for 8270. 1 bottle was half frozen and can be thawed and prepared for 8270. Per SIR18-0435, samples were prepared and analyzed.

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

Job ID: 160-26467-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

For extractable and volatile organic analyses, several analytes are considered poor performers and will not meet CHPRC QC limits. Per CHPRC direction, the lab's statistical limits have been reported. Excursions outside these statistical limits will include a non-conformance in the sections below.

IV. Definitions

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

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

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

- **B** - For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** - For organic analyses, Method Blank contamination. The Method Blank contains the target analyte 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.

Alkalinity

Batch: 349928

The following samples in Alkalinity analytical batch 160-349928 were run 1 day out of hold as a result of the analyst mis-reading the backlog. QA is addressing corrective action. Per SIR18-0459, samples were run within 2x hold. B3FT55 (160-26470-4), B3FT63 (160-26470-6), B3FT75 (160-26470-9), B3FRH3 (160-26470-10) and B3FXC3 (160-26470-13)

Technetium-99

Prep Batch: 348968

Insufficient sample volume was available to perform a sample duplicate (DUP). A laboratory control sample duplicate (LCS/LCSD) was preformed to display batch precision.

Job ID: 160-26467-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

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

Semivolatiles
ICP Metals
ICPMS Metals
TOX
TOC

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

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

SAMPLE ISSUE RESOLUTION (SIR) REPORT

SIR Number: SIR18-0435
Rev. Number: 0
Date Initiated: 01/26/2018

SAMPLE EVENT INFORMATION

SAF NUM(S): W18-001

LABORATORY: TASL

SAMPLING INFORMATION

NUMBER OF SAMPLES: 4

SAMPLE NUMBERS: B3FT55, B3FT63, B3FXC3, B3FXC6

SAMPLE MATRIX: WATER

SDG NUM(S): SL2795

ISSUE BACKGROUND

CLASS: Laboratory Issue

TYPE: Incorrect Sample Preservation

DESCRIPTION: Walk in cooler #3 fell below temp on 1/25/18. Sample bottles were found to be frozen and/or broken. Samples not included were either already completed or remained in their liquid or solid form. The software did not send out an alert which is being investigated. Samples were removed from this cooler and placed in another cooler. Samples B3FXC6 and B3FXC3 – TOX can be run on TOC bottle. Sample B3FT55 – 1 frozen bottle was thawed and prepped for 8270. Sample B3FT63 – 2 bottles were not frozen and were prepared for 8270.1 bottle was half frozen and thawed and prepared for 8270.

RESOLUTION

PROPOSED RESOLUTION: TASL PROPOSES TO CONTINUE WITH ANALYSIS AND NARRATE.

FINAL RESOLUTION: Please proceed with analyses and narrate the issues.

SUBMITTED BY:

AWALT, JK 01/26/2018

ACCEPTED BY:

MEDLEY, HA 01/29/2018

SAMPLE ISSUE RESOLUTION (SIR) REPORT

SIR Number: SIR18-0459
Rev. Number: 0
Date Initiated: 02/07/2018

SAMPLE EVENT INFORMATION

SAF NUM(S): W18-001

LABORATORY: TASL

SAMPLING INFORMATION

NUMBER OF SAMPLES: 5

SAMPLE NUMBERS: B3FRH3, B3FT55, B3FT63, B3FT75, B3FXC3

SAMPLE MATRIX: WATER

SDG NUM(S): SL2795

ISSUE BACKGROUND

CLASS: Laboratory Issue

TYPE: Analysis Holding Time Exceeded

DESCRIPTION: The samples were missed being run for alkalinity within the 1X hold time. The samples were analyzed one day outside 1X hold, but within 2X hold.

RESOLUTION

PROPOSED RESOLUTION: TASL proposes to report the data outside 1X hold but within 2X hold with appropriate narration.

FINAL RESOLUTION: Accept proposed resolution and comment in narrative.

SUBMITTED BY:

HOERCHLER, E — 02/07/2018

ACCEPTED BY:

MEDLEY, HA — 02/08/2018

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-26467-1
SDG Number: SL2795

Login Number: 26467
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7, 0.4
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 827795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I18-004-145

Page 1 of 1

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	I18-004	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	SURV18, JANUARY 2018	**Logbook No.:**	HNF-N-506 98/29	**Ice Chest No.:**	GW5-600
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7712908052 50
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
B3FPD5	N	W	1-18-18	1246	1x500-mL G/P	TC99_SEP_LSC: COMMON	6 Months	HNO3 to pH <2

Relinquished By:	Received By:
Larry Rosane /CHPRC — Larry Rosane — JAN 18 2018 1315 (Print First and Last Name / Signature / Date/Time)	SSU-1 — JAN 18 2018 1315 (Print First and Last Name / Signature / Date/Time)
SSU-1 — JAN 22 2018 1000 (Print First and Last Name / Signature / Date/Time)	Lesly Wall /CHPRC — Lesly Wall — JAN 22 2018 1000 (Print First and Last Name / Signature / Date/Time)
Lesly Wall /CHPRC — Lesly Wall — JAN 22 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)	Jill Clarke — Jill Clarke — 1.23.18 0918 (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 1/3/2018 FSR ID = FSR55840 A-6004-842 (REV 3)

02/22/18

REV.0

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CH2MHill Plateau Remediation Company SL2795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-001-314

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	SURV, JANUARY 2018	**Logbook No.:**	HNF-N-506 95 184	**Ice Chest No.:**	GWS-415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771292875097
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
B3FWJ7	Y	W	JAN 22 2018	0900	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B3FWJ6	N	W			1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

Relinquished By:	Received By:
Larry Rosane /CHPRC — Larry Rosane — JAN 22 2018 1045 (Print First and Last Name / Signature / Date/Time)	Barbara Briggs /CHPRC — BeBriggs — JAN 22 2018 1045 (Print First and Last Name / Signature / Date/Time)
Barbara Briggs /CHPRC — BeBriggs — JAN 22 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)	Jill Clark — Jill Clark — 1.23.18 0910 (Print First and Last Name / Signature / Date/Time)
~~FED EX~~ (Print First and Last Name / Signature / Date/Time)	~~Jill Clark — Jill Clark — 1.23.18~~ 1.23.18 (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 11/29/2017 FSR ID = FSR54153 A-6004-842 (REV 3)

02/22/18

REV.0

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CH2MHill Plateau Remediation Company 822795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S18-001-313

Collector: Juan Aguilar /CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: S18-001	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: SURV, JANUARY 2018	**Logbook No.:** HNF-N-506-97145	**Ice Chest No.:** GWS415
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7712 9287 5097
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
B3FWN0	N	W	1-22-18	1002	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B3FWN1	Y	W	1-22-18	1002	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

Relinquished By: Juan Aguilar /CHPRC — JAN 2 2 2018 1030 (Print First and Last Name / Signature / Date/Time)	Received By: Barbara Briggs /CHPRC — JAN 2 2 2018 1030 (Print First and Last Name / Signature / Date/Time)
Relinquished By: Barbara Briggs /CHPRC — JAN 2 2 2018 1400 (Print First and Last Name / Signature / Date/Time)	Received By: FEDEX (Print First and Last Name / Signature / Date/Time)
Relinquished By: FED EX (Print First and Last Name / Signature / Date/Time)	Received By: Jill Clarke — 1-23-18 0910 (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; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air; DS = Drum Solids; DL = Drum Liquid; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other

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

Printed On 11/29/2017 FSR ID = FSR54152 A-6004-842 (REV 3)

02/22/18

REV.0

11:58 2/22/2018

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771290805250

Ship date:
Mon 1/22/2018

Richland, WA US

Delivered
Signed for by: J.CLARKE

Actual delivery:
Tue 1/23/2018 9:00 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 1/23/2018 - Tuesday		
9:00 am	Delivered	EARTH CITY, MO
7:18 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:13 am	At local FedEx facility	EARTH CITY, MO
6:01 am	At destination sort facility	BERKELEY, MO
5:16 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
- 1/22/2018 - Monday		
4:52 pm	Left FedEx origin facility	PASCO, WA
3:18 pm	Picked up	PASCO, WA
12:16 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771290805250	**Service**	FedEx Standard Overnight
Weight	49 lbs / 22.23 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	49 lbs / 22.23 kgs
Terms	Recipient	**Shipper reference**	GWS-600
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge
Standard transit	1/23/2018 by 3:00 pm		

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FedEx® Tracking

771292875097

Ship date:
Mon 1/22/2018

Richland, WA US

Delivered
Signed for by: J.CLARKE

Actual delivery:
Tue 1/23/2018 9:00 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 1/23/2018 - Tuesday		
9:00 am	Delivered	EARTH CITY, MO
7:37 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:30 am	At local FedEx facility	EARTH CITY, MO
6:01 am	At destination sort facility	BERKELEY, MO
5:16 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
- 1/22/2018 - Monday		
4:52 pm	Left FedEx origin facility	PASCO, WA
3:18 pm	Picked up	PASCO, WA
2:01 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771292875097	**Service**	FedEx Standard Overnight
Weight	94 lbs / 42.64 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	94 lbs / 42.64 kgs
Terms	Recipient	**Shipper reference**	GWS-415
Packaging	Your Packaging	**Special handling section**	Deliver Weekday
Standard transit	1/23/2018 by 3:00 pm		

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-26469-1
SDG Number: SL2795

Login Number: 26469
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4
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 812795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # A18-001-057

Page 1 of 1

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	A18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	PERFORMANCE ASSESSMENT, JANUAR	**Logbook No.:**	HNF-N-506 95184	**Ice Chest No.:**	GW5415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7712 9287 5097
Protocol	Monitoring	**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
B3FXL0	N	W	JAN 22 2018	1046	1x500-mL G/P	TC99_SEP_LSC: COMMON	6 Months	HNO3 to pH <2

Relinquished By:	Received By:
Larry Rosane /CHPRC — Larry Rosane — JAN 22 2018 1050 (Print First and Last Name / Signature / Date/Time)	Barbara Briggs /CHPRC — BeBriggs — JAN 22 2018 1050 (Print First and Last Name / Signature / Date/Time)
Barbara Briggs /CHPRC — BeBriggs — JAN 22 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)	Jill Clark — Jill Clark — 1-23-18 0910 (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 11/29/2017 FSR ID = FSR54155 A-6004-842 (REV 3)

02/22/18 REV.0 15/58 2/22/2018

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

FedEx® Tracking

771292875097

Ship date:
Mon 1/22/2018

Richland, WA US

Delivered
Signed for by: J.CLARKE

Actual delivery:
Tue 1/23/2018 9:00 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
▪ 1/23/2018 - Tuesday		
9:00 am	Delivered	EARTH CITY, MO
7:37 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:30 am	At local FedEx facility	EARTH CITY, MO
6:01 am	At destination sort facility	BERKELEY, MO
5:16 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
▪ 1/22/2018 - Monday		
4:52 pm	Left FedEx origin facility	PASCO, WA
3:18 pm	Picked up	PASCO, WA
2:01 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771292875097	**Service**	FedEx Standard Overnight
Weight	94 lbs / 42.64 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	94 lbs / 42.64 kgs
Terms	Recipient	**Shipper reference**	GWS-415
Packaging	Your Packaging	**Special handling section**	Deliver Weekday
Standard transit	1/23/2018 by 3:00 pm		

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-26470-1
SDG Number: SL2795

Login Number: 26470
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4, 0.2
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 912796

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-244

Collector:	Juan Aguilar /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 -97145	**Ice Chest No.:**	GWS415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7712 9287 5097
Protocol	RCRA	**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
B3FTY2	N	W	1-22-18	1002	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FTY2	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FTY3	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FTY3	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FTY4	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FTY4	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FT55	N	W	1-22-18	1002	1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By:	Received By:
Juan Aguilar /CHPRC — JAN 2 2 2018 1030 (Print First and Last Name / Signature / Date/Time)	Barbara Briggs /CHPRC — JAN 2 2 2018 1030 (Print First and Last Name / Signature / Date/Time)
Barbara Briggs /CHPRC — JAN 2 2 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)	Jill Clark — 1-23-18 0910 (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 11/29/2017 FSR ID = FSR54152 A-6004-842 (REV 3)

02/22/18

REV.0

18158 2/22/2018

CH2MHill Plateau Remediation Company 812795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-244

Collector:	Juan Aguilar /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 -97145	**Ice Chest No.:**	GWS-415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	77129287 5097
Protocol	RCRA	**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
B3FT55	N	W	1-22-18	1002	4x1-L aG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool <=6C
B3FT55	N	W	1-22-18	1002	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FT55	N	W	1-22-18	1002	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By: Juan Aguilar /CHPRC		JAN 2 2 2018 1030	Received By: Barbara Briggs /CHPRC		JAN 2 2 2018 1030
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: Barbara Briggs /CHPRC		JAN 2 2 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:		1.23.18 0910
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 11/29/2017 FSR ID = FSR54152 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company 842795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-245

91

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 95/84	**Ice Chest No.:**	GWS-533
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771292896327
Protocol	RCRA	**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
B3FV00	N	W	JAN 22 2018	0900	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FV00	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FT63	N	W			1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B3FT63	N	W			4x1-L aG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool <=6C
B3FT63	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FT63	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FTY9	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C

Relinquished By	Received By
Larry Rosane /CHPRC — Larry Rosane — JAN 22 2018 1045 (Print First and Last Name / Signature / Date/Time)	Barbara Briggs /CHPRC — BBriggs — JAN 22 2018 1045 (Print First and Last Name / Signature / Date/Time)
Barbara Briggs /CHPRC — BBriggs — JAN 22 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)	Jill Clark — Jill Clark — 1.23.18 0910 (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 11/29/2017 FSR ID = FSR54153 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company 912795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-245

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 95 184	**Ice Chest No.:**	GWS-533
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	77129289 6327
Protocol	RCRA	**Priority:**	30 Days	**Offsite Property No.:**	

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
B3FTY9	N	W	JAN 2 2 2018	0900	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FTY8	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FTY8	N	W			1x250-mL aG	9060_TOC: COMMON	28 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
Larry Rosane /CHPRC	Larry Rosane	Larry Rosane	JAN 2 2 2018 1045	Barbara Briggs /CHPRC	Barbara Briggs	Barbara Briggs	JAN 2 2 2018 1045
Barbara Briggs /CHPRC	Barbara Briggs	Barbara Briggs	JAN 2 2 2018 1400	FEDEX			
		FED EX			Gee Clarke	J.H. Clarke	1-23-18 0910

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 11/29/2017 FSR ID = FSR54153 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company 92795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-246

Collector:	Chris Fulton CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 - 96,85	**Ice Chest No.:**	GWS-415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7712 9287 5097
Protocol	RCRA	**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
B3FT75	N	W	JAN 22 2018	1020	1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B3FT75	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FT75	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Received By:
Chris Fulton CHPRC — JAN 22 2018 1033 (Print First and Last Name / Signature / Date/Time)	Jeff Lucas CHPRC — JAN 22 2018 1033 (Print First and Last Name / Signature / Date/Time)
Jeff Lucas CHPRC — JAN 22 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)	Jill Clark — 1-23-18 0910 (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 12/6/2017 FSR ID = FSR54493 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company 92795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-249

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 95184	**Ice Chest No.:**	GWS-415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771292875097
Protocol	RCRA	**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
B3FRH3	N	W	JAN 22 2018	1046	1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B3FRH3	N	W			1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B3FRH3	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FRH3	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FRH5	Y	W			1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2

Relinquished By: Larry Rosane /CHPRC	Larry Rosane	JAN 22 2018 1050	Received By: Barbara Briggs /CHPRC	BeBriggs	JAN 22 2018 1050
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Relinquished By: Barbara Briggs /CHPRC	BeBriggs	JAN 22 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: Jill Clark	Jill Clark	1-23-18 0910
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:

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CH2MHill Plateau Remediation Company 82795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-283

Collector: Juan Aguilar /CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650	
SAF No.: W18-001	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071	
Project Title: RCRA, JANUARY 2018	**Logbook No.:** HNF-N-506 - 97145	**Ice Chest No.:** GWS-533	
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7712 9289 6327	
Protocol RCRA	**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
B3FXC4	N	W	1-22-18	1047	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FXC4	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FXC3	N	W			1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C
B3FXC3	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FXC3	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FXC6	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FXC6	N	W	1-22-18	1047	1x250-mL aG	9060_TOC: COMMON	28 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		JAN 22 2018	1105	Barbara Briggs /CHPRC		JAN 22 2018	1105
Barbara Briggs /CHPRC		JAN 22 2018	1400	FEDEX			
FED EX				Jill Clarke	Jill Clarke	1-23-18	0910

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:

02/22/18

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CH2MHill Plateau Remediation Company 812795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-283

Collector:	Juan Aguilar /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506-97145	**Ice Chest No.:**	GWS-533
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7712 9289 6327
Protocol	RCRA	**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
B3FXC5	N	W	1-22-18	1047	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2 / Cool <=6C
B3FXC5	N	W	1-22-18	1047	1x250-mL aG	9060_TOC: COMMON	28 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		JAN 2 2 2018	1105	Barbara Briggs /CHPRC		BBriggs	JAN 2 2 2018 1105
Barbara Briggs /CHPRC		BBriggs	JAN 2 2 2018 1400	FEDEX			
FED EX				Jill Clarke		Jill Clarke	1-23-18 0910

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 11/29/2017 FSR ID = FSR54169 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company 922795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-316

Collector: Chris Fulton (CHPRC)	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W18-001	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, JANUARY 2018	**Logbook No.:** HNF-N-506-~~85~~ 96, 85	**Ice Chest No.:** GWS-415
Shipped To (Lab): TestAmerica St. Louis	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771292875097
Protocol RCRA	**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

Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3FXJ4	N	W	JAN 22 2018	0917	1x125-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B3FXB4	Y	W			1x125-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Chris Fulton CHPRC		JAN 22 2018 1033	Jeff Lucas /CHPRC		JAN 22 2018 1033
Jeff Lucas /CHPRC		JAN 22 2018 1400	FEDEX		
	FEDEX		Jill Clark	Jill Clark	1.23.18 0910

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 11/29/2017 FSR ID = FSR54168 A-6004-842 (REV 3)

02/22/18

REV.0

26/58 2/22/2018

CH2MHill Plateau Remediation Company 92795

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W18-001-323

Collector:	Larry Rosane /CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	W18-001	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	RCRA, JANUARY 2018	**Logbook No.:**	HNF-N-506 95184	**Ice Chest No.:**	GWS415
Shipped To (Lab):	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771292875097
Protocol	RCRA	**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
B3FXK8	N	W	JAN 22 2018	1010	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B3FRH1	Y	W			1x500-mL G/P	6010_METALS_ICP: 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
Larry Rosane /CHPRC	Larry Rosane	Larry Rosane	JAN 22 2018 1045	Barbara Briggs /CHPRC	Barbara Briggs	BeBriggs	JAN 22 2018 1045
Barbara Briggs /CHPRC	Barbara Briggs	BeBriggs	JAN 22 2018 1400	FEDEX			
			FED EX		Jill Clarke	Jill Clarke	1-23-18 0910

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 11/21/2017 FSR ID = FSR53831 A-6004-842 (REV 3)

02/22/18

REV.0

27/58 2/22/2018

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FedEx® Tracking

771292875097

Ship date:
Mon 1/22/2018

Richland, WA US

Delivered
Signed for by: J.CLARKE

Actual delivery:
Tue 1/23/2018 9:00 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
1/23/2018 - Tuesday		
9:00 am	Delivered	EARTH CITY, MO
7:37 am	On FedEx vehicle for delivery	EARTH CITY, MO
7:30 am	At local FedEx facility	EARTH CITY, MO
6:01 am	At destination sort facility	BERKELEY, MO
5:16 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
1/22/2018 - Monday		
4:52 pm	Left FedEx origin facility	PASCO, WA
3:18 pm	Picked up	PASCO, WA
2:01 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771292875097	**Service**	FedEx Standard Overnight
Weight	94 lbs / 42.64 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	94 lbs / 42.64 kgs
Terms	Recipient	**Shipper reference**	GWS-415
Packaging	Your Packaging	**Special handling section**	Deliver Weekday
Standard transit	1/23/2018 by 3:00 pm		

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FedEx® Tracking

771292896327

Ship date:		Actual delivery:
Mon 1/22/2018		**Tue 1/23/2018 9:00 am**
Richland, WA US	**Delivered** *Signed for by: J.CLARKE*	EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 1/23/2018 - Tuesday		
9:00 am	Delivered	EARTH CITY, MO
7:26 am	At local FedEx facility	EARTH CITY, MO
6:01 am	At destination sort facility	BERKELEY, MO
5:16 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
- 1/22/2018 - Monday		
4:52 pm	Left FedEx origin facility	PASCO, WA
3:18 pm	Picked up	PASCO, WA
2:02 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771292896327	**Service**	FedEx Standard Overnight
Weight	91 lbs / 41.28 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	91 lbs / 41.28 kgs
Terms	Recipient	**Shipper reference**	GWS-533
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge
Standard transit	1/23/2018 by 3:00 pm		

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Metals

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
D	The reported value is from a dilution.
U	Analyzed for but not detected.
X	See case narrative notes for explanation of the 'X' flag

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
Z	Sample was prepped or analyzed beyond the specified holding time
B	Estimated result. Result is less than the RL, but greater than MDL

Rad

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

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-004/S18-001/A18-001/W18-001

TestAmerica Job ID: 160-26467-1
SDG: SL2795

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SL
6010C	Metals (ICP)	SW846	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
9020B	Organic Halides, Total (TOX)	SW846	TAL SL
9060	Organic Carbon, Total (TOC)	SW846	TAL SL
TC-02-RC	Technetium-99 (LSC)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy

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: I18-004/S18-001/A18-001/W18-001

TestAmerica Job ID: 160-26467-1
SDG: SL2795

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-26467-1	B3FPD5	Water	01/18/18 12:46	01/23/18 09:10
160-26467-2	B3FWJ7	Water	01/22/18 09:00	01/23/18 09:10
160-26467-3	B3FWJ6	Water	01/22/18 09:00	01/23/18 09:10
160-26467-4	B3FWN0	Water	01/22/18 10:02	01/23/18 09:10
160-26467-5	B3FWN1	Water	01/22/18 10:02	01/23/18 09:10
160-26469-1	B3FXL0	Water	01/22/18 10:46	01/23/18 09:10
160-26470-1	B3FTY2	Water	01/22/18 10:02	01/23/18 09:10
160-26470-2	B3FTY3	Water	01/22/18 10:02	01/23/18 09:10
160-26470-3	B3FTY4	Water	01/22/18 10:02	01/23/18 09:10
160-26470-4	B3FT55	Water	01/22/18 10:02	01/23/18 09:10
160-26470-5	B3FV00	Water	01/22/18 09:00	01/23/18 09:10
160-26470-6	B3FT63	Water	01/22/18 09:00	01/23/18 09:10
160-26470-7	B3FTY9	Water	01/22/18 09:00	01/23/18 09:10
160-26470-8	B3FTY8	Water	01/22/18 09:00	01/23/18 09:10
160-26470-9	B3FT75	Water	01/22/18 10:21	01/23/18 09:10
160-26470-10	B3FRH3	Water	01/22/18 10:46	01/23/18 09:10
160-26470-11	B3FRH5	Water	01/22/18 10:46	01/23/18 09:10
160-26470-12	B3FXC4	Water	01/22/18 10:47	01/23/18 09:10
160-26470-13	B3FXC3	Water	01/22/18 10:47	01/23/18 09:10
160-26470-14	B3FXC6	Water	01/22/18 10:47	01/23/18 09:10
160-26470-15	B3FXC5	Water	01/22/18 10:47	01/23/18 09:10
160-26470-16	B3FXJ4	Water	01/22/18 09:17	01/23/18 09:10
160-26470-17	B3FXB4	Water	01/22/18 09:17	01/23/18 09:10
160-26470-18	B3FXK8	Water	01/22/18 10:10	01/23/18 09:10
160-26470-19	B3FRH1	Water	01/22/18 10:10	01/23/18 09:10

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

Client Sample ID: B3FT55 — **Lab Sample ID: 160-26470-4**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	0.98	U	49	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2,4,5-Trichlorophenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2,4,6-Trichlorophenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2,4-Dichlorophenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2,4-Dimethylphenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2,4-Dinitrophenol	2.0	U	49	2.0	ug/L		01/26/18 12:10	01/30/18 13:58	1
2,6-Dichlorophenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2-Chlorophenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2-Methylphenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
2-Nitrophenol	1.5	U	9.8	1.5	ug/L		01/26/18 12:10	01/30/18 13:58	1
3 & 4 Methylphenol	2.0	U	20	2.0	ug/L		01/26/18 12:10	01/30/18 13:58	1
4,6-Dinitro-2-methylphenol	1.2	U	9.8	1.2	ug/L		01/26/18 12:10	01/30/18 13:58	1
4-Chloro-3-methylphenol	0.98	U	9.8	0.98	ug/L		01/26/18 12:10	01/30/18 13:58	1
4-Nitrophenol	2.0	U	9.8	2.0	ug/L		01/26/18 12:10	01/30/18 13:58	1
Dinoseb	2.0	U	20	2.0	ug/L		01/26/18 12:10	01/30/18 13:58	1
Pentachlorophenol	1.2	U	49	1.2	ug/L		01/26/18 12:10	01/30/18 13:58	1
Phenol	2.0	U	9.8	2.0	ug/L		01/26/18 12:10	01/30/18 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*82*		*37 - 120*	*01/26/18 12:10*	*01/30/18 13:58*	*1*
2-Fluorobiphenyl (Surr)	*79*		*43 - 108*	*01/26/18 12:10*	*01/30/18 13:58*	*1*
2-Fluorophenol (Surr)	*47*		*15 - 59*	*01/26/18 12:10*	*01/30/18 13:58*	*1*
Nitrobenzene-d5 (Surr)	*74*		*50 - 101*	*01/26/18 12:10*	*01/30/18 13:58*	*1*
Phenol-d5 (Surr)	*30*		*10 - 50*	*01/26/18 12:10*	*01/30/18 13:58*	*1*
Terphenyl-d14 (Surr)	*81*		*21 - 97*	*01/26/18 12:10*	*01/30/18 13:58*	*1*

Client Sample ID: B3FT63 — **Lab Sample ID: 160-26470-6**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	1.0	U	50	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2,4,5-Trichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2,4,6-Trichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2,4-Dichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2,4-Dimethylphenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2,4-Dinitrophenol	2.0	U	50	2.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2,6-Dichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2-Chlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2-Methylphenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
2-Nitrophenol	1.5	U	10	1.5	ug/L		01/26/18 12:10	01/30/18 14:25	1
3 & 4 Methylphenol	2.0	U	20	2.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
4,6-Dinitro-2-methylphenol	1.3	U	10	1.3	ug/L		01/26/18 12:10	01/30/18 14:25	1
4-Chloro-3-methylphenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
4-Nitrophenol	2.0	U	10	2.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
Dinoseb	2.0	U	20	2.0	ug/L		01/26/18 12:10	01/30/18 14:25	1
Pentachlorophenol	1.3	U	50	1.3	ug/L		01/26/18 12:10	01/30/18 14:25	1
Phenol	2.0	U	10	2.0	ug/L		01/26/18 12:10	01/30/18 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*88*		*37 - 120*	*01/26/18 12:10*	*01/30/18 14:25*	*1*

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

Client Sample ID: B3FT63 — **Lab Sample ID: 160-26470-6**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	80		43 - 108	01/26/18 12:10	01/30/18 14:25	1
2-Fluorophenol (Surr)	48		15 - 59	01/26/18 12:10	01/30/18 14:25	1
Nitrobenzene-d5 (Surr)	76		50 - 101	01/26/18 12:10	01/30/18 14:25	1
Phenol-d5 (Surr)	31		10 - 50	01/26/18 12:10	01/30/18 14:25	1
Terphenyl-d14 (Surr)	88		21 - 97	01/26/18 12:10	01/30/18 14:25	1

Method: 6010C - Metals (ICP)

Client Sample ID: B3FWJ6 — **Lab Sample ID: 160-26467-3**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	61300		1000	300	ug/L		01/30/18 14:38	01/31/18 13:37	1
Iron	45.8	B	100	30.0	ug/L		01/30/18 14:38	01/31/18 13:37	1
Magnesium	20500		1000	300	ug/L		01/30/18 14:38	01/31/18 13:37	1
Potassium	8010		5000	1500	ug/L		01/30/18 14:38	01/31/18 13:37	1
Sodium	27000		1000	300	ug/L		01/30/18 14:38	01/31/18 13:37	1
Vanadium	17.3	B	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 13:37	1
Boron	38.8	B	100	25.0	ug/L		01/30/18 14:38	01/31/18 13:37	1

Client Sample ID: B3FWN0 — **Lab Sample ID: 160-26467-4**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	72400		1000	300	ug/L		01/30/18 14:38	01/31/18 13:55	1
Iron	46.6	B	100	30.0	ug/L		01/30/18 14:38	01/31/18 13:55	1
Magnesium	23200		1000	300	ug/L		01/30/18 14:38	01/31/18 13:55	1
Potassium	7700		5000	1500	ug/L		01/30/18 14:38	01/31/18 13:55	1
Sodium	29500		1000	300	ug/L		01/30/18 14:38	01/31/18 13:55	1
Vanadium	21.0	B	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 13:55	1
Boron	58.1	B	100	25.0	ug/L		01/30/18 14:38	01/31/18 13:55	1

Client Sample ID: B3FRH3 — **Lab Sample ID: 160-26470-10**
Date Collected: 01/22/18 10:46 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Arsenic	4.0	U	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Barium	72.8		50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 14:04	1
Calcium	54300		1000	300	ug/L		01/30/18 14:38	01/31/18 14:04	1
Chromium	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Iron	35.5	B	100	30.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Magnesium	19300		1000	300	ug/L		01/30/18 14:38	01/31/18 14:04	1
Manganese	4.0	U	15.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Nickel	14.0	B	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Potassium	6990		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:04	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:04	1

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

Client Sample ID: B3FRH3 — **Lab Sample ID: 160-26470-10**
Date Collected: 01/22/18 10:46 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	**22000**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:04	1
Vanadium	**18.6**	**B**	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:04	1
Zinc	6.0	U	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 14:04	1

Client Sample ID: B3FXJ4 — **Lab Sample ID: 160-26470-16**
Date Collected: 01/22/18 09:17 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Arsenic	4.0	U	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Barium	**55.3**		50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 14:13	1
Calcium	**57000**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:13	1
Chromium	**3.2**	**B**	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Iron	**2290**		100	30.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Magnesium	**19900**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:13	1
Manganese	**45.4**		15.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Nickel	**11.9**	**B**	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Potassium	**7970**		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:13	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Sodium	**26900**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:13	1
Vanadium	**10.0**	**B**	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:13	1
Zinc	**7.9**	**B**	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 14:13	1

Client Sample ID: B3FXK8 — **Lab Sample ID: 160-26470-18**
Date Collected: 01/22/18 10:10 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Arsenic	4.0	U	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Barium	**75.6**		50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 14:23	1
Calcium	**58300**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:23	1
Chromium	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Iron	30.0	U	100	30.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Magnesium	**19500**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:23	1
Manganese	4.0	U	15.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Nickel	**13.0**	**B**	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Potassium	**7580**		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:23	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Sodium	**26100**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:23	1
Vanadium	**13.1**	**B**	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:23	1
Zinc	6.0	U	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 14:23	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-004/S18-001/A18-001/W18-001

TestAmerica Job ID: 160-26467-1
SDG: SL2795

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: B3FWJ7 — **Lab Sample ID: 160-26467-2**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	35.9	B	100	25.0	ug/L		01/30/18 14:38	01/31/18 13:19	1
Calcium	58500		1000	300	ug/L		01/30/18 14:38	01/31/18 13:19	1
Iron	45.5	B	100	30.0	ug/L		01/30/18 14:38	01/31/18 13:19	1
Magnesium	20100		1000	300	ug/L		01/30/18 14:38	01/31/18 13:19	1
Potassium	7820		5000	1500	ug/L		01/30/18 14:38	01/31/18 13:19	1
Sodium	26400		1000	300	ug/L		01/30/18 14:38	01/31/18 13:19	1
Vanadium	17.8	B	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 13:19	1

Client Sample ID: B3FWN1 — **Lab Sample ID: 160-26467-5**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	57.4	B	100	25.0	ug/L		01/30/18 14:38	01/31/18 14:00	1
Calcium	73600		1000	300	ug/L		01/30/18 14:38	01/31/18 14:00	1
Iron	36.8	B	100	30.0	ug/L		01/30/18 14:38	01/31/18 14:00	1
Magnesium	24000		1000	300	ug/L		01/30/18 14:38	01/31/18 14:00	1
Potassium	7870		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:00	1
Sodium	29900		1000	300	ug/L		01/30/18 14:38	01/31/18 14:00	1
Vanadium	23.4	B	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:00	1

Client Sample ID: B3FRH5 — **Lab Sample ID: 160-26470-11**
Date Collected: 01/22/18 10:46 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Arsenic	4.0	U	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Barium	72.9		50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 14:09	1
Calcium	51900		1000	300	ug/L		01/30/18 14:38	01/31/18 14:09	1
Chromium	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Iron	30.0	U	100	30.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Magnesium	18800		1000	300	ug/L		01/30/18 14:38	01/31/18 14:09	1
Manganese	4.0	U	15.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Nickel	13.0	B	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Potassium	6860		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:09	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Sodium	21900		1000	300	ug/L		01/30/18 14:38	01/31/18 14:09	1
Vanadium	17.0	B	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:09	1
Zinc	6.0	U	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 14:09	1

Client Sample ID: B3FXB4 — **Lab Sample ID: 160-26470-17**
Date Collected: 01/22/18 09:17 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Arsenic	4.0	U	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Barium	54.6		50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 14:18	1

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

Client Sample ID: B3FXB4 — **Lab Sample ID: 160-26470-17**
Date Collected: 01/22/18 09:17 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**57700**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:18	1
Chromium	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Iron	30.0	U	100	30.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Magnesium	**20200**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:18	1
Manganese	**6.4**	**B**	15.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Nickel	**10.6**	**B**	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Potassium	**8050**		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:18	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Sodium	**27600**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:18	1
Vanadium	**5.3**	**B**	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:18	1
Zinc	6.0	U	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 14:18	1

Client Sample ID: B3FRH1 — **Lab Sample ID: 160-26470-19**
Date Collected: 01/22/18 10:10 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Arsenic	**4.0**	**B**	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Barium	**77.5**		50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 14:27	1
Calcium	**60200**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:27	1
Chromium	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Iron	30.0	U	100	30.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Magnesium	**20200**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:27	1
Manganese	4.0	U	15.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Nickel	**13.2**	**B**	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Potassium	**7850**		5000	1500	ug/L		01/30/18 14:38	01/31/18 14:27	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Sodium	**26700**		1000	300	ug/L		01/30/18 14:38	01/31/18 14:27	1
Vanadium	**15.5**	**B**	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 14:27	1
Zinc	6.0	U	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 14:27	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B3FWJ6 — **Lab Sample ID: 160-26467-3**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Antimony	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Arsenic	**4.2**	**B D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Barium	**73.1**	**D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:51	2
Beryllium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:51	2
Cadmium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:51	2
Chromium	**10.4**	**D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Cobalt	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:51	2

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

Client Sample ID: B3FWJ6 — **Lab Sample ID: 160-26467-3**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.40	U D	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:51	2
Lead	1.0	U D	3.0	1.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Manganese	**1.9**	**B D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:51	2
Molybdenum	**5.9**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Nickel	**7.9**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Selenium	**6.0**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:51	2
Silver	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:51	2
Strontium	**295**	**D**	5.0	0.50	ug/L		01/30/18 14:40	02/06/18 20:51	2
Thallium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:51	2
Thorium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:51	2
Tin	1.2	U D	2.0	1.2	ug/L		01/30/18 14:40	02/06/18 20:51	2
Uranium	**7.4**	**D**	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:51	2
Zinc	7.5	U D	20.0	7.5	ug/L		01/30/18 14:40	02/06/18 20:51	2

Client Sample ID: B3FWN0 — **Lab Sample ID: 160-26467-4**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Antimony	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Arsenic	**6.2**	**B D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Barium	**74.1**	**D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:58	2
Beryllium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:58	2
Cadmium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:58	2
Chromium	**9.0**	**B D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Cobalt	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:58	2
Copper	0.40	U D	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:58	2
Lead	1.0	U D	3.0	1.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Manganese	**1.6**	**B D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:58	2
Molybdenum	**4.8**	**B D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Nickel	**4.1**	**B D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Selenium	**6.0**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:58	2
Silver	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:58	2
Strontium	**413**	**D**	5.0	0.50	ug/L		01/30/18 14:40	02/06/18 20:58	2
Thallium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:58	2
Thorium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:58	2
Tin	1.2	U D	2.0	1.2	ug/L		01/30/18 14:40	02/06/18 20:58	2
Uranium	**20.5**	**D**	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:58	2
Zinc	7.5	U D	20.0	7.5	ug/L		01/30/18 14:40	02/06/18 20:58	2

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

Client Sample ID: B3FWJ7 — **Lab Sample ID: 160-26467-2**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Antimony	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Arsenic	**4.1**	**B D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Barium	**71.6**	**D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:24	2

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

Client Sample ID: B3FWJ7 — **Lab Sample ID: 160-26467-2**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:24	2
Cadmium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:24	2
Chromium	**12.2**	**D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Cobalt	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:24	2
Copper	0.40	U D	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:24	2
Lead	1.0	U D	3.0	1.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Manganese	**2.3**	**D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:24	2
Molybdenum	**5.8**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Nickel	**10.5**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Selenium	**5.5**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:24	2
Silver	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:24	2
Strontium	**298**	**D**	5.0	0.50	ug/L		01/30/18 14:40	02/06/18 20:24	2
Thallium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:24	2
Thorium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:24	2
Tin	1.2	U D	2.0	1.2	ug/L		01/30/18 14:40	02/06/18 20:24	2
Uranium	**7.2**	**D**	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:24	2
Zinc	7.5	U D	20.0	7.5	ug/L		01/30/18 14:40	02/06/18 20:24	2

Client Sample ID: B3FWN1 — **Lab Sample ID: 160-26467-5**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Antimony	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Arsenic	**6.0**	**B D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Barium	**73.8**	**D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 21:25	2
Beryllium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 21:25	2
Cadmium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 21:25	2
Chromium	**7.4**	**B D**	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Cobalt	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 21:25	2
Copper	0.40	U D	1.0	0.40	ug/L		01/30/18 14:40	02/07/18 21:16	2
Lead	1.0	U D	3.0	1.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Manganese	**1.6**	**B D**	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 21:25	2
Molybdenum	**4.7**	**B D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Nickel	**3.5**	**B D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Selenium	**6.9**	**D**	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 21:25	2
Silver	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 21:25	2
Strontium	**409**	**D**	5.0	0.50	ug/L		01/30/18 14:40	02/06/18 21:25	2
Thallium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 21:25	2
Thorium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 21:25	2
Tin	1.2	U D	2.0	1.2	ug/L		01/30/18 14:40	02/06/18 21:25	2
Uranium	**20.6**	**D**	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 21:25	2
Zinc	7.5	U D	20.0	7.5	ug/L		01/30/18 14:40	02/06/18 21:25	2

General Chemistry

Client Sample ID: B3FTY2 — **Lab Sample ID: 160-26470-1**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	2.1	U	5.0	2.1	ug/L		02/12/18 12:00	02/13/18 23:18	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/06/18 23:32	1

Client Sample ID: B3FTY3 — **Lab Sample ID: 160-26470-2**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	2.1	U	5.0	2.1	ug/L		02/12/18 12:00	02/13/18 23:48	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 00:11	1

Client Sample ID: B3FTY4 — **Lab Sample ID: 160-26470-3**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**4.5**	**B**	5.0	2.1	ug/L		02/12/18 12:00	02/14/18 00:55	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 00:23	1

Client Sample ID: B3FT55 — **Lab Sample ID: 160-26470-4**
Date Collected: 01/22/18 10:02 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**134**	**Z**	5.0	0.54	mg/L			02/06/18 22:00	1
Bicarbonate Alkalinity	**134**	**Z**	5.0	0.54	mg/L			02/06/18 22:00	1
Carbonate Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:00	1
Hydroxide Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:00	1
Halogens, Total Organic	**2.6**	**B**	5.0	2.1	ug/L		02/12/18 12:00	02/14/18 01:28	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 00:34	1

Client Sample ID: B3FV00 — **Lab Sample ID: 160-26470-5**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**4.5**	**B**	5.0	2.1	ug/L		02/14/18 12:00	02/16/18 16:13	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 00:46	1

Client Sample ID: B3FT63 — **Lab Sample ID: 160-26470-6**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**138**	**Z**	5.0	0.54	mg/L			02/06/18 22:16	1
Bicarbonate Alkalinity	**138**	**Z**	5.0	0.54	mg/L			02/06/18 22:16	1
Carbonate Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:16	1
Hydroxide Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:16	1
Halogens, Total Organic	2.1	U	5.0	2.1	ug/L		02/14/18 12:00	02/16/18 18:33	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 00:57	1

Client Sample ID: B3FTY9 — **Lab Sample ID: 160-26470-7**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**3.5**	**B**	5.0	2.1	ug/L		02/14/18 12:00	02/16/18 19:03	1

General Chemistry (Continued)

Client Sample ID: B3FTY9 — **Lab Sample ID: 160-26470-7**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 01:09	1

Client Sample ID: B3FTY8 — **Lab Sample ID: 160-26470-8**
Date Collected: 01/22/18 09:00 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**5.6**		5.0	2.1	ug/L		02/14/18 12:00	02/16/18 20:15	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 01:20	1

Client Sample ID: B3FT75 — **Lab Sample ID: 160-26470-9**
Date Collected: 01/22/18 10:21 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**136**	**Z**	5.0	0.54	mg/L			02/06/18 22:32	1
Bicarbonate Alkalinity	**136**	**Z**	5.0	0.54	mg/L			02/06/18 22:32	1
Carbonate Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:32	1
Hydroxide Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:32	1
Halogens, Total Organic	**5.0**		5.0	2.1	ug/L		02/14/18 12:00	02/16/18 20:49	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 01:32	1

Client Sample ID: B3FRH3 — **Lab Sample ID: 160-26470-10**
Date Collected: 01/22/18 10:46 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**144**	**Z**	5.0	0.54	mg/L			02/06/18 22:48	1
Bicarbonate Alkalinity	**144**	**Z**	5.0	0.54	mg/L			02/06/18 22:48	1
Carbonate Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:48	1
Hydroxide Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 22:48	1
Halogens, Total Organic	**5.1**		5.0	2.1	ug/L		02/14/18 12:00	02/16/18 21:24	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 01:43	1

Client Sample ID: B3FXC4 — **Lab Sample ID: 160-26470-12**
Date Collected: 01/22/18 10:47 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**3.9**	**B**	5.0	2.1	ug/L		02/14/18 12:00	02/16/18 23:03	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 01:57	1

Client Sample ID: B3FXC3 — **Lab Sample ID: 160-26470-13**
Date Collected: 01/22/18 10:47 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**136**	**Z**	5.0	0.54	mg/L			02/06/18 23:04	1
Bicarbonate Alkalinity	**136**	**Z**	5.0	0.54	mg/L			02/06/18 23:04	1
Carbonate Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 23:04	1
Hydroxide Alkalinity	0.54	U Z	5.0	0.54	mg/L			02/06/18 23:04	1
Halogens, Total Organic	**3.3**	**B**	5.0	2.1	ug/L		02/14/18 12:00	02/16/18 23:35	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 02:40	1

General Chemistry

Client Sample ID: B3FXC6 — **Lab Sample ID: 160-26470-14**
Date Collected: 01/22/18 10:47 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**3.6**	**B**	5.0	2.1	ug/L		02/14/18 12:00	02/17/18 00:08	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 02:52	1

Client Sample ID: B3FXC5 — **Lab Sample ID: 160-26470-15**
Date Collected: 01/22/18 10:47 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	**2.5**	**B**	5.0	2.1	ug/L		02/14/18 12:00	02/17/18 00:40	1
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/07/18 03:03	1

Method: TC-02-RC - Technetium-99 (LSC)

Client Sample ID: B3FPD5 — **Lab Sample ID: 160-26467-1**
Date Collected: 01/18/18 12:46 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium-99	1.19	U	1.23	1.24	3.00	2.04	pCi/L	01/31/18 09:07	02/04/18 22:06	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tc-99m	*99.3*		*30 - 105*	*01/31/18 09:07*	*02/04/18 22:06*	*1*

Client Sample ID: B3FXL0 — **Lab Sample ID: 160-26469-1**
Date Collected: 01/22/18 10:46 — **Matrix: Water**
Date Received: 01/23/18 09:10

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium-99	**60.3**		2.78	6.42	3.00	2.24	pCi/L	01/31/18 09:07	02/04/18 22:56	1

Tracer	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tc-99m	*88.6*		*30 - 105*	*01/31/18 09:07*	*02/04/18 22:56*	*1*

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

Lab Sample ID: MB 160-348378/1-A
Matrix: Water
Analysis Batch: 348792

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	1.0	U	50	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2,4,5-Trichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2,4,6-Trichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2,4-Dichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2,4-Dimethylphenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2,4-Dinitrophenol	2.0	U	50	2.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2,6-Dichlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2-Chlorophenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2-Methylphenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
2-Nitrophenol	1.5	U	10	1.5	ug/L		01/26/18 12:10	01/30/18 13:05	1
3 & 4 Methylphenol	2.0	U	20	2.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
4,6-Dinitro-2-methylphenol	1.3	U	10	1.3	ug/L		01/26/18 12:10	01/30/18 13:05	1
4-Chloro-3-methylphenol	1.0	U	10	1.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
4-Nitrophenol	2.0	U	10	2.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
Dinoseb	2.0	U	20	2.0	ug/L		01/26/18 12:10	01/30/18 13:05	1
Pentachlorophenol	1.3	U	50	1.3	ug/L		01/26/18 12:10	01/30/18 13:05	1
Phenol	2.0	U	10	2.0	ug/L		01/26/18 12:10	01/30/18 13:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*37 - 120*	*01/26/18 12:10*	*01/30/18 13:05*	*1*
2-Fluorobiphenyl (Surr)	*79*		*43 - 108*	*01/26/18 12:10*	*01/30/18 13:05*	*1*
2-Fluorophenol (Surr)	*51*		*15 - 59*	*01/26/18 12:10*	*01/30/18 13:05*	*1*
Nitrobenzene-d5 (Surr)	*77*		*50 - 101*	*01/26/18 12:10*	*01/30/18 13:05*	*1*
Phenol-d5 (Surr)	*33*		*10 - 50*	*01/26/18 12:10*	*01/30/18 13:05*	*1*
Terphenyl-d14 (Surr)	*89*		*21 - 97*	*01/26/18 12:10*	*01/30/18 13:05*	*1*

Lab Sample ID: LCS 160-348378/2-A
Matrix: Water
Analysis Batch: 348792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	100	83.1		ug/L		83	56 - 113
2,4,6-Trichlorophenol	100	83.2		ug/L		83	47 - 116
2,4-Dichlorophenol	100	80.1		ug/L		80	55 - 104
2,4-Dimethylphenol	100	75.7		ug/L		76	53 - 99
2,4-Dinitrophenol	100	77.7		ug/L		78	53 - 119
2-Chlorophenol	100	76.9		ug/L		77	47 - 97
2-Methylphenol	100	69.2		ug/L		69	40 - 96
2-Nitrophenol	100	79.5		ug/L		79	58 - 111
3 & 4 Methylphenol	100	70.6		ug/L		71	40 - 87
4,6-Dinitro-2-methylphenol	100	82.3		ug/L		82	56 - 118
4-Chloro-3-methylphenol	100	82.1		ug/L		82	51 - 102
4-Nitrophenol	100	36.6		ug/L		37	20 - 47
Pentachlorophenol	100	80.1		ug/L		80	49 - 115
Phenol	100	32.5		ug/L		32	20 - 69

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

Lab Sample ID: LCS 160-348378/2-A
Matrix: Water
Analysis Batch: 348792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348378

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*88*		*37 - 120*
2-Fluorobiphenyl (Surr)	*82*		*43 - 108*
2-Fluorophenol (Surr)	*49*		*15 - 59*
Nitrobenzene-d5 (Surr)	*81*		*50 - 101*
Phenol-d5 (Surr)	*32*		*10 - 50*
Terphenyl-d14 (Surr)	*85*		*21 - 97*

Lab Sample ID: 160-26470-6 MS
Matrix: Water
Analysis Batch: 348792

Client Sample ID: B3FT63
Prep Type: Total/NA
Prep Batch: 348378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	1.0	U	96.6	82.8		ug/L		86	61 - 108
2,4,6-Trichlorophenol	1.0	U	96.6	81.5		ug/L		84	61 - 108
2,4-Dichlorophenol	1.0	U	96.6	79.7		ug/L		82	60 - 99
2,4-Dimethylphenol	1.0	U	96.6	72.6		ug/L		75	54 - 97
2,4-Dinitrophenol	2.0	U	96.6	76.8		ug/L		79	20 - 131
2-Chlorophenol	1.0	U	96.6	76.9		ug/L		80	52 - 92
2-Methylphenol	1.0	U	96.6	67.9		ug/L		70	39 - 83
2-Nitrophenol	1.5	U	96.6	79.9		ug/L		83	64 - 106
3 & 4 Methylphenol	2.0	U	96.6	69.8		ug/L		72	39 - 82
4,6-Dinitro-2-methylphenol	1.3	U	96.6	80.1		ug/L		83	61 - 113
4-Chloro-3-methylphenol	1.0	U	96.6	81.0		ug/L		84	51 - 105
4-Nitrophenol	2.0	U	96.6	36.9		ug/L		38	15 - 42
Pentachlorophenol	1.3	U	96.6	79.8		ug/L		83	54 - 110
Phenol	2.0	U	96.6	32.2		ug/L		33	15 - 70

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*90*		*37 - 120*
2-Fluorobiphenyl (Surr)	*84*		*43 - 108*
2-Fluorophenol (Surr)	*49*		*15 - 59*
Nitrobenzene-d5 (Surr)	*82*		*50 - 101*
Phenol-d5 (Surr)	*33*		*10 - 50*
Terphenyl-d14 (Surr)	*88*		*21 - 97*

Lab Sample ID: 160-26470-6 MSD
Matrix: Water
Analysis Batch: 348792

Client Sample ID: B3FT63
Prep Type: Total/NA
Prep Batch: 348378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	1.0	U	99.4	83.6		ug/L		84	61 - 108	1	20
2,4,6-Trichlorophenol	1.0	U	99.4	82.3		ug/L		83	61 - 108	1	20
2,4-Dichlorophenol	1.0	U	99.4	81.1		ug/L		82	60 - 99	2	20
2,4-Dimethylphenol	1.0	U	99.4	73.1		ug/L		74	54 - 97	1	20
2,4-Dinitrophenol	2.0	U	99.4	79.9		ug/L		80	20 - 131	4	20
2-Chlorophenol	1.0	U	99.4	76.2		ug/L		77	52 - 92	1	20
2-Methylphenol	1.0	U	99.4	68.4		ug/L		69	39 - 83	1	20
2-Nitrophenol	1.5	U	99.4	80.2		ug/L		81	64 - 106	0	20

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

Lab Sample ID: 160-26470-6 MSD — **Client Sample ID: B3FT63**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 348792 — **Prep Batch: 348378**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3 & 4 Methylphenol	2.0	U	99.4	70.5		ug/L		71	39 - 82	1	20
4,6-Dinitro-2-methylphenol	1.3	U	99.4	81.2		ug/L		82	61 - 113	1	20
4-Chloro-3-methylphenol	1.0	U	99.4	80.7		ug/L		81	51 - 105	0	20
4-Nitrophenol	2.0	U	99.4	38.9		ug/L		39	15 - 42	5	20
Pentachlorophenol	1.3	U	99.4	81.1		ug/L		82	54 - 110	2	20
Phenol	2.0	U	99.4	32.8		ug/L		33	15 - 70	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*89*		*37 - 120*
2-Fluorobiphenyl (Surr)	*82*		*43 - 108*
2-Fluorophenol (Surr)	*49*		*15 - 59*
Nitrobenzene-d5 (Surr)	*79*		*50 - 101*
Phenol-d5 (Surr)	*32*		*10 - 50*
Terphenyl-d14 (Surr)	*85*		*21 - 97*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 160-348822/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349026 — **Prep Batch: 348822**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Arsenic	4.0	U	10.0	4.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Barium	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Cadmium	1.5	U	5.0	1.5	ug/L		01/30/18 14:38	01/31/18 13:10	1
Calcium	300	U	1000	300	ug/L		01/30/18 14:38	01/31/18 13:10	1
Chromium	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Boron	25.0	U	100	25.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Cobalt	15.0	U	50.0	15.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Copper	7.0	U	25.0	7.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Iron	30.0	U	100	30.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Magnesium	300	U	1000	300	ug/L		01/30/18 14:38	01/31/18 13:10	1
Manganese	4.0	U	15.0	4.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Nickel	10.0	U	40.0	10.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Potassium	1500	U	5000	1500	ug/L		01/30/18 14:38	01/31/18 13:10	1
Silver	3.0	U	10.0	3.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Sodium	300	U	1000	300	ug/L		01/30/18 14:38	01/31/18 13:10	1
Vanadium	4.0	U	50.0	4.0	ug/L		01/30/18 14:38	01/31/18 13:10	1
Zinc	6.0	U	20.0	6.0	ug/L		01/30/18 14:38	01/31/18 13:10	1

Lab Sample ID: LCS 160-348822/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349026 — **Prep Batch: 348822**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	444.7		ug/L		89	80 - 120
Arsenic	1000	973.5		ug/L		97	80 - 120

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

Lab Sample ID: LCS 160-348822/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349026 — **Prep Batch: 348822**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1000	1020		ug/L		102	80 - 120
Cadmium	1000	940.3		ug/L		94	80 - 120
Calcium	10000	10200		ug/L		102	80 - 120
Chromium	1000	1014		ug/L		101	80 - 120
Boron	200	194.0		ug/L		97	80 - 120
Cobalt	1000	977.3		ug/L		98	80 - 120
Copper	1000	929.3		ug/L		93	80 - 120
Iron	10000	9955		ug/L		100	80 - 120
Magnesium	10000	10550		ug/L		106	80 - 120
Manganese	1000	1044		ug/L		104	80 - 120
Nickel	1000	974.8		ug/L		97	80 - 120
Potassium	10000	9764		ug/L		98	80 - 120
Silver	200	191.8		ug/L		96	80 - 120
Sodium	10000	10160		ug/L		102	80 - 120
Vanadium	1000	960.3		ug/L		96	80 - 120
Zinc	1000	945.9		ug/L		95	80 - 120

Lab Sample ID: 160-26467-2 MS — **Client Sample ID: B3FWJ7**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 349026 — **Prep Batch: 348822**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.0	U	500	460.8		ug/L		92	75 - 125
Arsenic	4.0	U	1000	1023		ug/L		102	75 - 125
Barium	81.4		1000	1090		ug/L		101	75 - 125
Cadmium	1.5	U	1000	969.9		ug/L		97	75 - 125
Calcium	58500		10000	68680	X	ug/L		102	75 - 125
Chromium	12.1		1000	1031		ug/L		102	75 - 125
Boron	35.9	B	200	228.4		ug/L		96	75 - 125
Cobalt	15.0	U	1000	974.7		ug/L		97	75 - 125
Copper	7.0	U	1000	951.5		ug/L		95	75 - 125
Iron	45.5	B	10000	9949		ug/L		99	75 - 125
Magnesium	20100		10000	29840		ug/L		98	75 - 125
Manganese	4.0	U	1000	1024		ug/L		102	75 - 125
Nickel	22.2	B	1000	995.9		ug/L		97	75 - 125
Potassium	7820		10000	17580		ug/L		98	75 - 125
Silver	3.0	U	200	194.0		ug/L		97	75 - 125
Sodium	26400		10000	36060		ug/L		96	75 - 125
Vanadium	17.8	B	1000	968.9		ug/L		95	75 - 125
Zinc	6.0	U	1000	980.5		ug/L		98	75 - 125

Lab Sample ID: 160-26467-2 MSD — **Client Sample ID: B3FWJ7**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 349026 — **Prep Batch: 348822**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.0	U	500	443.1		ug/L		89	75 - 125	4	20
Arsenic	4.0	U	1000	988.6		ug/L		99	75 - 125	3	20
Barium	81.4		1000	1092		ug/L		101	75 - 125	0	20

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

Lab Sample ID: 160-26467-2 MSD — **Client Sample ID: B3FWJ7**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 349026 — **Prep Batch: 348822**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	1.5	U	1000	933.7		ug/L		93	75 - 125	4	20
Calcium	58500		10000	66630	X	ug/L		82	75 - 125	3	20
Chromium	12.1		1000	994.5		ug/L		98	75 - 125	4	20
Boron	35.9	B	200	227.8		ug/L		96	75 - 125	0	20
Cobalt	15.0	U	1000	936.2		ug/L		94	75 - 125	4	20
Copper	7.0	U	1000	912.6		ug/L		91	75 - 125	4	20
Iron	45.5	B	10000	9806		ug/L		98	75 - 125	1	20
Magnesium	20100		10000	29280		ug/L		92	75 - 125	2	20
Manganese	4.0	U	1000	1011		ug/L		101	75 - 125	1	20
Nickel	22.2	B	1000	954.5		ug/L		93	75 - 125	4	20
Potassium	7820		10000	17370		ug/L		95	75 - 125	1	20
Silver	3.0	U	200	191.5		ug/L		96	75 - 125	1	20
Sodium	26400		10000	35990		ug/L		96	75 - 125	0	20
Vanadium	17.8	B	1000	952.1		ug/L		93	75 - 125	2	20
Zinc	6.0	U	1000	942.9		ug/L		94	75 - 125	4	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-348824/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349938 — **Prep Batch: 348824**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Antimony	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Arsenic	4.0	U D	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Barium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:11	2
Beryllium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:11	2
Cadmium	0.20	U D	0.50	0.20	ug/L		01/30/18 14:40	02/06/18 20:11	2
Chromium	4.0	U D	10.0	4.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Cobalt	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:11	2
Copper	0.40	U D	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:11	2
Lead	1.0	U D	3.0	1.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Manganese	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:11	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Nickel	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Selenium	2.0	U D	5.0	2.0	ug/L		01/30/18 14:40	02/06/18 20:11	2
Silver	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:11	2
Strontium	0.50	U D	5.0	0.50	ug/L		01/30/18 14:40	02/06/18 20:11	2
Thallium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:11	2
Thorium	0.90	U D	2.0	0.90	ug/L		01/30/18 14:40	02/06/18 20:11	2
Tin	1.2	U D	2.0	1.2	ug/L		01/30/18 14:40	02/06/18 20:11	2
Uranium	0.40	U D	1.0	0.40	ug/L		01/30/18 14:40	02/06/18 20:11	2
Zinc	7.5	U D	20.0	7.5	ug/L		01/30/18 14:40	02/06/18 20:11	2

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

Lab Sample ID: LCS 160-348824/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349938 — **Prep Batch: 348824**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9070	D	ug/L		91	80 - 120
Antimony	500	491.8	D	ug/L		98	80 - 120
Arsenic	1000	946.6	D	ug/L		95	80 - 120
Barium	1000	949.2	D	ug/L		95	80 - 120
Beryllium	100	94.11	D	ug/L		94	80 - 120
Cadmium	1000	931.3	D	ug/L		93	80 - 120
Chromium	1000	1018	D	ug/L		102	80 - 120
Cobalt	1000	1034	D	ug/L		103	80 - 120
Copper	1000	1043	D	ug/L		104	80 - 120
Lead	1000	936.1	D	ug/L		94	80 - 120
Manganese	1000	960.5	D	ug/L		96	80 - 120
Molybdenum	500	476.3	D	ug/L		95	80 - 120
Nickel	1000	998.2	D	ug/L		100	80 - 120
Selenium	500	457.9	D	ug/L		92	80 - 120
Silver	200	187.6	D	ug/L		94	80 - 120
Strontium	1000	943.6	D	ug/L		94	80 - 120
Thallium	200	198.5	D	ug/L		99	80 - 120
Thorium	1000	959.1	D	ug/L		96	80 - 120
Tin	1000	945.3	D	ug/L		95	80 - 120
Uranium	1000	956.2	D	ug/L		96	80 - 120
Zinc	1000	960.2	D	ug/L		96	80 - 120

Lab Sample ID: 160-26467-2 MS — **Client Sample ID: B3FWJ7**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 349938 — **Prep Batch: 348824**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	20.0	U D	10000	9054	D	ug/L		91	75 - 125
Antimony	2.0	U D	500	496.4	D	ug/L		99	75 - 125
Arsenic	4.1	B D	1000	947.6	D	ug/L		94	75 - 125
Barium	71.6	D	1000	1012	D	ug/L		94	75 - 125
Beryllium	0.20	U D	100	94.63	D	ug/L		95	75 - 125
Cadmium	0.20	U D	1000	941.8	D	ug/L		94	75 - 125
Chromium	12.2	D	1000	1031	D	ug/L		102	75 - 125
Cobalt	0.90	U D	1000	998.0	D	ug/L		100	75 - 125
Copper	0.40	U D	1000	1003	D	ug/L		100	75 - 125
Lead	1.0	U D	1000	943.5	D	ug/L		94	75 - 125
Manganese	2.3	D	1000	928.8	D	ug/L		93	75 - 125
Molybdenum	5.8	D	500	483.9	D	ug/L		96	75 - 125
Nickel	10.5	D	1000	962.7	D	ug/L		95	75 - 125
Selenium	5.5	D	500	466.0	D	ug/L		92	75 - 125
Silver	0.90	U D	200	186.8	D	ug/L		93	75 - 125
Strontium	298	D	1000	1235	D	ug/L		94	75 - 125
Thallium	0.90	U D	200	200.4	D	ug/L		100	75 - 125
Thorium	0.90	U D	1000	983.8	D	ug/L		98	75 - 125
Tin	1.2	U D	1000	960.5	D	ug/L		96	75 - 125
Uranium	7.2	D	1000	986.4	D	ug/L		98	75 - 125
Zinc	7.5	U D	1000	945.5	D	ug/L		95	75 - 125

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

Lab Sample ID: 160-26467-2 MSD — **Client Sample ID: B3FWJ7**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 349938 — **Prep Batch: 348824**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	20.0	U D	10000	8932	D	ug/L		89	75 - 125	1	20
Antimony	2.0	U D	500	497.2	D	ug/L		99	75 - 125	0	20
Arsenic	4.1	B D	1000	942.4	D	ug/L		94	75 - 125	1	20
Barium	71.6	D	1000	1001	D	ug/L		93	75 - 125	1	20
Beryllium	0.20	U D	100	93.14	D	ug/L		93	75 - 125	2	20
Cadmium	0.20	U D	1000	931.8	D	ug/L		93	75 - 125	1	20
Chromium	12.2	D	1000	1014	D	ug/L		100	75 - 125	2	20
Cobalt	0.90	U D	1000	995.4	D	ug/L		100	75 - 125	0	20
Copper	0.40	U D	1000	1009	D	ug/L		101	75 - 125	1	20
Lead	1.0	U D	1000	933.9	D	ug/L		93	75 - 125	1	20
Manganese	2.3	D	1000	925.6	D	ug/L		92	75 - 125	0	20
Molybdenum	5.8	D	500	479.8	D	ug/L		95	75 - 125	1	20
Nickel	10.5	D	1000	958.8	D	ug/L		95	75 - 125	0	20
Selenium	5.5	D	500	456.8	D	ug/L		90	75 - 125	2	20
Silver	0.90	U D	200	186.0	D	ug/L		93	75 - 125	0	20
Strontium	298	D	1000	1222	D	ug/L		92	75 - 125	1	20
Thallium	0.90	U D	200	199.1	D	ug/L		100	75 - 125	1	20
Thorium	0.90	U D	1000	972.8	D	ug/L		97	75 - 125	1	20
Tin	1.2	U D	1000	958.9	D	ug/L		96	75 - 125	0	20
Uranium	7.2	D	1000	983.5	D	ug/L		98	75 - 125	0	20
Zinc	7.5	U D	1000	941.1	D	ug/L		94	75 - 125	0	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-349928/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			02/06/18 21:13	1
Bicarbonate Alkalinity	0.54	U	5.0	0.54	mg/L			02/06/18 21:13	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			02/06/18 21:13	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			02/06/18 21:13	1

Lab Sample ID: HLCS 160-349928/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349928

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	386.0		mg/L		96	90 - 110
Bicarbonate Alkalinity	400	386.0		mg/L		96	90 - 110

Lab Sample ID: LCS 160-349928/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349928

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

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 160-349928/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349928

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

Lab Sample ID: 160-26568-A-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity	124		100	219.0		mg/L		95	80 - 120		
Bicarbonate Alkalinity	124		100	219.0		mg/L		95	80 - 120		

Lab Sample ID: 160-26568-A-7 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349928

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	124			125.0		mg/L				0.8	20
Bicarbonate Alkalinity	124			125.0		mg/L				0.8	20
Carbonate Alkalinity	0.54	U		0.54	U	mg/L				NC	20
Hydroxide Alkalinity	0.54	U		0.54	U	mg/L				NC	20

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 160-351367/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351394 — **Prep Batch: 351367**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	2.1	U	5.0	2.1	ug/L		02/13/18 12:00	02/13/18 18:23	1

Lab Sample ID: LCS 160-351367/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351394 — **Prep Batch: 351367**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Halogens, Total Organic			100	99.02		ug/L		99	90 - 116		

Lab Sample ID: 160-26418-A-10-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351394 — **Prep Batch: 351367**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Halogens, Total Organic	2.1	U	100	101.1		ug/L		101	85 - 117		

Lab Sample ID: 160-26418-A-10-B DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351394 — **Prep Batch: 351367**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Halogens, Total Organic	2.1	U		2.1	U	ug/L				NC	20

Method: 9020B - Organic Halides, Total (TOX) (Continued)

Lab Sample ID: MB 160-351865/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351867 — **Prep Batch: 351865**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	2.1	U	5.0	2.1	ug/L		02/14/18 12:00	02/16/18 15:02	1

Lab Sample ID: LCS 160-351865/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351867 — **Prep Batch: 351865**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Halogens, Total Organic	100	96.16		ug/L		96	90 - 116

Lab Sample ID: 160-26470-5 MS — **Client Sample ID: B3FV00**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351867 — **Prep Batch: 351865**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Halogens, Total Organic	4.5	B	100	100.6		ug/L		96	85 - 117

Lab Sample ID: 160-26470-5 DU — **Client Sample ID: B3FV00**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 351867 — **Prep Batch: 351865**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Halogens, Total Organic	4.5	B	3.96	B	ug/L		13	20

Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 160-350074/33 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350074

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.50	U	1.0	0.50	mg/L			02/06/18 23:00	1

Lab Sample ID: LCS 160-350074/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350074

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10.0	9.88		mg/L		99	90 - 110

Lab Sample ID: 160-26470-1 MS — **Client Sample ID: B3FTY2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350074

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.50	U	5.00	5.15		mg/L		103	76 - 120

Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 160-26470-15 MS — **Client Sample ID: B3FXC5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350074

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	0.50	U	5.00	5.15		mg/L		103	76 - 120		

Lab Sample ID: 160-26470-1 DU — **Client Sample ID: B3FTY2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 350074

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon	0.50	U		0.50	U	mg/L				NC	20

Method: TC-02-RC - Technetium-99 (LSC)

Lab Sample ID: MB 160-348968/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349646 — **Prep Batch: 348968**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Technetium-99	0.0191	U	1.21	1.21	3.00	2.06	pCi/L	01/31/18 09:07	02/04/18 14:15	1

Tracer	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tc-99m	*94.3*		*30 - 105*	*01/31/18 09:07*	*02/04/18 14:15*	*1*

Lab Sample ID: LCS 160-348968/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349646 — **Prep Batch: 348968**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Technetium-99			30.9	34.42		3.93	3.00	2.04	pCi/L	111	80 - 120		

Tracer	*LCS %Yield*	*LCS Qualifier*	*Limits*
Tc-99m	*95.3*		*30 - 105*

Lab Sample ID: LCSD 160-348968/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 349646 — **Prep Batch: 348968**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RPD	RPD Limit
Technetium-99			30.9	31.94		3.70	3.00	2.03	pCi/L	103	80 - 120	7	20

Tracer	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Tc-99m	*95.9*		*30 - 105*

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-004/S18-001/A18-001/W18-001

TestAmerica Job ID: 160-26467-1
SDG: SL2795

GC/MS Semi VOA

Prep Batch: 348378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-4	B3FT55	Total/NA	Water	3510C	
160-26470-6	B3FT63	Total/NA	Water	3510C	
MB 160-348378/1-A	Method Blank	Total/NA	Water	3510C	
LCS 160-348378/2-A	Lab Control Sample	Total/NA	Water	3510C	
160-26470-6 MS	B3FT63	Total/NA	Water	3510C	
160-26470-6 MSD	B3FT63	Total/NA	Water	3510C	

Analysis Batch: 348792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-4	B3FT55	Total/NA	Water	8270D	348378
160-26470-6	B3FT63	Total/NA	Water	8270D	348378
MB 160-348378/1-A	Method Blank	Total/NA	Water	8270D	348378
LCS 160-348378/2-A	Lab Control Sample	Total/NA	Water	8270D	348378
160-26470-6 MS	B3FT63	Total/NA	Water	8270D	348378
160-26470-6 MSD	B3FT63	Total/NA	Water	8270D	348378

Metals

Prep Batch: 348822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-2	B3FWJ7	Dissolved	Water	3010A	
160-26467-3	B3FWJ6	Total/NA	Water	3010A	
160-26467-4	B3FWN0	Total/NA	Water	3010A	
160-26467-5	B3FWN1	Dissolved	Water	3010A	
160-26470-10	B3FRH3	Total/NA	Water	3010A	
160-26470-11	B3FRH5	Dissolved	Water	3010A	
160-26470-16	B3FXJ4	Total/NA	Water	3010A	
160-26470-17	B3FXB4	Dissolved	Water	3010A	
160-26470-18	B3FXK8	Total/NA	Water	3010A	
160-26470-19	B3FRH1	Dissolved	Water	3010A	
MB 160-348822/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-348822/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-26467-2 MS	B3FWJ7	Dissolved	Water	3010A	
160-26467-2 MSD	B3FWJ7	Dissolved	Water	3010A	

Prep Batch: 348824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-2	B3FWJ7	Dissolved	Water	3010A	
160-26467-3	B3FWJ6	Total/NA	Water	3010A	
160-26467-4	B3FWN0	Total/NA	Water	3010A	
160-26467-5	B3FWN1	Dissolved	Water	3010A	
MB 160-348824/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-348824/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-26467-2 MS	B3FWJ7	Dissolved	Water	3010A	
160-26467-2 MSD	B3FWJ7	Dissolved	Water	3010A	

Analysis Batch: 349026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-2	B3FWJ7	Dissolved	Water	6010C	348822
160-26467-3	B3FWJ6	Total/NA	Water	6010C	348822

Metals (Continued)

Analysis Batch: 349026 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-4	B3FWN0	Total/NA	Water	6010C	348822
160-26467-5	B3FWN1	Dissolved	Water	6010C	348822
160-26470-10	B3FRH3	Total/NA	Water	6010C	348822
160-26470-11	B3FRH5	Dissolved	Water	6010C	348822
160-26470-16	B3FXJ4	Total/NA	Water	6010C	348822
160-26470-17	B3FXB4	Dissolved	Water	6010C	348822
160-26470-18	B3FXK8	Total/NA	Water	6010C	348822
160-26470-19	B3FRH1	Dissolved	Water	6010C	348822
MB 160-348822/1-A	Method Blank	Total/NA	Water	6010C	348822
LCS 160-348822/2-A	Lab Control Sample	Total/NA	Water	6010C	348822
160-26467-2 MS	B3FWJ7	Dissolved	Water	6010C	348822
160-26467-2 MSD	B3FWJ7	Dissolved	Water	6010C	348822

Analysis Batch: 349938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-2	B3FWJ7	Dissolved	Water	6020A	348824
160-26467-3	B3FWJ6	Total/NA	Water	6020A	348824
160-26467-4	B3FWN0	Total/NA	Water	6020A	348824
160-26467-5	B3FWN1	Dissolved	Water	6020A	348824
MB 160-348824/1-A	Method Blank	Total/NA	Water	6020A	348824
LCS 160-348824/2-A	Lab Control Sample	Total/NA	Water	6020A	348824
160-26467-2 MS	B3FWJ7	Dissolved	Water	6020A	348824
160-26467-2 MSD	B3FWJ7	Dissolved	Water	6020A	348824

Analysis Batch: 350241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-5	B3FWN1	Dissolved	Water	6020A	348824

General Chemistry

Analysis Batch: 349928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-4	B3FT55	Total/NA	Water	310.1	
160-26470-6	B3FT63	Total/NA	Water	310.1	
160-26470-9	B3FT75	Total/NA	Water	310.1	
160-26470-10	B3FRH3	Total/NA	Water	310.1	
160-26470-13	B3FXC3	Total/NA	Water	310.1	
MB 160-349928/1	Method Blank	Total/NA	Water	310.1	
HLCS 160-349928/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-349928/2	Lab Control Sample	Total/NA	Water	310.1	
160-26568-A-7 MS	Matrix Spike	Total/NA	Water	310.1	
160-26568-A-7 DU	Duplicate	Total/NA	Water	310.1	

Analysis Batch: 350074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-1	B3FTY2	Total/NA	Water	9060	
160-26470-2	B3FTY3	Total/NA	Water	9060	
160-26470-3	B3FTY4	Total/NA	Water	9060	
160-26470-4	B3FT55	Total/NA	Water	9060	
160-26470-5	B3FV00	Total/NA	Water	9060	

General Chemistry (Continued)

Analysis Batch: 350074 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-6	B3FT63	Total/NA	Water	9060	
160-26470-7	B3FTY9	Total/NA	Water	9060	
160-26470-8	B3FTY8	Total/NA	Water	9060	
160-26470-9	B3FT75	Total/NA	Water	9060	
160-26470-10	B3FRH3	Total/NA	Water	9060	
160-26470-12	B3FXC4	Total/NA	Water	9060	
160-26470-13	B3FXC3	Total/NA	Water	9060	
160-26470-14	B3FXC6	Total/NA	Water	9060	
160-26470-15	B3FXC5	Total/NA	Water	9060	
MB 160-350074/33	Method Blank	Total/NA	Water	9060	
LCS 160-350074/34	Lab Control Sample	Total/NA	Water	9060	
160-26470-1 MS	B3FTY2	Total/NA	Water	9060	
160-26470-15 MS	B3FXC5	Total/NA	Water	9060	
160-26470-1 DU	B3FTY2	Total/NA	Water	9060	

Prep Batch: 351367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-1	B3FTY2	Total/NA	Water	Carbon Trap	
160-26470-2	B3FTY3	Total/NA	Water	Carbon Trap	
160-26470-3	B3FTY4	Total/NA	Water	Carbon Trap	
160-26470-4	B3FT55	Total/NA	Water	Carbon Trap	
MB 160-351367/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 160-351367/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	
160-26418-A-10-C MS	Matrix Spike	Total/NA	Water	Carbon Trap	
160-26418-A-10-B DU	Duplicate	Total/NA	Water	Carbon Trap	

Analysis Batch: 351394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-1	B3FTY2	Total/NA	Water	9020B	351367
160-26470-2	B3FTY3	Total/NA	Water	9020B	351367
160-26470-3	B3FTY4	Total/NA	Water	9020B	351367
160-26470-4	B3FT55	Total/NA	Water	9020B	351367
MB 160-351367/1-A	Method Blank	Total/NA	Water	9020B	351367
LCS 160-351367/2-A	Lab Control Sample	Total/NA	Water	9020B	351367
160-26418-A-10-C MS	Matrix Spike	Total/NA	Water	9020B	351367
160-26418-A-10-B DU	Duplicate	Total/NA	Water	9020B	351367

Prep Batch: 351865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-5	B3FV00	Total/NA	Water	Carbon Trap	
160-26470-6	B3FT63	Total/NA	Water	Carbon Trap	
160-26470-7	B3FTY9	Total/NA	Water	Carbon Trap	
160-26470-8	B3FTY8	Total/NA	Water	Carbon Trap	
160-26470-9	B3FT75	Total/NA	Water	Carbon Trap	
160-26470-10	B3FRH3	Total/NA	Water	Carbon Trap	
160-26470-12	B3FXC4	Total/NA	Water	Carbon Trap	
160-26470-13	B3FXC3	Total/NA	Water	Carbon Trap	
160-26470-14	B3FXC6	Total/NA	Water	Carbon Trap	
160-26470-15	B3FXC5	Total/NA	Water	Carbon Trap	
MB 160-351865/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 160-351865/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

General Chemistry (Continued)

Prep Batch: 351865 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-5 MS	B3FV00	Total/NA	Water	Carbon Trap	
160-26470-5 DU	B3FV00	Total/NA	Water	Carbon Trap	

Analysis Batch: 351867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26470-5	B3FV00	Total/NA	Water	9020B	351865
160-26470-6	B3FT63	Total/NA	Water	9020B	351865
160-26470-7	B3FTY9	Total/NA	Water	9020B	351865
160-26470-8	B3FTY8	Total/NA	Water	9020B	351865
160-26470-9	B3FT75	Total/NA	Water	9020B	351865
160-26470-10	B3FRH3	Total/NA	Water	9020B	351865
160-26470-12	B3FXC4	Total/NA	Water	9020B	351865
160-26470-13	B3FXC3	Total/NA	Water	9020B	351865
160-26470-14	B3FXC6	Total/NA	Water	9020B	351865
160-26470-15	B3FXC5	Total/NA	Water	9020B	351865
MB 160-351865/1-A	Method Blank	Total/NA	Water	9020B	351865
LCS 160-351865/2-A	Lab Control Sample	Total/NA	Water	9020B	351865
160-26470-5 MS	B3FV00	Total/NA	Water	9020B	351865
160-26470-5 DU	B3FV00	Total/NA	Water	9020B	351865

Rad

Prep Batch: 348968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-26467-1	B3FPD5	Total/NA	Water	Ext_Chrom_LSC	
160-26469-1	B3FXL0	Total/NA	Water	Ext_Chrom_LSC	
MB 160-348968/1-A	Method Blank	Total/NA	Water	Ext_Chrom_LSC	
LCS 160-348968/2-A	Lab Control Sample	Total/NA	Water	Ext_Chrom_LSC	
LCSD 160-348968/3-A	Lab Control Sample Dup	Total/NA	Water	Ext_Chrom_LSC	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-004/S18-001/A18-001/W18-001

TestAmerica Job ID: 160-26467-1
SDG: SL2795

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)
160-26470-4	B3FT55	82	79	47	74	30	81
160-26470-6	B3FT63	88	80	48	76	31	88
160-26470-6 MS	B3FT63	90	84	49	82	33	88
160-26470-6 MSD	B3FT63	89	82	49	79	32	85
LCS 160-348378/2-A	Lab Control Sample	88	82	49	81	32	85
MB 160-348378/1-A	Method Blank	86	79	51	77	33	89

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)

Tracer/Carrier Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: I18-004/S18-001/A18-001/W18-001

TestAmerica Job ID: 160-26467-1
SDG: SL2795

Method: TC-02-RC - Technetium-99 (LSC)

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

		Percent Yield (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**Tc-99m (30-105)**							
160-26467-1	B3FPD5	99.3							
160-26469-1	B3FXL0	88.6							
LCS 160-348968/2-A	Lab Control Sample	95.3							
LCSD 160-348968/3-A	Lab Control Sample Dup	95.9							
MB 160-348968/1-A	Method Blank	94.3							

Tracer/Carrier Legend

Tc-99m = Tc-99m