TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

TestAmerica Job ID: 280-107268-1
TestAmerica Sample Delivery Group: DN0335
Client Project/Site: S18-003 / W18-003

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

Attn: Mr. Scot Fitzgerald

Darlene Bandy

Authorized for release by:
4/9/2018 6:51:32 PM

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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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: 280-107268-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: CH2M Hill Plateau Remediation Company

Project: S18-003 / W18-003

Report Number: 280-107268-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

The laboratory is not able to achieve project specified Highest Allowable Practical Quantitation Limits (HAPQL limits) for several analytes. These include: Boron 6010D, Phosphorus 6010D, Beryllium 6020B, Silver 6020B, Tin 6020B. All analytes met statistical limits, unless otherwise detailed in the individual sections below. As instructed by the client, the data is reported.

The Chain of Custody requests “6020_METALS_ICPMS: GW 01” analysis. Service List “6020_METALS_ICPMS: GW 01” includes Thorium, and while TestAmerica Denver holds Washington State (WDOE) accreditation for method 6020B, Thorium is not on the accreditation certificate at this time. Please note that Thorium is on TestAmerica Denver's primary ORELAP certification, and TestAmerica Denver is pursuing full WDOE accreditation for this element. As instructed by the client, the laboratory proceeded with the requested Thorium analyses by method 6020B.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 3/10/2018 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Sample B3HH42 (280-107268-1) was analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/18/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SEMIVOLATILE ORGANIC COMPOUND (GC/MS SIM)

Sample B3HH42 (280-107268-1) was analyzed for Semivolatile Organic Compound (GC/MS SIM) in accordance with SW-846 8270D. The samples were prepared on 03/14/2018 and analyzed on 03/18/2018.

Benzo[a]anthracene, Chrysene and Fluoranthene were detected in method blank MB 280-407819/1-A at levels that were above the method detection limit but below half the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL METALS (ICP)

Samples B3HH42 (280-107268-1), B3HH47 (280-107268-2), B3HL55 (280-107268-4) and B3HL54 (280-107268-5) were analyzed for

Job ID: 280-107268-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

Total Metals (ICP) in accordance with EPA SW846 6010D. The samples were prepared on 03/15/2018 and analyzed on 03/17/2018, 03/21/2018 and 03/22/2018.

Calcium and Potassium were detected in method blank MB 280-407760/1-A at levels that were above the method detection limit but below half the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL and the method blank concentration was greater than 5% of the sample concentration, the result has been flagged. Refer to the QC report for details.

Boron failed the recovery criteria high for the MS of sample B3HH42 (280-107268-1) in batch 280-408823, and all associated results have been flagged "N". The acceptable LCS/LCSD data demonstrate that the analytical system was operating within control; therefore, corrective action is not needed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL METALS (ICP/MS)

Samples B3HH42 (280-107268-1), B3HH47 (280-107268-2), B3HL55 (280-107268-4) and B3HL54 (280-107268-5) were analyzed for Total Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 03/15/2018 and analyzed on 03/16/2018 and 03/19/2018.

The Chain of Custody requests “6020_METALS_ICPMS: GW 01” analysis. Service List “6020_METALS_ICPMS: GW 01” includes Thorium, and while TestAmerica Denver holds Washington State (WDOE) accreditation for method 6020B, Thorium is not on the accreditation certificate at this time. Please note that Thorium is on TestAmerica Denver's primary ORELAP certification, and TestAmerica Denver is pursuing full WDOE accreditation for this element. As instructed by the client, the laboratory proceeded with the requested Thorium analyses by method 6020B.

The accuracy and precision of Strontium in the MS/MSD performed on sample B3HH42 (280-107268-1) in prep batch 280-407759 could not be reliably calculated due to the sample concentration reading greater than four times the spike amount. Control limits are not applicable and the MS/MSD results have been flagged “X”.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ALKALINITY

Samples B3HH42 (280-107268-1), B3HJK7 (280-107268-3), B3HL55 (280-107268-4), B3HL74 (280-107268-6) and B3HJX9 (280-107268-7) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 03/16/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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:

Darlene Bandy
Project Manager

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 280-107268-1
SDG Number: DN0335

Login Number: 107268
List Number: 1
Creator: Pottruff, Reed W

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	60 CPM
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	3.7 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# S18-003-195 Page 1 of 1

Collector:	Ed Kauer /CHPRC DN0335	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-003	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	CERCLA, MARCH 2018	**Logbook No.:**	HNF-N-506-97-71	**Ice Chest No.:**	GWS-422
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7717 6738 2433
Protocol	CERCLA	**Priority:**	30 Days	**Offsite Property No.:**	9140

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 INSTRUCTION
N/A

280-107268 Chain of Custody

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3HH42	N	W	MAR 0 8 2018	1302	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 06	6 Months	HNO3 to pH <2
B3HH42	N	W	↓	↓	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B3HH42	N	W	↓	↓	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3HH42	N	W	↓	↓	4x1-L aG	8270_SVOA_GCMS_SIM: COMMON	7/40 Days	Cool <=6C
B3HH47	Y	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 06	6 Months	HNO3 to pH <2

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3.8 IR# 8 -0.1 TransRev RP 3-10-18

Relinquished By / Print First and Last Name	Signature	Date/Time	Received By / Print First and Last Name	Signature	Date/Time
Ed Kauer /CHPRC		MAR 0 8 2018 1355	SSU-1		MAR 0 8 2018 1355
SSU-1		MAR 0 9 2018 0700	Ed Kauer CHPRC		3-9-18 MAR 0 9 2018 0700
Ed Kauer CHPRC		MAR 0 9 2018 1400	FEDEX		1400
FedEx			Reed Pottruff		3-10-18 0920

Matrix *

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

REV.0

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

4/9/2018

Printed On 1/15/2018 FSR ID = FSR57117 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W18-003-205 Page 1 of 1

Collector: CHRIS FULTON CHPRC DW0335	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W18-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, MARCH 2018	**Logbook No.:** HNF-N-506 98/54	**Ice Chest No.:** GWS-427
Shipped To (Lab): TestAmerica Denver	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7717 6758 2733
Protocol RCRA	**Priority:** 30 Days	**Offsite Property No.:** 9140

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
B3HJK7	N	W	MAR 0 9 2018	6947	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C

Relinquished By: CHRIS FULTON CHPRC	MAR 0 9 2018 1000	Received By: Mike Esparza /CHPRC	MAR 0 9 2018 1000
Relinquished By: Mike Esparza /CHPRC	MAR 0 9 2018 1700	Received By: FEDEX	
Relinquished By: FedEx		Received By: Reed Pritchett	3-10-18 0920
Relinquished By:		Received By:	

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 1/15/2018 FSR ID = FSR57081 A-6004-842 (REV 3)

04/09/2018 REV.0

4/9/2018

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-003-245
		Page 1 of 1

Collector: CHRIS FULTON CHPRC DN0335	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W18-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, MARCH 2018	**Logbook No.:** HNF-N-506 98154	**Ice Chest No.:** GW5422
Shipped To (Lab): TestAmerica Denver	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771767382455
Protocol RCRA	**Priority:** 30 Days	**Offsite Property No.:** 9140

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
B3HL55	N	W	MAR 0 9 2018	1140	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B3HL55	N	W	"	"	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B3HL54	Y	W	MAR 0 9 2018	1140	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

Relinquished By: CHRIS FULTON CHPRC		MAR 0 9 2018 1150	Received By: Ed Kauer /CHPRC		MAR 0 9 2018 1150
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By: Ed Kauer /CHPRC		MAR 0 9 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: Reed Pottmeyer		3-10-18 0920
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Relinquished By:			Received By:		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*

Matrix *

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

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

Printed On 2/6/2018 FSR ID = FSR57477 A-6004-842 (REV 3)

04/09/2018
REV.0
4/9/2018

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W18-003-250 Page 1 of 1

Collector: Juan Aguilar /CHPRC DN0335	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W18-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, MARCH 2018	**Logbook No.:** HNF-N-506-99/12	**Ice Chest No.:** GWS-427
Shipped To (Lab): TestAmerica Denver	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7717 6738 2433
Protocol RCRA	**Priority:** 30 Days	**Offsite Property No.:** 9140

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
B3HL74	N	W	3-9-18	1205	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C

Relinquished By	Received By	Matrix *
Juan Aguilar /CHPRC — MAR 09 2018 1200 — Print First and Last Name / Signature / Date/Time	Ed Kauer /CHPRC — MAR 09 2018 1200 — Print First and Last Name / Signature / Date/Time	S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air; DS = Drum Solids, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
Ed Kauer /CHPRC — MAR 09 2018 1400 — Print First and Last Name / Signature / Date/Time	Received By: FEDEX — Print First and Last Name / Signature / Date/Time	
Relinquished By: FedEx — Print First and Last Name / Signature / Date/Time	Received By: Reed Pottorff — 3-10-18 0920 — Print First and Last Name / Signature / Date/Time	
Relinquished By: — Print First and Last Name / Signature / Date/Time	Received By: — Print First and Last Name / Signature / Date/Time	

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

Printed On 1/25/2018 — FSR ID = FSR57353 — A-6004-842 (REV 3)

04/09/2018

REV.0

4/9/2018

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W18-003-209
		Page 1 of 1

Collector: Juan Aguilar /CHPRC DN0335	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W18-003	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, MARCH 2018	**Logbook No.:** HNF-N-506 -99/12	**Ice Chest No.:** 6w s-422
Shipped To (Lab): TestAmerica Denver	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** TT17 6738 2433
Protocol RCRA	**Priority:** 30 Days	**Offsite Property No.:** 9140

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
B3HJX9	N	W	3-9-18	1055	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C

Relinquished By	Print First and Last Name	Signature	Date/Time	Received By	Print First and Last Name	Signature	Date/Time
Juan Aguilar /CHPRC			MAR 0 9 2018 1200	Ed Kauer /CHPRC			MAR 0 9 2018 1200
Ed Kauer /CHPRC			MAR 0 9 2018 1400	FEDEX			
		FedEx		Reed Pottruff		Reed Pottruff	3-10-18 0920

Matrix *

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

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

Printed On 1/15/2018 FSR ID = FSR57129 A-6004-842 (REV 3)

04/09/2018

REV.0

4/9/2018

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

FedEx® Tracking

771767382433

Ship date:		Actual delivery
Fri 3/09/2018		**Sat 3/10/2018 9:14 am**
Richland, WA US	**Delivered**	ARVADA, CO US
	Signed for by: R.POTTRUF	

Travel History

Date/Time	Activity	Location
- 3/10/2018 - Saturday		
9:14 am	Delivered	ARVADA, CO
8:09 am	On FedEx vehicle for delivery	ARVADA, CO
8:02 am	At local FedEx facility	ARVADA, CO
5:52 am	At destination sort facility	DENVER, CO
4:31 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
- 3/09/2018 - Friday		
4:47 pm	Left FedEx origin facility	PASCO, WA
3:17 pm	Picked up	PASCO, WA
3:11 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771767382433	**Service**	FedEx Priority Overnight
Weight	76 lbs / 34.47 kgs	**Signature services**	Direct signature required
Delivered To	Shipping/Receiving	**Total pieces**	1
Total shipment weight	76 lbs / 34.47 kgs	**Terms**	Third Party
Shipper reference	PTR 9140/GWS-722	**Packaging**	Your Packaging
Special handling section	For Saturday Delivery, Additional Handling Surcharge, Direct Signature Required	**Standard transit**	3/10/2018 by 12:00 pm

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.

GC/MS VOA TICs

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

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Analyte was found in the associated method blank as well as in the sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL
C	The analyte was detected in both the sample and the associated QC blank, and the sample concentration was </= 5X the blank concentration.
N	Recovery exceeds upper or lower control limits
X	See case narrative notes for explanation of the 'X' flag

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Glossary (Continued)

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

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-003 / W18-003

TestAmerica Job ID: 280-107268-1
SDG: DN0335

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL DEN
6010D	Metals (ICP)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-003 / W18-003

TestAmerica Job ID: 280-107268-1
SDG: DN0335

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-107268-1	B3HH42	Water	03/08/18 13:02	03/10/18 09:20
280-107268-2	B3HH47	Water	03/08/18 13:02	03/10/18 09:20
280-107268-3	B3HJK7	Water	03/09/18 09:47	03/10/18 09:20
280-107268-4	B3HL55	Water	03/09/18 11:40	03/10/18 09:20
280-107268-5	B3HL54	Water	03/09/18 11:40	03/10/18 09:20
280-107268-6	B3HL74	Water	03/09/18 12:05	03/10/18 09:20
280-107268-7	B3HJX9	Water	03/09/18 10:55	03/10/18 09:20

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

Client Sample ID: B3HH42
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			03/18/18 11:20	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			03/18/18 11:20	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			03/18/18 11:20	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			03/18/18 11:20	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			03/18/18 11:20	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			03/18/18 11:20	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			03/18/18 11:20	1
Acetone	1.9	U	10	1.9	ug/L			03/18/18 11:20	1
Benzene	0.16	U	1.0	0.16	ug/L			03/18/18 11:20	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			03/18/18 11:20	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			03/18/18 11:20	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			03/18/18 11:20	1
Chloroform	**2.1**		1.0	0.16	ug/L			03/18/18 11:20	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			03/18/18 11:20	1
Methylene Chloride	0.32	U	2.0	0.32	ug/L			03/18/18 11:20	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			03/18/18 11:20	1
Toluene	0.17	U	1.0	0.17	ug/L			03/18/18 11:20	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			03/18/18 11:20	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			03/18/18 11:20	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			03/18/18 11:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*670*	*N*	*ug/L*		*1.76*			*03/18/18 11:20*	*1*
Unknown	*18*	*N*	*ug/L*		*1.95*			*03/18/18 11:20*	*1*
Unknown	*1.9*	*N*	*ug/L*		*4.69*			*03/18/18 11:20*	*1*
Unknown	*3.2*	*N*	*ug/L*		*11.14*			*03/18/18 11:20*	*1*
Unknown	*4.3*	*N*	*ug/L*		*16.61*			*03/18/18 11:20*	*1*
Unknown	*6.8*	*N*	*ug/L*		*17.08*			*03/18/18 11:20*	*1*
Unknown	*1.4*	*N*	*ug/L*		*18.00*			*03/18/18 11:20*	*1*
Unknown	*5.4*	*N*	*ug/L*		*18.47*			*03/18/18 11:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 130*		*03/18/18 11:20*	*1*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*		*03/18/18 11:20*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*03/18/18 11:20*	*1*
Toluene-d8 (Surr)	*113*		*70 - 130*		*03/18/18 11:20*	*1*

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

Client Sample ID: B3HH42
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	10	U	96	10	ng/L		03/14/18 13:59	03/18/18 16:07	1
Acenaphthylene	9.5	U	96	9.5	ng/L		03/14/18 13:59	03/18/18 16:07	1
Anthracene	14	U	96	14	ng/L		03/14/18 13:59	03/18/18 16:07	1
Benzo[a]anthracene	**4.6**	**J B**	96	3.1	ng/L		03/14/18 13:59	03/18/18 16:07	1
Benzo[a]pyrene	4.9	U	96	4.9	ng/L		03/14/18 13:59	03/18/18 16:07	1
Benzo[b]fluoranthene	**10**	**J**	96	3.3	ng/L		03/14/18 13:59	03/18/18 16:07	1
Benzo[g,h,i]perylene	**4.9**	**J**	96	3.4	ng/L		03/14/18 13:59	03/18/18 16:07	1

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

Client Sample ID: B3HH42
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	6.8	J	96	4.8	ng/L		03/14/18 13:59	03/18/18 16:07	1
Chrysene	10	J B	96	3.0	ng/L		03/14/18 13:59	03/18/18 16:07	1
Dibenz(a,h)anthracene	4.9	J	96	4.6	ng/L		03/14/18 13:59	03/18/18 16:07	1
Fluoranthene	7.0	J B	96	4.3	ng/L		03/14/18 13:59	03/18/18 16:07	1
Fluorene	18	U	96	18	ng/L		03/14/18 13:59	03/18/18 16:07	1
Indeno[1,2,3-cd]pyrene	14	U	96	14	ng/L		03/14/18 13:59	03/18/18 16:07	1
Naphthalene	21	J	96	5.1	ng/L		03/14/18 13:59	03/18/18 16:07	1
Phenanthrene	9.3	U	96	9.3	ng/L		03/14/18 13:59	03/18/18 16:07	1
Pyrene	7.7	U	96	7.7	ng/L		03/14/18 13:59	03/18/18 16:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*42 - 120*	*03/14/18 13:59*	*03/18/18 16:07*	*1*
Nitrobenzene-d5	*86*		*43 - 120*	*03/14/18 13:59*	*03/18/18 16:07*	*1*
Terphenyl-d14	*104*		*47 - 120*	*03/14/18 13:59*	*03/18/18 16:07*	*1*

Method: 6010D - Metals (ICP)

Client Sample ID: B3HH42
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	26.5	B N	100	4.4	ug/L		03/15/18 08:26	03/22/18 22:11	1
Calcium	120000		200	34.5	ug/L		03/15/18 08:26	03/17/18 05:34	1
Iron	139		100	22.0	ug/L		03/15/18 08:26	03/17/18 05:34	1
Magnesium	22300		200	10.7	ug/L		03/15/18 08:26	03/17/18 05:34	1
Phosphorus	45.8	B	3000	13.5	ug/L		03/15/18 08:26	03/17/18 05:34	1
Potassium	7330	C	3000	237	ug/L		03/15/18 08:26	03/21/18 03:14	1
Sodium	74500		1000	117	ug/L		03/15/18 08:26	03/17/18 05:34	1
Vanadium	3.3	B	10.0	1.1	ug/L		03/15/18 08:26	03/17/18 05:34	1

Client Sample ID: B3HH47
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	28.7	B N	100	4.4	ug/L		03/15/18 08:26	03/22/18 22:38	1
Calcium	114000		200	34.5	ug/L		03/15/18 08:26	03/17/18 06:01	1
Iron	41.1	B	100	22.0	ug/L		03/15/18 08:26	03/17/18 06:01	1
Magnesium	21900		200	10.7	ug/L		03/15/18 08:26	03/17/18 06:01	1
Phosphorus	39.2	B	3000	13.5	ug/L		03/15/18 08:26	03/17/18 06:01	1
Potassium	8060	C	3000	237	ug/L		03/15/18 08:26	03/21/18 03:41	1
Sodium	71300		1000	117	ug/L		03/15/18 08:26	03/17/18 06:01	1
Vanadium	3.5	B	10.0	1.1	ug/L		03/15/18 08:26	03/17/18 06:01	1

Client Sample ID: B3HL55
Date Collected: 03/09/18 11:40
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	10	B N	100	4.4	ug/L		03/15/18 08:26	03/22/18 22:41	1
Calcium	54100		200	34.5	ug/L		03/15/18 08:26	03/17/18 06:04	1
Iron	1800		100	22.0	ug/L		03/15/18 08:26	03/17/18 06:04	1

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

Client Sample ID: B3HL55
Date Collected: 03/09/18 11:40
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	15300		200	10.7	ug/L		03/15/18 08:26	03/17/18 06:04	1
Potassium	7390	C	3000	237	ug/L		03/15/18 08:26	03/21/18 03:44	1
Sodium	13700		1000	117	ug/L		03/15/18 08:26	03/17/18 06:04	1
Vanadium	21.7		10.0	1.1	ug/L		03/15/18 08:26	03/17/18 06:04	1

Client Sample ID: B3HL54
Date Collected: 03/09/18 11:40
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.2	B N	100	4.4	ug/L		03/15/18 08:26	03/22/18 22:44	1
Calcium	55600		200	34.5	ug/L		03/15/18 08:26	03/17/18 06:07	1
Iron	773		100	22.0	ug/L		03/15/18 08:26	03/17/18 06:07	1
Magnesium	16000		200	10.7	ug/L		03/15/18 08:26	03/17/18 06:07	1
Potassium	7550	C	3000	237	ug/L		03/15/18 08:26	03/21/18 03:47	1
Sodium	14300		1000	117	ug/L		03/15/18 08:26	03/17/18 06:07	1
Vanadium	12.3		10.0	1.1	ug/L		03/15/18 08:26	03/17/18 06:07	1

Method: 6020B - Metals (ICP/MS)

Client Sample ID: B3HH42
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		03/15/18 08:26	03/19/18 17:31	1
Antimony	0.40	U	2.0	0.40	ug/L		03/15/18 08:26	03/16/18 02:50	1
Arsenic	0.70	B	5.0	0.33	ug/L		03/15/18 08:26	03/16/18 02:50	1
Barium	65.7		1.0	0.29	ug/L		03/15/18 08:26	03/19/18 17:31	1
Beryllium	0.080	U	1.0	0.080	ug/L		03/15/18 08:26	03/16/18 02:50	1
Cadmium	0.27	U	1.0	0.27	ug/L		03/15/18 08:26	03/16/18 02:50	1
Chromium	23.9		2.0	0.50	ug/L		03/15/18 08:26	03/16/18 02:50	1
Cobalt	0.45	B	1.0	0.054	ug/L		03/15/18 08:26	03/16/18 02:50	1
Copper	0.56	U	2.0	0.56	ug/L		03/15/18 08:26	03/16/18 02:50	1
Lead	0.18	U	1.0	0.18	ug/L		03/15/18 08:26	03/16/18 02:50	1
Manganese	4.3		1.0	0.31	ug/L		03/15/18 08:26	03/19/18 17:31	1
Molybdenum	1.7	B	2.0	0.14	ug/L		03/15/18 08:26	03/16/18 02:50	1
Nickel	46.7		2.0	0.30	ug/L		03/15/18 08:26	03/16/18 02:50	1
Selenium	1.5	B	5.0	0.70	ug/L		03/15/18 08:26	03/16/18 02:50	1
Silver	0.033	U	5.0	0.033	ug/L		03/15/18 08:26	03/16/18 02:50	1
Strontium	592		10.0	0.30	ug/L		03/15/18 08:26	03/16/18 02:50	1
Thallium	0.050	U	1.0	0.050	ug/L		03/15/18 08:26	03/16/18 02:50	1
Thorium	1.2	U	5.0	1.2	ug/L		03/15/18 08:26	03/16/18 02:50	1
Tin	0.77	U	10.0	0.77	ug/L		03/15/18 08:26	03/16/18 02:50	1
Uranium	3.0		1.0	0.050	ug/L		03/15/18 08:26	03/16/18 02:50	1
Zinc	2.0	U	10.0	2.0	ug/L		03/15/18 08:26	03/16/18 02:50	1

Client Sample ID: B3HH47
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		03/15/18 08:26	03/19/18 17:58	1

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

Client Sample ID: B3HH47
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	U	2.0	0.40	ug/L		03/15/18 08:26	03/16/18 03:17	1
Arsenic	**0.87**	**B**	5.0	0.33	ug/L		03/15/18 08:26	03/16/18 03:17	1
Barium	**67.1**		1.0	0.29	ug/L		03/15/18 08:26	03/19/18 17:58	1
Beryllium	**0.12**	**B**	1.0	0.080	ug/L		03/15/18 08:26	03/16/18 03:17	1
Cadmium	0.27	U	1.0	0.27	ug/L		03/15/18 08:26	03/16/18 03:17	1
Chromium	**5.3**		2.0	0.50	ug/L		03/15/18 08:26	03/16/18 03:17	1
Cobalt	**0.36**	**B**	1.0	0.054	ug/L		03/15/18 08:26	03/16/18 03:17	1
Copper	0.56	U	2.0	0.56	ug/L		03/15/18 08:26	03/16/18 03:17	1
Lead	0.18	U	1.0	0.18	ug/L		03/15/18 08:26	03/16/18 03:17	1
Manganese	**4.1**		1.0	0.31	ug/L		03/15/18 08:26	03/19/18 17:58	1
Molybdenum	**1.9**	**B**	2.0	0.14	ug/L		03/15/18 08:26	03/16/18 03:17	1
Nickel	**42.8**		2.0	0.30	ug/L		03/15/18 08:26	03/16/18 03:17	1
Selenium	**1.5**	**B**	5.0	0.70	ug/L		03/15/18 08:26	03/16/18 03:17	1
Silver	0.033	U	5.0	0.033	ug/L		03/15/18 08:26	03/16/18 03:17	1
Strontium	**590**		10.0	0.30	ug/L		03/15/18 08:26	03/16/18 03:17	1
Thallium	0.050	U	1.0	0.050	ug/L		03/15/18 08:26	03/16/18 03:17	1
Thorium	1.2	U	5.0	1.2	ug/L		03/15/18 08:26	03/16/18 03:17	1
Tin	0.77	U	10.0	0.77	ug/L		03/15/18 08:26	03/16/18 03:17	1
Uranium	**3.1**		1.0	0.050	ug/L		03/15/18 08:26	03/16/18 03:17	1
Zinc	2.0	U	10.0	2.0	ug/L		03/15/18 08:26	03/16/18 03:17	1

Client Sample ID: B3HL55
Date Collected: 03/09/18 11:40
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**277**		50.0	9.2	ug/L		03/15/18 08:26	03/19/18 18:02	1
Antimony	0.40	U	2.0	0.40	ug/L		03/15/18 08:26	03/16/18 03:21	1
Arsenic	**5.8**		5.0	0.33	ug/L		03/15/18 08:26	03/16/18 03:21	1
Barium	**33.3**		1.0	0.29	ug/L		03/15/18 08:26	03/19/18 18:02	1
Beryllium	0.080	U	1.0	0.080	ug/L		03/15/18 08:26	03/16/18 03:21	1
Cadmium	0.27	U	1.0	0.27	ug/L		03/15/18 08:26	03/16/18 03:21	1
Chromium	**862**		2.0	0.50	ug/L		03/15/18 08:26	03/16/18 03:21	1
Cobalt	**2.8**		1.0	0.054	ug/L		03/15/18 08:26	03/16/18 03:21	1
Copper	**22.8**		2.0	0.56	ug/L		03/15/18 08:26	03/16/18 03:21	1
Lead	**0.34**	**B**	1.0	0.18	ug/L		03/15/18 08:26	03/16/18 03:21	1
Manganese	**43.0**		1.0	0.31	ug/L		03/15/18 08:26	03/19/18 18:02	1
Molybdenum	**14.5**		2.0	0.14	ug/L		03/15/18 08:26	03/16/18 03:21	1
Nickel	**156**		2.0	0.30	ug/L		03/15/18 08:26	03/16/18 03:21	1
Selenium	**6.6**		5.0	0.70	ug/L		03/15/18 08:26	03/16/18 03:21	1
Silver	**0.12**	**B**	5.0	0.033	ug/L		03/15/18 08:26	03/16/18 03:21	1
Strontium	**334**		10.0	0.30	ug/L		03/15/18 08:26	03/16/18 03:21	1
Thallium	0.050	U	1.0	0.050	ug/L		03/15/18 08:26	03/16/18 03:21	1
Thorium	1.2	U	5.0	1.2	ug/L		03/15/18 08:26	03/16/18 03:21	1
Tin	**1.1**	**B**	10.0	0.77	ug/L		03/15/18 08:26	03/16/18 03:21	1
Uranium	**3.9**		1.0	0.050	ug/L		03/15/18 08:26	03/16/18 03:21	1
Zinc	**8.4**	**B**	10.0	2.0	ug/L		03/15/18 08:26	03/16/18 03:21	1

Method: 6020B - Metals (ICP/MS)

Client Sample ID: B3HL54
Date Collected: 03/09/18 11:40
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		03/15/18 08:26	03/19/18 18:06	1
Antimony	0.40	U	2.0	0.40	ug/L		03/15/18 08:26	03/16/18 03:25	1
Arsenic	**4.3**	**B**	5.0	0.33	ug/L		03/15/18 08:26	03/16/18 03:25	1
Barium	**22.1**		1.0	0.29	ug/L		03/15/18 08:26	03/19/18 18:06	1
Beryllium	0.080	U	1.0	0.080	ug/L		03/15/18 08:26	03/16/18 03:25	1
Cadmium	0.27	U	1.0	0.27	ug/L		03/15/18 08:26	03/16/18 03:25	1
Chromium	**17.9**		2.0	0.50	ug/L		03/15/18 08:26	03/16/18 03:25	1
Cobalt	**3.4**		1.0	0.054	ug/L		03/15/18 08:26	03/16/18 03:25	1
Copper	**0.74**	**B**	2.0	0.56	ug/L		03/15/18 08:26	03/16/18 03:25	1
Lead	0.18	U	1.0	0.18	ug/L		03/15/18 08:26	03/16/18 03:25	1
Manganese	**51.8**		1.0	0.31	ug/L		03/15/18 08:26	03/19/18 18:06	1
Molybdenum	**8.7**		2.0	0.14	ug/L		03/15/18 08:26	03/16/18 03:25	1
Nickel	**188**		2.0	0.30	ug/L		03/15/18 08:26	03/16/18 03:25	1
Selenium	**6.3**		5.0	0.70	ug/L		03/15/18 08:26	03/16/18 03:25	1
Silver	0.033	U	5.0	0.033	ug/L		03/15/18 08:26	03/16/18 03:25	1
Strontium	**324**		10.0	0.30	ug/L		03/15/18 08:26	03/16/18 03:25	1
Thallium	0.050	U	1.0	0.050	ug/L		03/15/18 08:26	03/16/18 03:25	1
Thorium	1.2	U	5.0	1.2	ug/L		03/15/18 08:26	03/16/18 03:25	1
Tin	0.77	U	10.0	0.77	ug/L		03/15/18 08:26	03/16/18 03:25	1
Uranium	**2.8**		1.0	0.050	ug/L		03/15/18 08:26	03/16/18 03:25	1
Zinc	2.0	U	10.0	2.0	ug/L		03/15/18 08:26	03/19/18 18:06	1

General Chemistry

Client Sample ID: B3HH42
Date Collected: 03/08/18 13:02
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**163000**		5000	1070	ug/L			03/16/18 00:16	1

Client Sample ID: B3HJK7
Date Collected: 03/09/18 09:47
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**132000**		5000	1070	ug/L			03/16/18 00:27	1

Client Sample ID: B3HL55
Date Collected: 03/09/18 11:40
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**103000**		5000	1070	ug/L			03/16/18 00:32	1

Client Sample ID: B3HL74
Date Collected: 03/09/18 12:05
Date Received: 03/10/18 09:20
Lab Sample ID: 280-107268-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**82300**		5000	1070	ug/L			03/16/18 00:38	1

General Chemistry

Client Sample ID: B3HJX9
Date Collected: 03/09/18 10:55
Date Received: 03/10/18 09:20

Lab Sample ID: 280-107268-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	94900		5000	1070	ug/L			03/16/18 00:43	1

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

Lab Sample ID: MB 280-408257/6
Matrix: Water
Analysis Batch: 408257

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			03/18/18 10:34	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			03/18/18 10:34	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			03/18/18 10:34	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			03/18/18 10:34	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			03/18/18 10:34	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			03/18/18 10:34	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			03/18/18 10:34	1
Acetone	1.9	U	10	1.9	ug/L			03/18/18 10:34	1
Benzene	0.16	U	1.0	0.16	ug/L			03/18/18 10:34	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			03/18/18 10:34	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			03/18/18 10:34	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			03/18/18 10:34	1
Chloroform	0.16	U	1.0	0.16	ug/L			03/18/18 10:34	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			03/18/18 10:34	1
Methylene Chloride	0.32	U	2.0	0.32	ug/L			03/18/18 10:34	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			03/18/18 10:34	1
Toluene	0.17	U	1.0	0.17	ug/L			03/18/18 10:34	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			03/18/18 10:34	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			03/18/18 10:34	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			03/18/18 10:34	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*16.6*	*N*	*ug/L*		*1.66*			*03/18/18 10:34*	*1*
Unknown	*2.01*	*N*	*ug/L*		*4.68*			*03/18/18 10:34*	*1*
Cyclotetrasiloxane, octamethyl-	*25.9*	*N J*	*ug/L*		*13.44*	*556-67-2*		*03/18/18 10:34*	*1*
Unknown	*13.4*	*N*	*ug/L*		*16.61*			*03/18/18 10:34*	*1*
Unknown	*4.00*	*N*	*ug/L*		*17.08*			*03/18/18 10:34*	*1*
Unknown	*1.34*	*N*	*ug/L*		*18.00*			*03/18/18 10:34*	*1*
Unknown	*5.15*	*N*	*ug/L*		*18.47*			*03/18/18 10:34*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*03/18/18 10:34*	*1*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*		*03/18/18 10:34*	*1*
Dibromofluoromethane (Surr)	*112*		*70 - 130*		*03/18/18 10:34*	*1*
Toluene-d8 (Surr)	*116*		*70 - 130*		*03/18/18 10:34*	*1*

Lab Sample ID: LCS 280-408257/4
Matrix: Water
Analysis Batch: 408257

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	4.77		ug/L		95	70 - 130
1,1,2-Trichloroethane	5.00	4.54		ug/L		91	70 - 130
1,1-Dichloroethane	5.00	4.60		ug/L		92	70 - 130
1,1-Dichloroethene	5.00	4.73		ug/L		95	70 - 130
1,2-Dichloroethane	5.00	4.61		ug/L		92	70 - 130
2-Butanone (MEK)	20.0	16.7		ug/L		84	70 - 130

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

Lab Sample ID: LCS 280-408257/4
Matrix: Water
Analysis Batch: 408257

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	20.0	17.0		ug/L		85	70 - 130
Acetone	20.0	18.8		ug/L		94	70 - 130
Benzene	5.00	4.76		ug/L		95	70 - 130
Carbon disulfide	5.00	4.68		ug/L		94	70 - 130
Carbon tetrachloride	5.00	4.77		ug/L		95	70 - 130
Chlorobenzene	5.00	4.78		ug/L		96	70 - 130
Chloroform	5.00	4.74		ug/L		95	70 - 130
Ethylbenzene	5.00	4.82		ug/L		96	70 - 130
Methylene Chloride	5.00	4.72		ug/L		94	70 - 130
Tetrachloroethene	5.00	4.92		ug/L		98	70 - 130
Toluene	5.00	4.88		ug/L		98	70 - 130
Trichloroethene	5.00	4.75		ug/L		95	70 - 130
Vinyl chloride	5.00	4.24		ug/L		85	70 - 130
Xylenes, Total	10.0	9.50		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
Dibromofluoromethane (Surr)	*112*		*70 - 130*
Toluene-d8 (Surr)	*125*		*70 - 130*

Lab Sample ID: LCSD 280-408257/5
Matrix: Water
Analysis Batch: 408257

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	5.00	4.97		ug/L		99	70 - 130	4	20
1,1,2-Trichloroethane	5.00	4.66		ug/L		93	70 - 130	3	20
1,1-Dichloroethane	5.00	4.64		ug/L		93	70 - 130	1	20
1,1-Dichloroethene	5.00	4.94		ug/L		99	70 - 130	4	20
1,2-Dichloroethane	5.00	4.52		ug/L		90	70 - 130	2	20
2-Butanone (MEK)	20.0	17.6		ug/L		88	70 - 130	5	20
4-Methyl-2-pentanone (MIBK)	20.0	18.0		ug/L		90	70 - 130	6	20
Acetone	20.0	20.5		ug/L		103	70 - 130	8	20
Benzene	5.00	4.77		ug/L		95	70 - 130	0	20
Carbon disulfide	5.00	4.77		ug/L		95	70 - 130	2	20
Carbon tetrachloride	5.00	4.85		ug/L		97	70 - 130	2	20
Chlorobenzene	5.00	4.80		ug/L		96	70 - 130	0	20
Chloroform	5.00	4.76		ug/L		95	70 - 130	0	20
Ethylbenzene	5.00	4.79		ug/L		96	70 - 130	1	20
Methylene Chloride	5.00	4.80		ug/L		96	70 - 130	2	20
Tetrachloroethene	5.00	5.04		ug/L		101	70 - 130	2	20
Toluene	5.00	4.91		ug/L		98	70 - 130	1	20
Trichloroethene	5.00	4.80		ug/L		96	70 - 130	1	20
Vinyl chloride	5.00	4.66		ug/L		93	70 - 130	10	20
Xylenes, Total	10.0	10.0		ug/L		100	70 - 130	5	20

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

Lab Sample ID: LCSD 280-408257/5
Matrix: Water
Analysis Batch: 408257

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
Dibromofluoromethane (Surr)	*110*		*70 - 130*
Toluene-d8 (Surr)	*124*		*70 - 130*

Lab Sample ID: 280-107268-1 MS
Matrix: Water
Analysis Batch: 408257

Client Sample ID: B3HH42
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.16	U	5.00	4.60		ug/L		92	70 - 130
1,1,2-Trichloroethane	0.27	U	5.00	4.93		ug/L		99	70 - 130
1,1-Dichloroethane	0.22	U	5.00	4.51		ug/L		90	70 - 130
1,1-Dichloroethene	0.23	U	5.00	4.44		ug/L		89	70 - 130
1,2-Dichloroethane	0.13	U	5.00	4.56		ug/L		91	70 - 130
2-Butanone (MEK)	2.0	U	20.0	17.5		ug/L		88	70 - 130
4-Methyl-2-pentanone (MIBK)	0.98	U	20.0	18.6		ug/L		93	70 - 130
Acetone	1.9	U	20.0	20.6		ug/L		103	70 - 130
Benzene	0.16	U	5.00	4.69		ug/L		94	70 - 130
Carbon disulfide	0.45	U	5.00	4.43		ug/L		89	70 - 130
Carbon tetrachloride	0.19	U	5.00	4.41		ug/L		88	70 - 130
Chlorobenzene	0.17	U	5.00	4.66		ug/L		93	70 - 130
Chloroform	2.1		5.00	6.73		ug/L		92	70 - 130
Ethylbenzene	0.16	U	5.00	4.56		ug/L		91	70 - 130
Methylene Chloride	0.32	U	5.00	4.59		ug/L		92	70 - 130
Tetrachloroethene	0.20	U	5.00	4.56		ug/L		91	70 - 130
Toluene	0.17	U	5.00	4.81		ug/L		96	70 - 130
Trichloroethene	0.16	U	5.00	4.64		ug/L		93	70 - 130
Vinyl chloride	0.10	U	5.00	3.76		ug/L		75	70 - 130
Xylenes, Total	0.19	U	10.0	9.35		ug/L		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*112*		*70 - 130*

Lab Sample ID: 280-107268-1 MSD
Matrix: Water
Analysis Batch: 408257

Client Sample ID: B3HH42
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.16	U	5.00	4.76		ug/L		95	70 - 130	4	20
1,1,2-Trichloroethane	0.27	U	5.00	4.94		ug/L		99	70 - 130	0	20
1,1-Dichloroethane	0.22	U	5.00	4.71		ug/L		94	70 - 130	5	20
1,1-Dichloroethene	0.23	U	5.00	4.68		ug/L		94	70 - 130	5	20
1,2-Dichloroethane	0.13	U	5.00	4.75		ug/L		95	70 - 130	4	20
2-Butanone (MEK)	2.0	U	20.0	19.6		ug/L		98	70 - 130	11	20

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

Lab Sample ID: 280-107268-1 MSD
Matrix: Water
Analysis Batch: 408257

Client Sample ID: B3HH42
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Methyl-2-pentanone (MIBK)	0.98	U	20.0	19.5		ug/L		98	70 - 130	5	20
Acetone	1.9	U	20.0	22.0		ug/L		110	70 - 130	7	20
Benzene	0.16	U	5.00	4.76		ug/L		95	70 - 130	1	20
Carbon disulfide	0.45	U	5.00	4.53		ug/L		91	70 - 130	2	20
Carbon tetrachloride	0.19	U	5.00	4.55		ug/L		91	70 - 130	3	20
Chlorobenzene	0.17	U	5.00	4.93		ug/L		99	70 - 130	6	20
Chloroform	2.1		5.00	6.73		ug/L		92	70 - 130	0	20
Ethylbenzene	0.16	U	5.00	4.79		ug/L		96	70 - 130	5	20
Methylene Chloride	0.32	U	5.00	4.76		ug/L		95	70 - 130	3	20
Tetrachloroethene	0.20	U	5.00	4.87		ug/L		97	70 - 130	6	20
Toluene	0.17	U	5.00	4.88		ug/L		98	70 - 130	2	20
Trichloroethene	0.16	U	5.00	4.71		ug/L		94	70 - 130	1	20
Vinyl chloride	0.10	U	5.00	4.16		ug/L		83	70 - 130	10	20
Xylenes, Total	0.19	U	10.0	9.91		ug/L		99	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
Dibromofluoromethane (Surr)	*105*		*70 - 130*
Toluene-d8 (Surr)	*114*		*70 - 130*

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

Lab Sample ID: MB 280-407819/1-A
Matrix: Water
Analysis Batch: 408262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407819

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	11	U	100	11	ng/L		03/14/18 13:59	03/18/18 13:41	1
Acenaphthylene	10	U	100	10	ng/L		03/14/18 13:59	03/18/18 13:41	1
Anthracene	14	U	100	14	ng/L		03/14/18 13:59	03/18/18 13:41	1
Benzo[a]anthracene	3.69	J	100	3.2	ng/L		03/14/18 13:59	03/18/18 13:41	1
Benzo[a]pyrene	5.1	U	100	5.1	ng/L		03/14/18 13:59	03/18/18 13:41	1
Benzo[b]fluoranthene	3.4	U	100	3.4	ng/L		03/14/18 13:59	03/18/18 13:41	1
Benzo[g,h,i]perylene	3.6	U	100	3.6	ng/L		03/14/18 13:59	03/18/18 13:41	1
Benzo[k]fluoranthene	5.1	U	100	5.1	ng/L		03/14/18 13:59	03/18/18 13:41	1
Chrysene	3.41	J	100	3.2	ng/L		03/14/18 13:59	03/18/18 13:41	1
Dibenz(a,h)anthracene	4.8	U	100	4.8	ng/L		03/14/18 13:59	03/18/18 13:41	1
Fluoranthene	4.65	J	100	4.5	ng/L		03/14/18 13:59	03/18/18 13:41	1
Fluorene	19	U	100	19	ng/L		03/14/18 13:59	03/18/18 13:41	1
Indeno[1,2,3-cd]pyrene	15	U	100	15	ng/L		03/14/18 13:59	03/18/18 13:41	1
Naphthalene	5.3	U	100	5.3	ng/L		03/14/18 13:59	03/18/18 13:41	1
Phenanthrene	9.8	U	100	9.8	ng/L		03/14/18 13:59	03/18/18 13:41	1
Pyrene	8.1	U	100	8.1	ng/L		03/14/18 13:59	03/18/18 13:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*42 - 120*	*03/14/18 13:59*	*03/18/18 13:41*	*1*

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

Lab Sample ID: MB 280-407819/1-A
Matrix: Water
Analysis Batch: 408262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407819

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	92		43 - 120	03/14/18 13:59	03/18/18 13:41	1
Terphenyl-d14	86		47 - 120	03/14/18 13:59	03/18/18 13:41	1

Lab Sample ID: LCS 280-407819/2-A
Matrix: Water
Analysis Batch: 408262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407819

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	900	767		ng/L		85	70 - 130
Acenaphthylene	900	714		ng/L		79	70 - 130
Anthracene	900	779		ng/L		87	70 - 130
Benzo[a]anthracene	900	770		ng/L		86	70 - 130
Benzo[a]pyrene	900	736		ng/L		82	70 - 130
Benzo[b]fluoranthene	900	745		ng/L		83	70 - 130
Benzo[g,h,i]perylene	900	737		ng/L		82	70 - 130
Benzo[k]fluoranthene	900	778		ng/L		86	70 - 130
Chrysene	900	814		ng/L		90	70 - 130
Dibenz(a,h)anthracene	900	737		ng/L		82	70 - 130
Fluoranthene	900	763		ng/L		85	70 - 130
Fluorene	900	788		ng/L		88	70 - 130
Indeno[1,2,3-cd]pyrene	900	708		ng/L		79	70 - 130
Naphthalene	900	708		ng/L		79	70 - 130
Phenanthrene	900	763		ng/L		85	70 - 130
Pyrene	900	796		ng/L		88	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	84		42 - 120
Nitrobenzene-d5	89		43 - 120
Terphenyl-d14	95		47 - 120

Lab Sample ID: 280-107268-1 MS
Matrix: Water
Analysis Batch: 408262

Client Sample ID: B3HH42
Prep Type: Total/NA
Prep Batch: 407819

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	10	U	853	712		ng/L		83	47 - 120
Acenaphthylene	9.5	U	853	621		ng/L		73	39 - 120
Anthracene	14	U	853	708		ng/L		83	28 - 120
Benzo[a]anthracene	4.6	J B	853	711		ng/L		83	42 - 120
Benzo[a]pyrene	4.9	U	853	693		ng/L		81	38 - 120
Benzo[b]fluoranthene	10	J	853	681		ng/L		79	44 - 120
Benzo[g,h,i]perylene	4.9	J	853	679		ng/L		79	39 - 120
Benzo[k]fluoranthene	6.8	J	853	708		ng/L		82	43 - 120
Chrysene	10	J B	853	753		ng/L		87	35 - 120
Dibenz(a,h)anthracene	4.9	J	853	674		ng/L		78	27 - 126
Fluoranthene	7.0	J B	853	685		ng/L		79	46 - 120
Fluorene	18	U	853	733		ng/L		86	49 - 120
Indeno[1,2,3-cd]pyrene	14	U	853	659		ng/L		77	38 - 120

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

Lab Sample ID: 280-107268-1 MS — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408262 — **Prep Batch: 407819**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	21	J	853	677		ng/L		77	37 - 120
Phenanthrene	9.3	U	853	710		ng/L		83	46 - 120
Pyrene	7.7	U	853	711		ng/L		83	49 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*42 - 120*
Nitrobenzene-d5	*83*		*43 - 120*
Terphenyl-d14	*92*		*47 - 120*

Lab Sample ID: 280-107268-1 MSD — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408262 — **Prep Batch: 407819**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	10	U	863	734		ng/L		85	47 - 120	3	20
Acenaphthylene	9.5	U	863	668		ng/L		77	39 - 120	7	20
Anthracene	14	U	863	729		ng/L		84	28 - 120	3	20
Benzo[a]anthracene	4.6	J B	863	723		ng/L		83	42 - 120	2	20
Benzo[a]pyrene	4.9	U	863	681		ng/L		79	38 - 120	2	20
Benzo[b]fluoranthene	10	J	863	728		ng/L		83	44 - 120	7	20
Benzo[g,h,i]perylene	4.9	J	863	688		ng/L		79	39 - 120	1	20
Benzo[k]fluoranthene	6.8	J	863	746		ng/L		86	43 - 120	5	20
Chrysene	10	J B	863	757		ng/L		86	35 - 120	0	20
Dibenz(a,h)anthracene	4.9	J	863	671		ng/L		77	27 - 126	0	20
Fluoranthene	7.0	J B	863	690		ng/L		79	46 - 120	1	20
Fluorene	18	U	863	733		ng/L		85	49 - 120	0	20
Indeno[1,2,3-cd]pyrene	14	U	863	650		ng/L		75	38 - 120	1	20
Naphthalene	21	J	863	714		ng/L		80	37 - 120	5	20
Phenanthrene	9.3	U	863	732		ng/L		85	46 - 120	3	20
Pyrene	7.7	U	863	718		ng/L		83	49 - 120	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*42 - 120*
Nitrobenzene-d5	*87*		*43 - 120*
Terphenyl-d14	*93*		*47 - 120*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-407760/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408303 — **Prep Batch: 407760**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	90.09	B	200	34.5	ug/L		03/15/18 08:26	03/17/18 05:19	1
Iron	22.0	U	100	22.0	ug/L		03/15/18 08:26	03/17/18 05:19	1
Magnesium	10.7	U	200	10.7	ug/L		03/15/18 08:26	03/17/18 05:19	1
Phosphorus	13.5	U	3000	13.5	ug/L		03/15/18 08:26	03/17/18 05:19	1

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

Lab Sample ID: MB 280-407760/1-A
Matrix: Water
Analysis Batch: 408303
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407760

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	117	U	1000	117	ug/L		03/15/18 08:26	03/17/18 05:19	1
Vanadium	1.1	U	10.0	1.1	ug/L		03/15/18 08:26	03/17/18 05:19	1

Lab Sample ID: MB 280-407760/1-A
Matrix: Water
Analysis Batch: 408554
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407760

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	516.2	B	3000	237	ug/L		03/15/18 08:26	03/21/18 02:59	1

Lab Sample ID: MB 280-407760/1-A
Matrix: Water
Analysis Batch: 408823
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407760

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.4	U	100	4.4	ug/L		03/15/18 08:26	03/22/18 21:56	1

Lab Sample ID: LCS 280-407760/2-A
Matrix: Water
Analysis Batch: 408303
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407760

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	48840		ug/L		98	80 - 120
Iron	1000	979.7		ug/L		98	80 - 120
Magnesium	50000	48990		ug/L		98	80 - 120
Phosphorus	10000	9804		ug/L		98	80 - 120
Sodium	50000	52290		ug/L		105	80 - 120
Vanadium	500	497.1		ug/L		99	80 - 120

Lab Sample ID: LCS 280-407760/2-A
Matrix: Water
Analysis Batch: 408554
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407760

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	50000	51760		ug/L		104	80 - 120

Lab Sample ID: LCS 280-407760/2-A
Matrix: Water
Analysis Batch: 408823
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407760

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1161		ug/L		116	80 - 120

Lab Sample ID: LCSD 280-407760/3-A
Matrix: Water
Analysis Batch: 408303
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 407760

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	50170		ug/L		100	80 - 120	3	20
Iron	1000	1007		ug/L		101	80 - 120	3	20

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-003 / W18-003

TestAmerica Job ID: 280-107268-1
SDG: DN0335

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

Lab Sample ID: LCSD 280-407760/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408303 — **Prep Batch: 407760**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium			50000	49710		ug/L		99	80 - 120	1	20
Phosphorus			10000	9935		ug/L		99	80 - 120	1	20
Sodium			50000	53590		ug/L		107	80 - 120	2	20
Vanadium			500	503.7		ug/L		101	80 - 120	1	20

Lab Sample ID: LCSD 280-407760/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408554 — **Prep Batch: 407760**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium			50000	52290		ug/L		105	80 - 120	1	20

Lab Sample ID: LCSD 280-407760/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408823 — **Prep Batch: 407760**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1000	1163		ug/L		116	80 - 120	0	20

Lab Sample ID: 280-107268-1 MS — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408303 — **Prep Batch: 407760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	120000		50000	173400		ug/L		106	75 - 125
Iron	139		1000	1211		ug/L		107	75 - 125
Magnesium	22300		50000	77090		ug/L		110	75 - 125
Phosphorus	45.8	B	10000	10760		ug/L		107	75 - 125
Sodium	74500		50000	136200		ug/L		123	75 - 125
Vanadium	3.3	B	500	543.2		ug/L		108	75 - 125

Lab Sample ID: 280-107268-1 MS — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408554 — **Prep Batch: 407760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	7330	C	50000	59970		ug/L		105	75 - 125

Lab Sample ID: 280-107268-1 MS — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408823 — **Prep Batch: 407760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	26.5	B N	1000	1299	N	ug/L		127	75 - 125

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-003 / W18-003

TestAmerica Job ID: 280-107268-1
SDG: DN0335

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

Lab Sample ID: 280-107268-1 MSD — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408303 — **Prep Batch: 407760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	120000		50000	164200		ug/L		87	75 - 125	5	20
Iron	139		1000	1150		ug/L		101	75 - 125	5	20
Magnesium	22300		50000	72920		ug/L		101	75 - 125	6	20
Phosphorus	45.8	B	10000	10300		ug/L		103	75 - 125	4	20
Sodium	74500		50000	128900		ug/L		109	75 - 125	6	20
Vanadium	3.3	B	500	515.0		ug/L		102	75 - 125	5	20

Lab Sample ID: 280-107268-1 MSD — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408554 — **Prep Batch: 407760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	7330	C	50000	60050		ug/L		105	75 - 125	0	20

Lab Sample ID: 280-107268-1 MSD — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408823 — **Prep Batch: 407760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	26.5	B N	1000	1191		ug/L		116	75 - 125	9	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-407759/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408289 — **Prep Batch: 407759**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	U	2.0	0.40	ug/L		03/15/18 08:26	03/16/18 02:31	1
Arsenic	0.33	U	5.0	0.33	ug/L		03/15/18 08:26	03/16/18 02:31	1
Beryllium	0.080	U	1.0	0.080	ug/L		03/15/18 08:26	03/16/18 02:31	1
Cadmium	0.27	U	1.0	0.27	ug/L		03/15/18 08:26	03/16/18 02:31	1
Chromium	0.50	U	2.0	0.50	ug/L		03/15/18 08:26	03/16/18 02:31	1
Cobalt	0.054	U	1.0	0.054	ug/L		03/15/18 08:26	03/16/18 02:31	1
Copper	0.56	U	2.0	0.56	ug/L		03/15/18 08:26	03/16/18 02:31	1
Lead	0.18	U	1.0	0.18	ug/L		03/15/18 08:26	03/16/18 02:31	1
Molybdenum	0.14	U	2.0	0.14	ug/L		03/15/18 08:26	03/16/18 02:31	1
Nickel	0.30	U	2.0	0.30	ug/L		03/15/18 08:26	03/16/18 02:31	1
Selenium	0.70	U	5.0	0.70	ug/L		03/15/18 08:26	03/16/18 02:31	1
Silver	0.033	U	5.0	0.033	ug/L		03/15/18 08:26	03/16/18 02:31	1
Strontium	0.30	U	10.0	0.30	ug/L		03/15/18 08:26	03/16/18 02:31	1
Thallium	0.050	U	1.0	0.050	ug/L		03/15/18 08:26	03/16/18 02:31	1
Thorium	1.2	U	5.0	1.2	ug/L		03/15/18 08:26	03/16/18 02:31	1
Tin	0.77	U	10.0	0.77	ug/L		03/15/18 08:26	03/16/18 02:31	1
Uranium	0.050	U	1.0	0.050	ug/L		03/15/18 08:26	03/16/18 02:31	1
Zinc	2.0	U	10.0	2.0	ug/L		03/15/18 08:26	03/16/18 02:31	1

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

Lab Sample ID: MB 280-407759/1-A
Matrix: Water
Analysis Batch: 408407

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407759

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		03/15/18 08:26	03/19/18 17:12	1
Barium	0.29	U	1.0	0.29	ug/L		03/15/18 08:26	03/19/18 17:12	1
Manganese	0.31	U	1.0	0.31	ug/L		03/15/18 08:26	03/19/18 17:12	1

Lab Sample ID: LCS 280-407759/2-A
Matrix: Water
Analysis Batch: 408289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407759

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	40.0	37.34		ug/L		93	80 - 120
Arsenic	40.0	37.58		ug/L		94	80 - 120
Beryllium	40.0	43.12		ug/L		108	80 - 120
Cadmium	40.0	40.14		ug/L		100	80 - 120
Chromium	40.0	39.35		ug/L		98	80 - 120
Cobalt	40.0	38.78		ug/L		97	80 - 120
Copper	40.0	38.65		ug/L		97	80 - 120
Lead	40.0	40.26		ug/L		101	80 - 120
Molybdenum	40.0	40.01		ug/L		100	80 - 120
Nickel	40.0	37.72		ug/L		94	80 - 120
Selenium	40.0	39.05		ug/L		98	80 - 120
Silver	40.0	38.87		ug/L		97	80 - 120
Strontium	40.0	42.49		ug/L		106	80 - 120
Thallium	40.0	40.65		ug/L		102	80 - 120
Thorium	40.0	40.50		ug/L		101	80 - 120
Tin	40.0	40.63		ug/L		102	80 - 120
Uranium	40.0	40.53		ug/L		101	80 - 120
Zinc	40.0	44.68		ug/L		112	80 - 120

Lab Sample ID: LCS 280-407759/2-A
Matrix: Water
Analysis Batch: 408407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407759

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	400	462.5		ug/L		116	80 - 120
Barium	40.0	40.65		ug/L		102	80 - 120
Manganese	40.0	40.57		ug/L		101	80 - 120

Lab Sample ID: LCSD 280-407759/3-A
Matrix: Water
Analysis Batch: 408289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 407759

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	40.0	38.58		ug/L		96	80 - 120	3	20
Arsenic	40.0	37.25		ug/L		93	80 - 120	1	20
Beryllium	40.0	45.24		ug/L		113	80 - 120	5	20
Cadmium	40.0	40.55		ug/L		101	80 - 120	1	20
Chromium	40.0	38.36		ug/L		96	80 - 120	3	20
Cobalt	40.0	38.55		ug/L		96	80 - 120	1	20
Copper	40.0	41.47		ug/L		104	80 - 120	7	20

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

Lab Sample ID: LCSD 280-407759/3-A
Matrix: Water
Analysis Batch: 408289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 407759

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	40.0	40.90		ug/L		102	80 - 120	2	20
Molybdenum	40.0	39.26		ug/L		98	80 - 120	2	20
Nickel	40.0	39.98		ug/L		100	80 - 120	6	20
Selenium	40.0	39.47		ug/L		99	80 - 120	1	20
Silver	40.0	38.08		ug/L		95	80 - 120	2	20
Strontium	40.0	45.77		ug/L		114	80 - 120	7	20
Thallium	40.0	41.12		ug/L		103	80 - 120	1	20
Thorium	40.0	39.87		ug/L		100	80 - 120	2	20
Tin	40.0	38.88		ug/L		97	80 - 120	4	20
Uranium	40.0	40.31		ug/L		101	80 - 120	1	20
Zinc	40.0	38.72		ug/L		97	80 - 120	14	20

Lab Sample ID: LCSD 280-407759/3-A
Matrix: Water
Analysis Batch: 408407

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 407759

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	400	427.4		ug/L		107	80 - 120	8	20
Barium	40.0	43.20		ug/L		108	80 - 120	6	20
Manganese	40.0	41.23		ug/L		103	80 - 120	2	20

Lab Sample ID: 280-107268-1 MS
Matrix: Water
Analysis Batch: 408289

Client Sample ID: B3HH42
Prep Type: Total/NA
Prep Batch: 407759

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.40	U	40.0	40.32		ug/L		101	75 - 125
Arsenic	0.70	B	40.0	37.53		ug/L		92	75 - 125
Beryllium	0.080	U	40.0	41.78		ug/L		104	75 - 125
Cadmium	0.27	U	40.0	41.82		ug/L		105	75 - 125
Chromium	23.9		40.0	66.04		ug/L		105	75 - 125
Cobalt	0.45	B	40.0	39.08		ug/L		97	75 - 125
Copper	0.56	U	40.0	38.72		ug/L		97	75 - 125
Lead	0.18	U	40.0	40.33		ug/L		101	75 - 125
Molybdenum	1.7	B	40.0	41.85		ug/L		100	75 - 125
Nickel	46.7		40.0	83.19		ug/L		91	75 - 125
Selenium	1.5	B	40.0	41.16		ug/L		99	75 - 125
Silver	0.033	U	40.0	40.22		ug/L		101	75 - 125
Strontium	592		40.0	650.7	X	ug/L		147	75 - 125
Thallium	0.050	U	40.0	40.58		ug/L		101	75 - 125
Thorium	1.2	U	40.0	41.07		ug/L		103	75 - 125
Tin	0.77	U	40.0	42.97		ug/L		107	75 - 125
Uranium	3.0		40.0	44.58		ug/L		104	75 - 125
Zinc	2.0	U	40.0	41.14		ug/L		103	75 - 125

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

Lab Sample ID: 280-107268-1 MS — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408407 — **Prep Batch: 407759**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	9.2	U	400	448.5		ug/L		112	75 - 125
Barium	65.7		40.0	104.8		ug/L		98	75 - 125
Manganese	4.3		40.0	46.68		ug/L		106	75 - 125

Lab Sample ID: 280-107268-1 MSD — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408289 — **Prep Batch: 407759**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.40	U	40.0	42.30		ug/L		106	75 - 125	5	20
Arsenic	0.70	B	40.0	40.59		ug/L		100	75 - 125	8	20
Beryllium	0.080	U	40.0	43.25		ug/L		108	75 - 125	3	20
Cadmium	0.27	U	40.0	41.56		ug/L		104	75 - 125	1	20
Chromium	23.9		40.0	66.50		ug/L		106	75 - 125	1	20
Cobalt	0.45	B	40.0	39.32		ug/L		97	75 - 125	1	20
Copper	0.56	U	40.0	38.80		ug/L		97	75 - 125	0	20
Lead	0.18	U	40.0	40.75		ug/L		102	75 - 125	1	20
Molybdenum	1.7	B	40.0	43.55		ug/L		105	75 - 125	4	20
Nickel	46.7		40.0	82.46		ug/L		89	75 - 125	1	20
Selenium	1.5	B	40.0	41.20		ug/L		99	75 - 125	0	20
Silver	0.033	U	40.0	39.29		ug/L		98	75 - 125	2	20
Strontium	592		40.0	626.2	X	ug/L		86	75 - 125	4	20
Thallium	0.050	U	40.0	41.04		ug/L		103	75 - 125	1	20
Thorium	1.2	U	40.0	41.63		ug/L		104	75 - 125	1	20
Tin	0.77	U	40.0	40.56		ug/L		101	75 - 125	6	20
Uranium	3.0		40.0	44.74		ug/L		104	75 - 125	0	20
Zinc	2.0	U	40.0	35.37		ug/L		88	75 - 125	15	20

Lab Sample ID: 280-107268-1 MSD — **Client Sample ID: B3HH42**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408407 — **Prep Batch: 407759**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	9.2	U	400	438.1		ug/L		110	75 - 125	2	20
Barium	65.7		40.0	107.3		ug/L		104	75 - 125	2	20
Manganese	4.3		40.0	46.61		ug/L		106	75 - 125	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-408183/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 408183

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	1070	U	5000	1070	ug/L			03/15/18 22:57	1

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-003 / W18-003

TestAmerica Job ID: 280-107268-1
SDG: DN0335

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-408183/4
Matrix: Water
Analysis Batch: 408183

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	200000	218000		ug/L		109	80 - 120

Lab Sample ID: LCSD 280-408183/5
Matrix: Water
Analysis Batch: 408183

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	200000	217400		ug/L		109	80 - 120	0	20

Lab Sample ID: 280-107268-1 DU
Matrix: Water
Analysis Batch: 408183

Client Sample ID: B3HH42
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	163000		166700		ug/L		2	20

GC/MS VOA

Analysis Batch: 408257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	8260B	
MB 280-408257/6	Method Blank	Total/NA	Water	8260B	
LCS 280-408257/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-408257/5	Lab Control Sample Dup	Total/NA	Water	8260B	
280-107268-1 MS	B3HH42	Total/NA	Water	8260B	
280-107268-1 MSD	B3HH42	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 407819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	3510C	
MB 280-407819/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-407819/2-A	Lab Control Sample	Total/NA	Water	3510C	
280-107268-1 MS	B3HH42	Total/NA	Water	3510C	
280-107268-1 MSD	B3HH42	Total/NA	Water	3510C	

Analysis Batch: 408262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	8270D SIM	407819
MB 280-407819/1-A	Method Blank	Total/NA	Water	8270D SIM	407819
LCS 280-407819/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	407819
280-107268-1 MS	B3HH42	Total/NA	Water	8270D SIM	407819
280-107268-1 MSD	B3HH42	Total/NA	Water	8270D SIM	407819

Metals

Prep Batch: 407759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	3020A	
280-107268-2	B3HH47	Total/NA	Water	3020A	
280-107268-4	B3HL55	Total/NA	Water	3020A	
280-107268-5	B3HL54	Total/NA	Water	3020A	
MB 280-407759/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-407759/2-A	Lab Control Sample	Total/NA	Water	3020A	
LCSD 280-407759/3-A	Lab Control Sample Dup	Total/NA	Water	3020A	
280-107268-1 MS	B3HH42	Total/NA	Water	3020A	
280-107268-1 MSD	B3HH42	Total/NA	Water	3020A	

Prep Batch: 407760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	3010A	
280-107268-2	B3HH47	Total/NA	Water	3010A	
280-107268-4	B3HL55	Total/NA	Water	3010A	
280-107268-5	B3HL54	Total/NA	Water	3010A	
MB 280-407760/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-407760/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 280-407760/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
280-107268-1 MS	B3HH42	Total/NA	Water	3010A	
280-107268-1 MSD	B3HH42	Total/NA	Water	3010A	

Metals (Continued)

Analysis Batch: 408289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	6020B	407759
280-107268-2	B3HH47	Total/NA	Water	6020B	407759
280-107268-4	B3HL55	Total/NA	Water	6020B	407759
280-107268-5	B3HL54	Total/NA	Water	6020B	407759
MB 280-407759/1-A	Method Blank	Total/NA	Water	6020B	407759
LCS 280-407759/2-A	Lab Control Sample	Total/NA	Water	6020B	407759
LCSD 280-407759/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	407759
280-107268-1 MS	B3HH42	Total/NA	Water	6020B	407759
280-107268-1 MSD	B3HH42	Total/NA	Water	6020B	407759

Analysis Batch: 408303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	6010D	407760
280-107268-2	B3HH47	Total/NA	Water	6010D	407760
280-107268-4	B3HL55	Total/NA	Water	6010D	407760
280-107268-5	B3HL54	Total/NA	Water	6010D	407760
MB 280-407760/1-A	Method Blank	Total/NA	Water	6010D	407760
LCS 280-407760/2-A	Lab Control Sample	Total/NA	Water	6010D	407760
LCSD 280-407760/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	407760
280-107268-1 MS	B3HH42	Total/NA	Water	6010D	407760
280-107268-1 MSD	B3HH42	Total/NA	Water	6010D	407760

Analysis Batch: 408407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	6020B	407759
280-107268-2	B3HH47	Total/NA	Water	6020B	407759
280-107268-4	B3HL55	Total/NA	Water	6020B	407759
280-107268-5	B3HL54	Total/NA	Water	6020B	407759
MB 280-407759/1-A	Method Blank	Total/NA	Water	6020B	407759
LCS 280-407759/2-A	Lab Control Sample	Total/NA	Water	6020B	407759
LCSD 280-407759/3-A	Lab Control Sample Dup	Total/NA	Water	6020B	407759
280-107268-1 MS	B3HH42	Total/NA	Water	6020B	407759
280-107268-1 MSD	B3HH42	Total/NA	Water	6020B	407759

Analysis Batch: 408554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	6010D	407760
280-107268-2	B3HH47	Total/NA	Water	6010D	407760
280-107268-4	B3HL55	Total/NA	Water	6010D	407760
280-107268-5	B3HL54	Total/NA	Water	6010D	407760
MB 280-407760/1-A	Method Blank	Total/NA	Water	6010D	407760
LCS 280-407760/2-A	Lab Control Sample	Total/NA	Water	6010D	407760
LCSD 280-407760/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	407760
280-107268-1 MS	B3HH42	Total/NA	Water	6010D	407760
280-107268-1 MSD	B3HH42	Total/NA	Water	6010D	407760

Analysis Batch: 408823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	6010D	407760
280-107268-2	B3HH47	Total/NA	Water	6010D	407760
280-107268-4	B3HL55	Total/NA	Water	6010D	407760

Metals (Continued)

Analysis Batch: 408823 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-5	B3HL54	Total/NA	Water	6010D	407760
MB 280-407760/1-A	Method Blank	Total/NA	Water	6010D	407760
LCS 280-407760/2-A	Lab Control Sample	Total/NA	Water	6010D	407760
LCSD 280-407760/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	407760
280-107268-1 MS	B3HH42	Total/NA	Water	6010D	407760
280-107268-1 MSD	B3HH42	Total/NA	Water	6010D	407760

General Chemistry

Analysis Batch: 408183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107268-1	B3HH42	Total/NA	Water	SM 2320B	
280-107268-3	B3HJK7	Total/NA	Water	SM 2320B	
280-107268-4	B3HL55	Total/NA	Water	SM 2320B	
280-107268-6	B3HL74	Total/NA	Water	SM 2320B	
280-107268-7	B3HJX9	Total/NA	Water	SM 2320B	
MB 280-408183/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-408183/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-408183/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
280-107268-1 DU	B3HH42	Total/NA	Water	SM 2320B	

Client: CH2M Hill Plateau Remediation Company
Project/Site: S18-003 / W18-003

TestAmerica Job ID: 280-107268-1
SDG: DN0335

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
280-107268-1	B3HH42	85	113	106	113
280-107268-1 MS	B3HH42	96	107	106	112
280-107268-1 MSD	B3HH42	93	106	105	114
LCS 280-408257/4	Lab Control Sample	96	118	112	125
LCSD 280-408257/5	Lab Control Sample Dup	101	112	110	124
MB 280-408257/6	Method Blank	94	119	112	116

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(42-120)	(43-120)	(47-120)
280-107268-1	B3HH42	83	86	104
280-107268-1 MS	B3HH42	84	83	92
280-107268-1 MSD	B3HH42	83	87	93
LCS 280-407819/2-A	Lab Control Sample	84	89	95
MB 280-407819/1-A	Method Blank	89	92	86

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

DN0335

SAMP NUM	WMU Code	WELL NAME	SITE TYPE	PARENT WMU	DESCRIPTION
B3HJK7	241C	299-E27-155	WMU	SST	200 East Area Underground Waste Storage Tank Farm
B3HJX9	241C	299-E27-26	WMU	SST	200 East Area Underground Waste Storage Tank Farm
B3HL54	241C	299-E27-13	WMU	SST	200 East Area Underground Waste Storage Tank Farm
B3HL55	241C	299-E27-13	WMU	SST	200 East Area Underground Waste Storage Tank Farm
B3HL74	241C	299-E27-25	WMU	SST	200 East Area Underground Waste Storage Tank Farm