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: 280-105392-1
TestAmerica Sample Delivery Group: DN0304
Client Project/Site: W18-001 / X18-005 / S18-001

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:
2/12/2018 8:59:44 PM

Darlene Bandy, Project Manager I
(303)736-0100
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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: 280-105392-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: CH2M Hill Plateau Remediation Company

Project: W18-001 / X18-005 / S18-001

Report Number: 280-105392-1

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 Arsenic 6010D. All analytes met statistical limits, unless otherwise detailed in the individual sections below. As instructed by the client, the data is reported.

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 1/11/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4º C, 1.5º C and 2.0º C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples B3FXT9 (280-105392-1), B3FXT6 (280-105392-2), B3FXV0 (280-105392-3), B3H038 (280-105392-5), B3H039 (280-105392-10) and B3FTK1 (280-105392-12) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/16/2018.

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

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples B3FXT6 (280-105392-2), B3FTK1 (280-105392-12), B3FY21 (280-105392-13), B3FY16 (280-105392-14) and B3FXV4 (280-105392-15) were analyzed for semivolatile organic compounds (GC-MS) in accordance with SW-846 8270D. The samples were prepared on 01/16/2018 and analyzed on 01/23/2018 and 01/24/2018.

The following sample was observed to have a high density (1.0002 g/mL per the batch paperwork): B3FTK1 (280-105392-12) . The density was checked by weighing 1.00 mL of sample on an analytical balance. The initial volume of the sample was corrected for density using the calculation specified in the SOP.

2,4,6-Tribromophenol (Surr), 2-Fluorobiphenyl (Surr) and Nitrobenzene-d5 (Surr) failed the surrogate recovery criteria low for B3FY16 (280-105392-14), and these surrogate results have been flagged "X". Evidence of matrix interferences is not obvious. As instructed by the client, the data has been qualified and reported (SIR18-0418).

Due to the high concentration of methylene chloride, the matrix spike / matrix spike duplicate (MS/MSD) for batch 401740 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

Job ID: 280-105392-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

DISSOLVED METALS (ICP)
Samples B3FT97 (280-105392-7), B3FVP8 (280-105392-8), B3FR34 (280-105392-11) and B3FX55 (280-105392-16) were analyzed for Dissolved Metals (ICP) in accordance with EPA SW846 6010D. The samples were prepared on 01/18/2018 and analyzed on 01/20/2018.

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

TOTAL METALS (ICP)
Samples B3FT94 (280-105392-6), B3FVK9 (280-105392-9), B3FTK1 (280-105392-12) and B3FXV5 (280-105392-17) were analyzed for Total Metals (ICP) in accordance with EPA SW846 6010D. The samples were prepared on 01/17/2018 and analyzed on 01/20/2018 and 02/08/2018.

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

DISSOLVED METALS (ICP-MS)
Samples B3FVP8 (280-105392-8) and B3FX55 (280-105392-16) were analyzed for Dissolved Metals (ICP-MS) in accordance with SW846 6020B. The samples were prepared and analyzed on 01/18/2018.

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

TOTAL METALS (ICP/MS)
Samples B3FT94 (280-105392-6), B3FVK9 (280-105392-9) and B3FXV5 (280-105392-17) were analyzed for Total Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared and analyzed on 01/17/2018.

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

ALKALINITY
Samples B3FXT6 (280-105392-2), B3FYD5 (280-105392-4) and B3FTK1 (280-105392-12) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 01/16/2018.

Alkalinity as $CaCO_3$ was detected in method blank MB 280-401839/29 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. 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.

No additional 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

SAMPLE ISSUE RESOLUTION (SIR) REPORT

SIR Number: SIR18-0418
Rev. Number: 0
Date Initiated: 01/24/2018

SAMPLE EVENT INFORMATION

SAF NUM(S): W18-001

LABORATORY: TADN

SAMPLING INFORMATION

NUMBER OF SAMPLES: 1

SAMPLE NUMBERS: B3FY16

SAMPLE MATRIX: WATER

SDG NUM(S): DN0304

ISSUE BACKGROUND

CLASS: Laboratory Issue

TYPE: Quality Control Failure

DESCRIPTION: Method 8270D: The Surrogate recovery for the following sample in batch 402496 was outside control limits: B3FY16 (280-105392-14). Evidence of matrix interferences is not obvious. Surrogate 2,4,6-Tribromophenol recovered at 34%, limits = 42-131%. Surrogate 2-Fluorobiphenyl recovered at 35%; limits = 48-120%. Surrogate Nitrobenzene recovered at 33%; limits = 42-120%. The hold time expired on 1/17/2018; the last day of 2x hold time is today, 1/24/2018.

RESOLUTION

PROPOSED RESOLUTION: TADN proposes to either report the in hold data with flags and narrate, re-extract the sample outside of hold but within 2x hold time, or cancel the analysis.

FINAL RESOLUTION: Accept first proposal - report in hold data with flags and narration.

SUBMITTED BY:

BANDY, DF 01/24/2018

ACCEPTED BY:

FITZGERALD, SL 01/24/2018

SAMPLE ISSUE RESOLUTION (SIR) REPORT

SIR Number: SIR18-0606
Rev. Number: 0
Date Initiated: 04/03/2018

SAMPLE EVENT INFORMATION

SAF NUM(S): W18-001

LABORATORY: TADN

SAMPLING INFORMATION

NUMBER OF SAMPLES: 2

SAMPLE NUMBERS: B3FR34, B3FTK1

SAMPLE MATRIX: WATER

SDG NUM(S): DN0304

ISSUE BACKGROUND

CLASS: Chain of Custody Issue (Field)

TYPE: No/Illegible Relinquisher/Receiver Listed on COC

DESCRIPTION: COC W18-001-094, Samples: B3FR34, B3FTK1; missing signature in the second received by box.

RESOLUTION

PROPOSED RESOLUTION: DOCUMENT AND CLOSE

FINAL RESOLUTION: DOCUMENT AND CLOSE

SUBMITTED BY:

KESSINGER, AL 03/07/2018

ACCEPTED BY:

HEY, BE 04/03/2018

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 280-105392-1
SDG Number: DN0304

Login Number: 105392
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	70 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	1.5 C, 1.4 C, 2.0 C
Cooler Temperature is recorded.	True	
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	

521DS

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W18-001-349 Page 1 of 1

Collector:	Jeff Tucksen CHPRC DN0304	**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-506-97-40	**Ice Chest No.:**	(WS-720)
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771184209445
Protocol	RCRA	**Priority:**	30 Days	**Offsite Property No.:**	8938

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
B3FXT9	N	W	JAN 09 2018	1353	5x40-mL aGs*	8260_VOA_GCMS: GW 04	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

280-105392 Chain of Custody

1.4, 1.3, 1.9 IRH8+0.1 Transfer RJ 1-11-18

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Jeff Tucksen CHPRC	JAN 09 2018	1455	SSU-1	JAN 09 2018	1455
SSU-1	JAN 10 2018	0730	Lesly Wall /CHPRC	Lesly Wall	JAN 10 2018 0730
Lesly Wall /CHPRC	Lesly Wall	JAN 10 2018 1400	FEDEX		
Fed Ex			Reed Pottruff		1-11-18 0900

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 = FSR53984 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-001-346 Page 1 of 2

Collector:	Jeff Tucksen CHPRC DW0304	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-506-97-40	Ice Chest No.:	6WS-720
Shipped To (Lab):	TestAmerica Denver	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.:	771184209445
Protocol	RCRA	Priority:	30 Days	Offsite Property No.:	8938

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
B3FXT6	N	W	JAN 09 2018	1052	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B3FXT6	N	W	JAN 09 2018		4x1-L aG	8270_SVOA_GCMS: GW 03	7/40 Days	Cool <=6C
B3FXT6	N	W	JAN 09 2018		5x40-mL aGs*	8260_VOA_GCMS: GW 04	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Received By:
Jeff Tucksen CHPRC — JAN 09 2018 1150 (Print First and Last Name / Signature / Date/Time)	Christina Aguilar /CHPRC — JAN 09 2018 1150 (Print First and Last Name / Signature / Date/Time)
Christina Aguilar /CHPRC — JAN 09 2018 1225 (Print First and Last Name / Signature / Date/Time)	SSU-1 — JAN 09 2018 1225 (Print First and Last Name / Signature / Date/Time)
SSU-1 — JAN 10 2018 0730 (Print First and Last Name / Signature / Date/Time)	Lesly Wall /CHPRC — JAN 10 2018 0730 (Print First and Last Name / Signature / Date/Time)
Lesly Wall /CHPRC — JAN 10 2018 1400 (Print First and Last Name / Signature / Date/Time)	FEDEX (Print First and Last Name / Signature / Date/Time)

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

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

Printed On 11/29/2017 FSR ID = FSR54162 A-6004-842 (REV 3)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. W18-001-346

Page 2 of 2

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A-6003-962 (03/05)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-001-350 Page 1 of 1

Collector:	Jeff Tucksen CHPRC DN0304	**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-506-97-40	**Ice Chest No.:**	GWS-720
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771184209445
Protocol	RCRA	**Priority:**	30 Days	**Offsite Property No.:**	8938

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
B3FXV0	N	W	JAN 09 2018	1353	5x40-mL aGs*	8260_VOA_GCMS: GW 04	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By: Jeff Tucksen CHPRC / Print First and Last Name	Signature	JAN 09 2018 1455 Date/Time	Received By: SSU-1 / Print First and Last Name; Signature; JAN 09 2018 1455 Date/Time
Relinquished By: SSU-1 / Print First and Last Name	Signature	JAN 10 2018 0730 Date/Time	Received By: Lesly Wall /CHPRC / Print First and Last Name; Signature; JAN 10 2018 0730 Date/Time
Relinquished By: Lesly Wall /CHPRC / Print First and Last Name	Signature	JAN 10 2018 1400 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 Patterson / Print First and Last Name; Signature; 1-11-18 0900 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 11/21/2017 FSR ID = FSR53984 A-6004-842 (REV 3)

April 3, 2018
REV. 1
11/57
2/12/2018

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W18-001-387 Page 1 of 12

Collector:	Jeff Tucksen CHPRC DN0304	Contact/Requester:	Karen Waters-Husted	Telephone No.:	509-376-4650 KW. 1/10/18
SAF No.:	W18-001	Sampling Origin:	Hanford Site	Purchase Order/Charge Code:	300071
Project Title:	RCRA, JANUARY 2018	Logbook No.:	HNF-N-506-97-40	Ice Chest No.:	GWS-720
Shipped To (Lab):	TestAmerica Denver	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.:	771184209445
Protocol	RCRA	Priority:	30 Days	Offsite Property No.:	8938

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
B3FYD5	N	W	JAN 09 2018	0925	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Jeff Tucksen CHPRC		JAN 09 2018 0955	Christina Aguilar /CHPRC		JAN 09 2018 0955
Christina Aguilar /CHPRC		JAN 09 2018 1050	SSU-1		JAN 09 2018 1050
SSU-1		JAN 10 2018 0730	Lesly Wall /CHPRC		JAN 10 2018 0730
Lesly Wall /CHPRC		JAN 10 2018 1400	FEDEX		

Matrix *

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

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

Printed On 12/13/2017 FSR ID = FSR55531 A-6004-842 (REV 3)

April 3, 2018

REV. 1

12/57

2/12/2018

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. W18-001-387
Page 2 of 2

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A-6003-962 (03/05)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# X18-005-134 Page 1 of 12

Collector:	Jeff Tucksen CHPRC DAU304	**Contact/Requester:**	WATERS-HUSTED, K	**Telephone No.:**	376-4650
SAF No.:	X18-005	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Groundwater Background Study,	**Logbook No.:**	HNF-N-506 97-40	**Ice Chest No.:**	GW5-720
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771184209445
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	

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

SPECIAL INSTRUCTIONS
Batch with A, I, S, and W SAFs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3H038	N	W	JAN 0 9 2018	1052	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Print First and Last Name	Signature	Date/Time	Received By:	Print First and Last Name	Signature	Date/Time
Jeff Tucksen CHPRC			JAN 0 9 2018 1150	Christina Aguilar /CHPRC			JAN 0 9 2018 1150
Christina Aguilar /CHPRC			JAN 0 9 2018 1225	SSU-1			JAN 0 9 2018 1225
SSU			JAN 1 0 2018 0730	Lesly Wall /CHPRC			JAN 1 0 2018 0730
Lesly Wall /CHPRC			JAN 1 0 2018 1400	FEDEX			

Matrix *

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

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

Printed On 11/21/2017 FSR ID = FSR54026 A-6004-842 (REV 3)

April 3, 2018

REV. 1

14/57

2/12/2018

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. X18-005-134

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

CH2MHill Plateau Remediation Company	78 LBS.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-001-139 Page 1 of 1

Collector:	C.C. HOFFMAN/CHPRC DWC304	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 -95/76	Ice Chest No.:	GWS-735
Shipped To (Lab):	TestAmerica Denver	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.:	7711 859 29497
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
B3FT94	N	W	JAN 10 2018	0941	1x500-mL G/P	6010_METALS_ICP: COMMON; 6020_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B3FT97	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
	C.C. Hoffman CHPRC		1-10-18 0955		Christina Aguilar /CHPRC		JAN 10 2018 0955
	Christina Aguilar /CHPRC		JAN 10 2018 1025		Troy Bacon CHPRC		JAN 10 2018 1025
	Troy Bacon CHPRC		JAN 10 2018 1400		FEDEX		
	FedEx				Reed Pottruff		1-11-18 0900

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 = FSR53855 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# S18-001-141 Page 1 of 1

Collector: C.C. HOFFMAN/CHPRC DN D304	**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 - 95/76	**Ice Chest No.:** GWS-735
Shipped To (Lab): TestAmerica Denver	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771185929497
Protocol SURV	**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
B3FVP8	Y	W	JAN 10 2018	0941	1x500-mL G/P	6010_METALS_ICP: GW 09; 6020_METALS_ICPMS: GW 04	6 Months	HNO3 to pH <2
B3FVK9	N	W			1x500-mL G/P	6010_METALS_ICP: GW 09; 6020_METALS_ICPMS: GW 04	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
CHPRC	C.C. Hoffman		1-10-18 0955	Christina Aguilar /CHPRC			JAN 10 2018 0955
Christina Aguilar /CHPRC			JAN 10 2018 1025	Troy Bacon CHPRC			JAN 10 2018 1025
Troy Bacon CHPRC			JAN 10 2018 1400	FEDEX			
FedEx				Reed Pottmann			1-11-18 0900

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 = FSR53855 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X18-005-135 Page 1 of 1

Collector:	Roger Friesz Jr. /CHPRC DW 0304	**Contact/Requester:**	WATERS-HUSTED, K	**Telephone No.:**	376-4650
SAF No.:	X18-005	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Groundwater Background Study,	**Logbook No.:**	HNF-N-506 - 98/24	**Ice Chest No.:**	GWS-735
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771185929497
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	

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

SPECIAL INSTRUCTIONS
Batch with A, I, S, and W SAFs.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3H039	N	W	JAN 10 2018	0930	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Relinquished By:	Print First and Last Name	Signature	Date/Time	Received By:	Print First and Last Name	Signature	Date/Time
Roger Friesz Jr. /CHPRC			JAN 10 2018 1605	Christina Aguilar /CHPRC			JAN 10 2018 1005
Christina Aguilar /CHPRC			JAN 10 2018 1025	Troy Bacon CHPRC			JAN 10 2018 1025
Troy Bacon CHPRC			JAN 10 2018 1400	FEDEX			
FedEx				Reed Pottmiff			1-11-18 0900

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 = FSR54027 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# W18-001-094 Page 1 of 1

Collector: Roger Friesz Jr. /CHPRC DN 0354	**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 ~98/24	**Ice Chest No.:** GWS-735
Shipped To (Lab): TestAmerica Denver	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771185929497
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
B3FR34	Y	W	JAN 10 2018	0930	1x500-mL G/P	6010_METALS_ICP: GW 08	6 Months	HNO3 to pH <2
B3FTK1	N	W	↓	↓	4x1-L aG	8270_SVOA_GCMS: GW 03	7/40 Days	Cool <=6C
B3FTK1	N	W	↓	↓	5x40-mL aGs*	8260_VOA_GCMS: GW 04	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3FTK1	N	W	↓	↓	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B3FTK1	N	W	JAN 10 2018	0930	1x500-mL G/P	6010_METALS_ICP: GW 08	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
Roger Friesz Jr. /CHPRC			JAN 10 2018 1005	Christina Aguilar /CHPRC			JAN 10 2018 1005
Christina Aguilar /CHPRC			JAN 10 2018 1025	Troy Bacon CHPRC			JAN 10 2018 1025
Troy Bacon CHPRC		Troy L. Bacon	JAN 10 2018 1400	FEDEX			
	FedEx			Reed Pottmuff			1-11-18 0900

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 = FSR53985 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-001-356 Page 1 of 1

Collector:	C.C. HOFFMAN/CHPRC DN030L	**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 -95/76	**Ice Chest No.:**	GWS-735
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771185929497
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
B3FY21	N	W	JAN 10 2018	0840	4x1-L aG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool <=6C

Relinquished By	Print First and Last Name	Signature	Date/Time	Received By	Print First and Last Name	Signature	Date/Time
	C.C. HOFFMAN/CHPRC		1-10-18 0915		Christina Aguilar ACHPRC		JAN 10 2018 0915
	Christina Aguilar ACHPRC		JAN 10 2018 0933		Troy Bacon CHPRC		JAN 10 2018 0933
	Troy Bacon CHPRC		JAN 10 2018 1400		FEDEX		
	Fed Ex				Reed Rottruff		1-11-18 0900

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 = FSR53986 A-6004-842 (REV 3)

April 3, 2018
REV. 1
20/57
2/12/2018

77165

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-001-355 Page 1 of 1

Collector:	C.C. HOFFMAN/CHPRC DA0304	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 ~95/76	Ice Chest No.:	GWS-361
Shipped To (Lab):	TestAmerica Denver	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.:	7711 8802 8142
Protocol	RCRA	Priority:	30 Days	Offsite Property No.:	8943

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
B3FY16	N	W	JAN 10 2018	0941	4x1-L aG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool <=6C

Relinquished By:	Print First and Last Name	Signature	Date/Time	Received By:	Print First and Last Name	Signature	Date/Time
	C.C. Hoffman CHPRC		1-10-18 0955		Christina Aguilar /CHPRC		JAN 10 2018 0955
	Christina Aguilar /CHPRC		JAN 10 2018 1025		Troy Bacon CHPRC		JAN 10 2018 1025
	Troy Bacon CHPRC		JAN 10 2018 1400		FEDEX		
	FedEx				Reed Pottruff		1-11-18 0900

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 = FSR53855 A-6004-842 (REV 3)

April 3, 2018

REV. 1

2157 2/12/2018

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W18-001-354 Page 1 of 1

Collector:	C.C. HOFFMAN/CHPRC DW0304	**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 -95/76	**Ice Chest No.:**	GWS-361
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771188028142
Protocol	RCRA	**Priority:**	30 Days	**Offsite Property No.:**	8943

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
B3FXV4	N	W	JAN 10 2018	1057	4x1-L aG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool <=6C

Relinquished By	Print First and Last Name	Signature	Date/Time	Received By	Print First and Last Name	Signature	Date/Time
C.C. HOFFMAN/CHPRC			1-10-18 1112	Christina Aguilar /CHPRC			JAN 10 2018 1112
Christina Aguilar /CHPRC			JAN 10 2018 1145	Lesly Wall /CHPRC			JAN 10 2018 1145
Lesly Wall /CHPRC			JAN 10 2018 1400	FEDEX			
FedEx				Reid Pottruff			1-11-18 0900

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 = FSR54164 A-6004-842 (REV 3)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S18-001-353 Page 1 of 1

Collector:	C.C. HOFFMAN/CHPRC DNO 304	**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 -95/76	**Ice Chest No.:**	GWS-361
Shipped To (Lab):	TestAmerica Denver	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771188028142
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	8943

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
B3FX55	Y	W	JAN 10 2018	1057	1x500-mL G/P	6010_METALS_ICP: GW 09; 6020_METALS_ICPMS: GW 04	6 Months	HNO3 to pH <2
B3FXV5	N	W			1x500-mL G/P	6010_METALS_ICP: GW 09; 6020_METALS_ICPMS: GW 04	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
C.C. HOFFMAN/CHPRC			1-10-18 1112	Christina Aguilar /CHPRC			JAN 10 2018 1112
Christina Aguilar /CHPRC			JAN 10 2018 1145	Lesly Wall /CHPRC			JAN 10 2018 1145
Lesly Wall /CHPRC			JAN 10 2018 1400	FEDEX			
FedEx				Reed Pottruff			1-11-18 0900

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 = FSR54164 A-6004-842 (REV 3)

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771184209445

Ship date:		Actual delivery:
Wed 1/10/2018		**Thu 1/11/2018 8:48 am**
RICHLAND, WA US	**Delivered** *Signed for by: R POTTRUFF*	ARVADA, CO US

Travel History

Date/Time	Activity	Location
- 1/11/2018 - Thursday		
8:48 am	Delivered	ARVADA, CO
8:35 am	On FedEx vehicle for delivery	ARVADA, CO
7.13 am	At local FedEx facility	ARVADA, CO
5.21 am	At destination sort facility	DENVER, CO
4.16 am	Departed FedEx location	MEMPHIS, TN
12:40 am	Arrived at FedEx location	MEMPHIS, TN
- 1/10/2018 - Wednesday		
4.44 pm	Left FedEx origin facility	PASCO, WA
11.50 am	Shipment information sent to FedEx	
11 33 am	Picked up	PASCO, WA

Shipment Facts

Tracking Number	771184209445	**Service**	FedEx Priority Overnight
Weight	52 lbs / 23 59 kgs	**Dimensions**	19x16x17 in.
Signature services	Direct signature required	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	52 lbs / 23 59 kgs
Terms	Third Party	**Shipper reference**	PTR 6938/COOLER# GWS-720
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge, Direct Signature Required
Standard transit	1/11/2018 by 10:30 am		

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771185929497

Ship date:		Actual delivery:
Wed 1/10/2018		**Thu 1/11/2018 8:48 am**
RICHLAND, WA US	**Delivered** *Signed for by: R POTTRUFF*	ARVADA, CO US

Travel History

Date/Time	Activity	Location
- 1/11/2018 - Thursday		
8:48 am	Delivered	ARVADA, CO
8:35 am	On FedEx vehicle for delivery	ARVADA, CO
7:13 am	At local FedEx facility	ARVADA, CO
5:21 am	At destination sort facility	DENVER, CO
4:16 am	Departed FedEx location	MEMPHIS, TN
12:40 am	Arrived at FedEx location	MEMPHIS, TN
- 1/10/2018 - Wednesday		
4:44 pm	Left FedEx origin facility	PASCO, WA
1:34 pm	Shipment information sent to FedEx	
11:33 am	Picked up	PASCO, WA

Shipment Facts

Tracking Number	771185929497	**Service**	FedEx Priority Overnight
Weight	78 lbs / 35.38 kgs	**Signature services**	Direct signature required
Delivered To	Shipping/Receiving	**Total pieces**	1
Total shipment weight	78 lbs / 35.38 kgs	**Terms**	Third Party
Shipper reference	PTR-8940	**Packaging**	Your Packaging
Special handling section	Deliver Weekday, Direct Signature Required	**Standard transit**	1/11/2018 by 10:30 am

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771188028142

Ship date:		Actual delivery:
Wed 1/10/2018		**Thu 1/11/2018 8:48 am**
Richland, WA US	**Delivered** *Signed for by: R.POTTRUFF*	ARVADA, CO US

Travel History

Date/Time	Activity	Location
- 1/11/2018 - Thursday		
8:48 am	Delivered	ARVADA, CO
8:35 am	On FedEx vehicle for delivery	ARVADA, CO
7:08 am	At local FedEx facility	ARVADA, CO
5:21 am	At destination sort facility	DENVER, CO
4:16 am	Departed FedEx location	MEMPHIS, TN
12:40 am	Arrived at FedEx location	MEMPHIS, TN
- 1/10/2018 - Wednesday		
4:44 pm	Left FedEx origin facility	PASCO, WA
3:17 pm	Picked up	PASCO, WA
3:09 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking Number	771188028142	**Service**	FedEx Priority Overnight
Weight	77 lbs / 34.93 kgs	**Signature services**	Direct signature required
Delivered To	Shipping/Receiving	**Total pieces**	1
Total shipment weight	77 lbs / 34.93 kgs	**Terms**	Third Party
Shipper reference	pir# 6943	**Packaging**	Your Packaging
Special handling section	Deliver Weekday, Direct Signature Required	**Standard transit**	1/11/2018 by 10:30 am

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Qualifiers

GC/MS VOA

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

GC/MS VOA TICs

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

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
X	See case narrative notes for explanation of the 'X' flag

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
U	Analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

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

General Chemistry

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270D	Semivolatile Organic Compounds (GC/MS)	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: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-105392-1	B3FXT9	Water	01/09/18 13:53	01/11/18 09:00
280-105392-2	B3FXT6	Water	01/09/18 10:52	01/11/18 09:00
280-105392-3	B3FXV0	Water	01/09/18 13:53	01/11/18 09:00
280-105392-4	B3FYD5	Water	01/09/18 09:25	01/11/18 09:00
280-105392-5	B3H038	Water	01/09/18 10:52	01/11/18 09:00
280-105392-6	B3FT94	Water	01/10/18 09:41	01/11/18 09:00
280-105392-7	B3FT97	Water	01/10/18 09:41	01/11/18 09:00
280-105392-8	B3FVP8	Water	01/10/18 09:41	01/11/18 09:00
280-105392-9	B3FVK9	Water	01/10/18 09:41	01/11/18 09:00
280-105392-10	B3H039	Water	01/10/18 09:30	01/11/18 09:00
280-105392-11	B3FR34	Water	01/10/18 09:30	01/11/18 09:00
280-105392-12	B3FTK1	Water	01/10/18 09:30	01/11/18 09:00
280-105392-13	B3FY21	Water	01/10/18 08:40	01/11/18 09:00
280-105392-14	B3FY16	Water	01/10/18 09:41	01/11/18 09:00
280-105392-15	B3FXV4	Water	01/10/18 10:57	01/11/18 09:00
280-105392-16	B3FX55	Water	01/10/18 10:57	01/11/18 09:00
280-105392-17	B3FXV5	Water	01/10/18 10:57	01/11/18 09:00

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

Client Sample ID: B3FXT9 — **Lab Sample ID: 280-105392-1**
Date Collected: 01/09/18 13:53 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Butanol	17	U	60	17	ug/L			01/16/18 12:53	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 12:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.3*	*N*	*ug/L*		*6.55*			*01/16/18 12:53*	*1*
Cyclotetrasiloxane, octamethyl-	*1.4*	*N J*	*ug/L*		*10.56*	*556-67-2*		*01/16/18 12:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*		*01/16/18 12:53*	*1*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*01/16/18 12:53*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*01/16/18 12:53*	*1*
Toluene-d8 (Surr)	*110*		*70 - 130*		*01/16/18 12:53*	*1*

Client Sample ID: B3FXT6 — **Lab Sample ID: 280-105392-2**
Date Collected: 01/09/18 10:52 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Butanol	17	U	60	17	ug/L			01/16/18 13:14	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 13:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.4*	*N*	*ug/L*		*6.55*			*01/16/18 13:14*	*1*
Unknown	*1.3*	*N*	*ug/L*		*10.56*			*01/16/18 13:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*		*01/16/18 13:14*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*01/16/18 13:14*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*01/16/18 13:14*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*01/16/18 13:14*	*1*

Client Sample ID: B3FXV0 — **Lab Sample ID: 280-105392-3**
Date Collected: 01/09/18 13:53 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Butanol	17	U	60	17	ug/L			01/16/18 13:34	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 13:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.3*	*N*	*ug/L*		*6.55*			*01/16/18 13:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*01/16/18 13:34*	*1*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*01/16/18 13:34*	*1*
Dibromofluoromethane (Surr)	*119*		*70 - 130*		*01/16/18 13:34*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*01/16/18 13:34*	*1*

Client Sample ID: B3H038 — **Lab Sample ID: 280-105392-5**
Date Collected: 01/09/18 10:52 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			01/16/18 11:11	1

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

Client Sample ID: B3H038 — **Lab Sample ID: 280-105392-5**
Date Collected: 01/09/18 10:52 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			01/16/18 11:11	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			01/16/18 11:11	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			01/16/18 11:11	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			01/16/18 11:11	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			01/16/18 11:11	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			01/16/18 11:11	1
Acetone	**3.6**	**J**	10	1.9	ug/L			01/16/18 11:11	1
Benzene	0.16	U	1.0	0.16	ug/L			01/16/18 11:11	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			01/16/18 11:11	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 11:11	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			01/16/18 11:11	1
Chloroform	0.16	U	1.0	0.16	ug/L			01/16/18 11:11	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			01/16/18 11:11	1
Methylene Chloride	**32**		2.0	0.32	ug/L			01/16/18 11:11	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			01/16/18 11:11	1
Toluene	0.17	U	1.0	0.17	ug/L			01/16/18 11:11	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			01/16/18 11:11	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			01/16/18 11:11	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			01/16/18 11:11	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*40*		*ug/L*		*5.35*	*67-63-0*		*01/16/18 11:11*	*1*
Unknown	*1.3*	*N*	*ug/L*		*6.55*			*01/16/18 11:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*01/16/18 11:11*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*01/16/18 11:11*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*01/16/18 11:11*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*01/16/18 11:11*	*1*

Client Sample ID: B3H039 — **Lab Sample ID: 280-105392-10**
Date Collected: 01/10/18 09:30 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			01/16/18 13:55	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			01/16/18 13:55	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			01/16/18 13:55	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			01/16/18 13:55	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			01/16/18 13:55	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			01/16/18 13:55	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			01/16/18 13:55	1
Acetone	**3.7**	**J**	10	1.9	ug/L			01/16/18 13:55	1
Benzene	0.16	U	1.0	0.16	ug/L			01/16/18 13:55	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			01/16/18 13:55	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 13:55	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			01/16/18 13:55	1
Chloroform	0.16	U	1.0	0.16	ug/L			01/16/18 13:55	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			01/16/18 13:55	1
Methylene Chloride	**17**		2.0	0.32	ug/L			01/16/18 13:55	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			01/16/18 13:55	1

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

Client Sample ID: B3H039 — **Lab Sample ID: 280-105392-10**
Date Collected: 01/10/18 09:30 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	0.17	U	1.0	0.17	ug/L			01/16/18 13:55	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			01/16/18 13:55	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			01/16/18 13:55	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			01/16/18 13:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.3*	*N*	*ug/L*		*6.55*			*01/16/18 13:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*01/16/18 13:55*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*01/16/18 13:55*	*1*
Dibromofluoromethane (Surr)	*119*		*70 - 130*		*01/16/18 13:55*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*		*01/16/18 13:55*	*1*

Client Sample ID: B3FTK1 — **Lab Sample ID: 280-105392-12**
Date Collected: 01/10/18 09:30 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Butanol	17	U	60	17	ug/L			01/16/18 14:15	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 14:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.3*	*N*	*ug/L*		*6.55*			*01/16/18 14:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 130*		*01/16/18 14:15*	*1*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*01/16/18 14:15*	*1*
Dibromofluoromethane (Surr)	*120*		*70 - 130*		*01/16/18 14:15*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*01/16/18 14:15*	*1*

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

Client Sample ID: B3FXT6 — **Lab Sample ID: 280-105392-2**
Date Collected: 01/09/18 10:52 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	0.28	U	9.6	0.28	ug/L		01/16/18 10:28	01/23/18 21:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Methylene Chloride	*7.1*	*N J*	*ug/L*		*1.93*	*75-09-2*	*01/16/18 10:28*	*01/23/18 21:26*	*1*
Unknown	*97*	*N*	*ug/L*		*2.00*		*01/16/18 10:28*	*01/23/18 21:26*	*1*
Unknown	*36*	*N*	*ug/L*		*3.23*		*01/16/18 10:28*	*01/23/18 21:26*	*1*
Unknown	*12*	*N*	*ug/L*		*4.13*		*01/16/18 10:28*	*01/23/18 21:26*	*1*
Diethyl phthalate	*0.80*	*J*	*ug/L*		*8.03*	*84-66-2*	*01/16/18 10:28*	*01/23/18 21:26*	*1*
Kepone TIC	*2.4*	*U*	*ug/L*			*143-50-0*	*01/16/18 10:28*	*01/23/18 21:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*42 - 131*	*01/16/18 10:28*	*01/23/18 21:26*	*1*
2-Fluorobiphenyl (Surr)	*76*		*48 - 120*	*01/16/18 10:28*	*01/23/18 21:26*	*1*
2-Fluorophenol (Surr)	*80*		*41 - 120*	*01/16/18 10:28*	*01/23/18 21:26*	*1*
Nitrobenzene-d5 (Surr)	*77*		*42 - 120*	*01/16/18 10:28*	*01/23/18 21:26*	*1*

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

Client Sample ID: B3FXT6
Date Collected: 01/09/18 10:52
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	80		45 - 124	01/16/18 10:28	01/23/18 21:26	1
Terphenyl-d14 (Surr)	84		20 - 130	01/16/18 10:28	01/23/18 21:26	1

Client Sample ID: B3FTK1
Date Collected: 01/10/18 09:30
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	0.27	U	9.4	0.27	ug/L		01/16/18 10:28	01/23/18 21:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclohexane	9.2	N J	ug/L		1.94	110-82-7	01/16/18 10:28	01/23/18 21:55	1
Unknown	99	N	ug/L		2.00		01/16/18 10:28	01/23/18 21:55	1
Unknown	27	N	ug/L		3.23		01/16/18 10:28	01/23/18 21:55	1
1-Propene, 1,2,3-trichloro-, (Z)-	8.0	N J	ug/L		4.13	13116-57-9	01/16/18 10:28	01/23/18 21:55	1
Kepone TIC	2.4	U	ug/L			143-50-0	01/16/18 10:28	01/23/18 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	74		42 - 131	01/16/18 10:28	01/23/18 21:55	1
2-Fluorobiphenyl (Surr)	70		48 - 120	01/16/18 10:28	01/23/18 21:55	1
2-Fluorophenol (Surr)	68		41 - 120	01/16/18 10:28	01/23/18 21:55	1
Nitrobenzene-d5 (Surr)	69		42 - 120	01/16/18 10:28	01/23/18 21:55	1
Phenol-d5 (Surr)	68		45 - 124	01/16/18 10:28	01/23/18 21:55	1
Terphenyl-d14 (Surr)	81		20 - 130	01/16/18 10:28	01/23/18 21:55	1

Client Sample ID: B3FY21
Date Collected: 01/10/18 08:40
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	1.9	U	47	1.9	ug/L		01/16/18 10:28	01/23/18 22:24	1
2,4,5-Trichlorophenol	0.42	U	9.4	0.42	ug/L		01/16/18 10:28	01/23/18 22:24	1
2,4,6-Trichlorophenol	0.27	U	9.4	0.27	ug/L		01/16/18 10:28	01/23/18 22:24	1
2,4-Dichlorophenol	0.60	U	9.4	0.60	ug/L		01/16/18 10:28	01/23/18 22:24	1
2,4-Dimethylphenol	0.54	U	9.4	0.54	ug/L		01/16/18 10:28	01/23/18 22:24	1
2,4-Dinitrophenol	9.4	U	28	9.4	ug/L		01/16/18 10:28	01/23/18 22:24	1
2,6-Dichlorophenol	1.3	U	9.4	1.3	ug/L		01/16/18 10:28	01/23/18 22:24	1
2-Chlorophenol	1.9	U	9.4	1.9	ug/L		01/16/18 10:28	01/23/18 22:24	1
2-Methylphenol	0.92	U	9.4	0.92	ug/L		01/16/18 10:28	01/23/18 22:24	1
2-Nitrophenol	0.37	U	9.4	0.37	ug/L		01/16/18 10:28	01/23/18 22:24	1
3 & 4 Methylphenol	0.23	U	9.4	0.23	ug/L		01/16/18 10:28	01/23/18 22:24	1
4,6-Dinitro-2-methylphenol	3.7	U	47	3.7	ug/L		01/16/18 10:28	01/23/18 22:24	1
4-Chloro-3-methylphenol	2.3	U	9.4	2.3	ug/L		01/16/18 10:28	01/23/18 22:24	1
4-Nitrophenol	1.2	U	9.4	1.2	ug/L		01/16/18 10:28	01/23/18 22:24	1
Dinoseb	3.7	U	19	3.7	ug/L		01/16/18 10:28	01/23/18 22:24	1
Pentachlorophenol	19	U	47	19	ug/L		01/16/18 10:28	01/23/18 22:24	1
Phenol	1.9	U	9.4	1.9	ug/L		01/16/18 10:28	01/23/18 22:24	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Methylene Chloride	5.8	N J	ug/L		1.93	75-09-2	01/16/18 10:28	01/23/18 22:24	1
Unknown	82	N	ug/L		2.00		01/16/18 10:28	01/23/18 22:24	1
Unknown	4.0	N	ug/L		2.38		01/16/18 10:28	01/23/18 22:24	1

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

Client Sample ID: B3FY21
Date Collected: 01/10/18 08:40
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-13
Matrix: Water

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	23	N	ug/L		3.23		01/16/18 10:28	01/23/18 22:24	1
1-Propene, 1,1,2-trichloro-	6.9	N J	ug/L		4.13	21400-25-9	01/16/18 10:28	01/23/18 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	83		42 - 131	01/16/18 10:28	01/23/18 22:24	1
2-Fluorobiphenyl (Surr)	70		48 - 120	01/16/18 10:28	01/23/18 22:24	1
2-Fluorophenol (Surr)	62		41 - 120	01/16/18 10:28	01/23/18 22:24	1
Nitrobenzene-d5 (Surr)	63		42 - 120	01/16/18 10:28	01/23/18 22:24	1
Phenol-d5 (Surr)	63		45 - 124	01/16/18 10:28	01/23/18 22:24	1
Terphenyl-d14 (Surr)	94		20 - 130	01/16/18 10:28	01/23/18 22:24	1

Client Sample ID: B3FY16
Date Collected: 01/10/18 09:41
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	1.9	U	48	1.9	ug/L		01/16/18 10:28	01/23/18 23:52	1
2,4,5-Trichlorophenol	0.43	U	9.5	0.43	ug/L		01/16/18 10:28	01/23/18 23:52	1
2,4,6-Trichlorophenol	0.28	U	9.5	0.28	ug/L		01/16/18 10:28	01/23/18 23:52	1
2,4-Dichlorophenol	0.61	U	9.5	0.61	ug/L		01/16/18 10:28	01/23/18 23:52	1
2,4-Dimethylphenol	0.55	U	9.5	0.55	ug/L		01/16/18 10:28	01/23/18 23:52	1
2,4-Dinitrophenol	9.5	U	29	9.5	ug/L		01/16/18 10:28	01/23/18 23:52	1
2,6-Dichlorophenol	1.3	U	9.5	1.3	ug/L		01/16/18 10:28	01/23/18 23:52	1
2-Chlorophenol	1.9	U	9.5	1.9	ug/L		01/16/18 10:28	01/23/18 23:52	1
2-Methylphenol	0.93	U	9.5	0.93	ug/L		01/16/18 10:28	01/23/18 23:52	1
2-Nitrophenol	0.37	U	9.5	0.37	ug/L		01/16/18 10:28	01/23/18 23:52	1
3 & 4 Methylphenol	0.24	U	9.5	0.24	ug/L		01/16/18 10:28	01/23/18 23:52	1
4,6-Dinitro-2-methylphenol	3.8	U	48	3.8	ug/L		01/16/18 10:28	01/23/18 23:52	1
4-Chloro-3-methylphenol	2.3	U	9.5	2.3	ug/L		01/16/18 10:28	01/23/18 23:52	1
4-Nitrophenol	1.2	U	9.5	1.2	ug/L		01/16/18 10:28	01/23/18 23:52	1
Dinoseb	3.8	U	19	3.8	ug/L		01/16/18 10:28	01/23/18 23:52	1
Pentachlorophenol	19	U	48	19	ug/L		01/16/18 10:28	01/23/18 23:52	1
Phenol	1.9	U	9.5	1.9	ug/L		01/16/18 10:28	01/23/18 23:52	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.6	N	ug/L		1.93		01/16/18 10:28	01/23/18 23:52	1
Unknown	110	N	ug/L		2.01		01/16/18 10:28	01/23/18 23:52	1
Unknown	4.6	N	ug/L		2.77		01/16/18 10:28	01/23/18 23:52	1
Unknown	27	N	ug/L		3.23		01/16/18 10:28	01/23/18 23:52	1
Unknown	5.0	N	ug/L		4.13		01/16/18 10:28	01/23/18 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	34	X	42 - 131	01/16/18 10:28	01/23/18 23:52	1
2-Fluorobiphenyl (Surr)	35	X	48 - 120	01/16/18 10:28	01/23/18 23:52	1
2-Fluorophenol (Surr)	42		41 - 120	01/16/18 10:28	01/23/18 23:52	1
Nitrobenzene-d5 (Surr)	33	X	42 - 120	01/16/18 10:28	01/23/18 23:52	1
Phenol-d5 (Surr)	45		45 - 124	01/16/18 10:28	01/23/18 23:52	1
Terphenyl-d14 (Surr)	70		20 - 130	01/16/18 10:28	01/23/18 23:52	1

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

Client Sample ID: B3FXV4
Date Collected: 01/10/18 10:57
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	1.9	U	48	1.9	ug/L		01/16/18 10:28	01/24/18 00:21	1
2,4,5-Trichlorophenol	0.43	U	9.7	0.43	ug/L		01/16/18 10:28	01/24/18 00:21	1
2,4,6-Trichlorophenol	0.28	U	9.7	0.28	ug/L		01/16/18 10:28	01/24/18 00:21	1
2,4-Dichlorophenol	0.62	U	9.7	0.62	ug/L		01/16/18 10:28	01/24/18 00:21	1
2,4-Dimethylphenol	0.56	U	9.7	0.56	ug/L		01/16/18 10:28	01/24/18 00:21	1
2,4-Dinitrophenol	9.7	U	29	9.7	ug/L		01/16/18 10:28	01/24/18 00:21	1
2,6-Dichlorophenol	1.3	U	9.7	1.3	ug/L		01/16/18 10:28	01/24/18 00:21	1
2-Chlorophenol	1.9	U	9.7	1.9	ug/L		01/16/18 10:28	01/24/18 00:21	1
2-Methylphenol	0.95	U	9.7	0.95	ug/L		01/16/18 10:28	01/24/18 00:21	1
2-Nitrophenol	0.38	U	9.7	0.38	ug/L		01/16/18 10:28	01/24/18 00:21	1
3 & 4 Methylphenol	0.24	U	9.7	0.24	ug/L		01/16/18 10:28	01/24/18 00:21	1
4,6-Dinitro-2-methylphenol	3.9	U	48	3.9	ug/L		01/16/18 10:28	01/24/18 00:21	1
4-Chloro-3-methylphenol	2.3	U	9.7	2.3	ug/L		01/16/18 10:28	01/24/18 00:21	1
4-Nitrophenol	1.2	U	9.7	1.2	ug/L		01/16/18 10:28	01/24/18 00:21	1
Dinoseb	3.9	U	19	3.9	ug/L		01/16/18 10:28	01/24/18 00:21	1
Pentachlorophenol	19	U	48	19	ug/L		01/16/18 10:28	01/24/18 00:21	1
Phenol	1.9	U	9.7	1.9	ug/L		01/16/18 10:28	01/24/18 00:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane	*9.0*	*N J*	*ug/L*		*1.94*	*110-82-7*	*01/16/18 10:28*	*01/24/18 00:21*	*1*
Unknown	*84*	*N*	*ug/L*		*2.01*		*01/16/18 10:28*	*01/24/18 00:21*	*1*
Unknown	*25*	*N*	*ug/L*		*3.23*		*01/16/18 10:28*	*01/24/18 00:21*	*1*
1-Propene, 1,2,3-trichloro-, (Z)-	*4.2*	*N J*	*ug/L*		*4.13*	*13116-57-9*	*01/16/18 10:28*	*01/24/18 00:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*74*		*42 - 131*	*01/16/18 10:28*	*01/24/18 00:21*	*1*
2-Fluorobiphenyl (Surr)	*66*		*48 - 120*	*01/16/18 10:28*	*01/24/18 00:21*	*1*
2-Fluorophenol (Surr)	*67*		*41 - 120*	*01/16/18 10:28*	*01/24/18 00:21*	*1*
Nitrobenzene-d5 (Surr)	*64*		*42 - 120*	*01/16/18 10:28*	*01/24/18 00:21*	*1*
Phenol-d5 (Surr)	*67*		*45 - 124*	*01/16/18 10:28*	*01/24/18 00:21*	*1*
Terphenyl-d14 (Surr)	*78*		*20 - 130*	*01/16/18 10:28*	*01/24/18 00:21*	*1*

Method: 6010D - Metals (ICP)

Client Sample ID: B3FT94
Date Collected: 01/10/18 09:41
Date Received: 01/11/18 09:00

Lab Sample ID: 280-105392-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	5.2	U	20.0	5.2	ug/L		01/17/18 14:37	01/20/18 00:52	1
Arsenic	**6.3**	**B**	15.0	4.4	ug/L		01/17/18 14:37	01/20/18 00:52	1
Barium	**46.1**		10.0	0.82	ug/L		01/17/18 14:37	01/20/18 00:52	1
Cadmium	0.45	U	5.0	0.45	ug/L		01/17/18 14:37	01/20/18 00:52	1
Calcium	**39600**		200	34.5	ug/L		01/17/18 14:37	01/20/18 00:52	1
Chromium	**7.6**	**B**	10.0	0.66	ug/L		01/17/18 14:37	01/20/18 00:52	1
Cobalt	1.2	U	10.0	1.2	ug/L		01/17/18 14:37	01/20/18 00:52	1
Copper	4.2	U	15.0	4.2	ug/L		01/17/18 14:37	01/20/18 00:52	1
Iron	**28.8**	**B**	100	22.0	ug/L		01/17/18 14:37	01/20/18 00:52	1
Magnesium	**12200**		200	10.7	ug/L		01/17/18 14:37	01/20/18 00:52	1
Manganese	**1.1**	**B**	10.0	0.26	ug/L		01/17/18 14:37	01/20/18 00:52	1
Nickel	2.6	U	40.0	2.6	ug/L		01/17/18 14:37	01/20/18 00:52	1

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

Client Sample ID: B3FT94 — **Lab Sample ID: 280-105392-6**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	6130		3000	237	ug/L		01/17/18 14:37	01/20/18 00:52	1
Silver	0.93	U	10.0	0.93	ug/L		01/17/18 14:37	01/20/18 00:52	1
Sodium	22400		1000	117	ug/L		01/17/18 14:37	01/20/18 00:52	1
Vanadium	17.3		10.0	1.1	ug/L		01/17/18 14:37	01/20/18 00:52	1
Zinc	4.5	U	20.0	4.5	ug/L		01/17/18 14:37	01/20/18 00:52	1

Client Sample ID: B3FVK9 — **Lab Sample ID: 280-105392-9**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	50.5	B	100	22.0	ug/L		01/17/18 14:37	01/20/18 01:07	1
Magnesium	12800		200	10.7	ug/L		01/17/18 14:37	01/20/18 01:07	1
Potassium	6330		3000	237	ug/L		01/17/18 14:37	01/20/18 01:07	1
Sodium	24500		1000	117	ug/L		01/17/18 14:37	01/20/18 01:07	1

Client Sample ID: B3FTK1 — **Lab Sample ID: 280-105392-12**
Date Collected: 01/10/18 09:30 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	71200		200	34.5	ug/L		01/17/18 14:37	01/20/18 01:10	1
Chromium	19.3		10.0	0.66	ug/L		01/17/18 14:37	01/20/18 01:10	1
Iron	87.9	B	100	22.0	ug/L		01/17/18 14:37	01/20/18 01:10	1
Magnesium	24200		200	10.7	ug/L		01/17/18 14:37	01/20/18 01:10	1
Manganese	2.1	B	10.0	0.26	ug/L		01/17/18 14:37	01/20/18 01:10	1
Nickel	9.2	B	40.0	2.6	ug/L		01/17/18 14:37	01/20/18 01:10	1
Potassium	9570		3000	237	ug/L		01/17/18 14:37	01/20/18 01:10	1
Sodium	30200		1000	117	ug/L		01/17/18 14:37	02/08/18 16:31	1

Client Sample ID: B3FXV5 — **Lab Sample ID: 280-105392-17**
Date Collected: 01/10/18 10:57 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	28.5	B	100	22.0	ug/L		01/17/18 14:37	01/20/18 01:13	1
Magnesium	13000		200	10.7	ug/L		01/17/18 14:37	01/20/18 01:13	1
Potassium	5470		3000	237	ug/L		01/17/18 14:37	01/20/18 01:13	1
Sodium	21300		1000	117	ug/L		01/17/18 14:37	01/20/18 01:13	1

Method: 6010D - Metals (ICP) - Dissolved

Client Sample ID: B3FT97 — **Lab Sample ID: 280-105392-7**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	5.2	U	20.0	5.2	ug/L		01/18/18 15:07	01/20/18 02:01	1
Arsenic	4.9	B	15.0	4.4	ug/L		01/18/18 15:07	01/20/18 02:01	1
Barium	49.8		10.0	0.82	ug/L		01/18/18 15:07	01/20/18 02:01	1
Cadmium	0.45	U	5.0	0.45	ug/L		01/18/18 15:07	01/20/18 02:01	1
Calcium	41700		200	34.5	ug/L		01/18/18 15:07	01/20/18 02:01	1
Chromium	4.4	B	10.0	0.66	ug/L		01/18/18 15:07	01/20/18 02:01	1
Cobalt	1.2	U	10.0	1.2	ug/L		01/18/18 15:07	01/20/18 02:01	1

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

Client Sample ID: B3FT97 — **Lab Sample ID: 280-105392-7**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	4.2	U	15.0	4.2	ug/L		01/18/18 15:07	01/20/18 02:01	1
Iron	22.0	U	100	22.0	ug/L		01/18/18 15:07	01/20/18 02:01	1
Magnesium	**12900**		200	10.7	ug/L		01/18/18 15:07	01/20/18 02:01	1
Manganese	**0.63**	**B**	10.0	0.26	ug/L		01/18/18 15:07	01/20/18 02:01	1
Nickel	2.6	U	40.0	2.6	ug/L		01/18/18 15:07	01/20/18 02:01	1
Potassium	**6400**		3000	237	ug/L		01/18/18 15:07	01/20/18 02:01	1
Silver	0.93	U	10.0	0.93	ug/L		01/18/18 15:07	01/20/18 02:01	1
Sodium	**23500**		1000	117	ug/L		01/18/18 15:07	01/20/18 02:01	1
Vanadium	**18.1**		10.0	1.1	ug/L		01/18/18 15:07	01/20/18 02:01	1
Zinc	4.5	U	20.0	4.5	ug/L		01/18/18 15:07	01/20/18 02:01	1

Client Sample ID: B3FVP8 — **Lab Sample ID: 280-105392-8**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	22.0	U	100	22.0	ug/L		01/18/18 15:07	01/20/18 02:16	1
Magnesium	**12700**		200	10.7	ug/L		01/18/18 15:07	01/20/18 02:16	1
Potassium	**6340**		3000	237	ug/L		01/18/18 15:07	01/20/18 02:16	1
Sodium	**22900**		1000	117	ug/L		01/18/18 15:07	01/20/18 02:16	1

Client Sample ID: B3FR34 — **Lab Sample ID: 280-105392-11**
Date Collected: 01/10/18 09:30 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**70800**		200	34.5	ug/L		01/18/18 15:07	01/20/18 02:19	1
Chromium	**2.8**	**B**	10.0	0.66	ug/L		01/18/18 15:07	01/20/18 02:19	1
Iron	**28.8**	**B**	100	22.0	ug/L		01/18/18 15:07	01/20/18 02:19	1
Magnesium	**24500**		200	10.7	ug/L		01/18/18 15:07	01/20/18 02:19	1
Manganese	**1.3**	**B**	10.0	0.26	ug/L		01/18/18 15:07	01/20/18 02:19	1
Nickel	**3.1**	**B**	40.0	2.6	ug/L		01/18/18 15:07	01/20/18 02:19	1
Potassium	**9520**		3000	237	ug/L		01/18/18 15:07	01/20/18 02:19	1
Sodium	**29600**		1000	117	ug/L		01/18/18 15:07	01/20/18 02:19	1

Client Sample ID: B3FX55 — **Lab Sample ID: 280-105392-16**
Date Collected: 01/10/18 10:57 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	22.0	U	100	22.0	ug/L		01/18/18 15:07	01/20/18 02:22	1
Magnesium	**13800**		200	10.7	ug/L		01/18/18 15:07	01/20/18 02:22	1
Potassium	**5860**		3000	237	ug/L		01/18/18 15:07	01/20/18 02:22	1
Sodium	**22400**		1000	117	ug/L		01/18/18 15:07	01/20/18 02:22	1

Method: 6020B - Metals (ICP/MS)

Client Sample ID: B3FT94 — **Lab Sample ID: 280-105392-6**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	**9.6**		1.0	0.050	ug/L		01/17/18 14:37	01/17/18 21:59	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

Method: 6020B - Metals (ICP/MS)

Client Sample ID: B3FVK9 — **Lab Sample ID: 280-105392-9**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		01/17/18 14:37	01/17/18 22:03	1
Antimony	0.40	U	2.0	0.40	ug/L		01/17/18 14:37	01/17/18 22:03	1
Cobalt	**0.058**	**B**	1.0	0.054	ug/L		01/17/18 14:37	01/17/18 22:03	1
Manganese	**0.51**	**B**	1.0	0.31	ug/L		01/17/18 14:37	01/17/18 22:03	1
Nickel	**2.8**		2.0	0.30	ug/L		01/17/18 14:37	01/17/18 22:03	1
Thallium	0.050	U	1.0	0.050	ug/L		01/17/18 14:37	01/17/18 22:03	1
Zinc	2.0	U	10.0	2.0	ug/L		01/17/18 14:37	01/17/18 22:03	1

Client Sample ID: B3FXV5 — **Lab Sample ID: 280-105392-17**
Date Collected: 01/10/18 10:57 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		01/17/18 14:37	01/17/18 22:20	1
Antimony	0.40	U	2.0	0.40	ug/L		01/17/18 14:37	01/17/18 22:20	1
Cobalt	**0.059**	**B**	1.0	0.054	ug/L		01/17/18 14:37	01/17/18 22:20	1
Manganese	**0.64**	**B**	1.0	0.31	ug/L		01/17/18 14:37	01/17/18 22:20	1
Nickel	**1.9**	**B**	2.0	0.30	ug/L		01/17/18 14:37	01/17/18 22:20	1
Thallium	**0.096**	**B**	1.0	0.050	ug/L		01/17/18 14:37	01/17/18 22:20	1
Zinc	2.0	U	10.0	2.0	ug/L		01/17/18 14:37	01/17/18 22:20	1

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

Client Sample ID: B3FVP8 — **Lab Sample ID: 280-105392-8**
Date Collected: 01/10/18 09:41 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		01/18/18 07:28	01/18/18 19:33	1
Antimony	0.40	U	2.0	0.40	ug/L		01/18/18 07:28	01/18/18 19:33	1
Cobalt	**0.054**	**B**	1.0	0.054	ug/L		01/18/18 07:28	01/18/18 19:33	1
Manganese	**0.68**	**B**	1.0	0.31	ug/L		01/18/18 07:28	01/18/18 19:33	1
Nickel	**2.3**		2.0	0.30	ug/L		01/18/18 07:28	01/18/18 19:33	1
Thallium	0.050	U	1.0	0.050	ug/L		01/18/18 07:28	01/18/18 19:33	1
Zinc	2.0	U	10.0	2.0	ug/L		01/18/18 07:28	01/18/18 19:33	1

Client Sample ID: B3FX55 — **Lab Sample ID: 280-105392-16**
Date Collected: 01/10/18 10:57 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		01/18/18 07:28	01/18/18 19:51	1
Antimony	0.40	U	2.0	0.40	ug/L		01/18/18 07:28	01/18/18 19:51	1
Cobalt	**0.13**	**B**	1.0	0.054	ug/L		01/18/18 07:28	01/18/18 19:51	1
Manganese	**0.88**	**B**	1.0	0.31	ug/L		01/18/18 07:28	01/18/18 19:51	1
Nickel	**1.1**	**B**	2.0	0.30	ug/L		01/18/18 07:28	01/18/18 19:51	1
Thallium	**0.13**	**B**	1.0	0.050	ug/L		01/18/18 07:28	01/18/18 19:51	1
Zinc	2.0	U	10.0	2.0	ug/L		01/18/18 07:28	01/18/18 19:51	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

General Chemistry

Client Sample ID: B3FXT6 — **Lab Sample ID: 280-105392-2**
Date Collected: 01/09/18 10:52 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	85600		5000	1070	ug/L			01/16/18 17:33	1

Client Sample ID: B3FYD5 — **Lab Sample ID: 280-105392-4**
Date Collected: 01/09/18 09:25 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	189000		5000	1070	ug/L			01/16/18 17:13	1

Client Sample ID: B3FTK1 — **Lab Sample ID: 280-105392-12**
Date Collected: 01/10/18 09:30 — **Matrix: Water**
Date Received: 01/11/18 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	83800		5000	1070	ug/L			01/16/18 17:26	1

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

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

Lab Sample ID: MB 280-401740/6
Matrix: Water
Analysis Batch: 401740

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			01/16/18 09:26	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			01/16/18 09:26	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			01/16/18 09:26	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			01/16/18 09:26	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			01/16/18 09:26	1
1-Butanol	17	U	60	17	ug/L			01/16/18 09:26	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			01/16/18 09:26	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			01/16/18 09:26	1
Acetone	1.9	U	10	1.9	ug/L			01/16/18 09:26	1
Benzene	0.16	U	1.0	0.16	ug/L			01/16/18 09:26	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			01/16/18 09:26	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			01/16/18 09:26	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			01/16/18 09:26	1
Chloroform	0.16	U	1.0	0.16	ug/L			01/16/18 09:26	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			01/16/18 09:26	1
Methylene Chloride	0.32	U	2.0	0.32	ug/L			01/16/18 09:26	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			01/16/18 09:26	1
Toluene	0.17	U	1.0	0.17	ug/L			01/16/18 09:26	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			01/16/18 09:26	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			01/16/18 09:26	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			01/16/18 09:26	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.58*	*N*	*ug/L*		*10.56*			*01/16/18 09:26*	*1*
Unknown	*2.39*	*N*	*ug/L*		*12.07*			*01/16/18 09:26*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*		*01/16/18 09:26*	*1*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*		*01/16/18 09:26*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*01/16/18 09:26*	*1*
Toluene-d8 (Surr)	*112*		*70 - 130*		*01/16/18 09:26*	*1*

Lab Sample ID: LCS 280-401740/10
Matrix: Water
Analysis Batch: 401740

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1-Butanol			125	140		ug/L		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
Dibromofluoromethane (Surr)	*116*		*70 - 130*
Toluene-d8 (Surr)	*117*		*70 - 130*

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

Lab Sample ID: LCS 280-401740/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.72		ug/L		114	70 - 130
1,1,2-Trichloroethane	5.00	5.38		ug/L		108	70 - 130
1,1-Dichloroethane	5.00	5.59		ug/L		112	70 - 130
1,1-Dichloroethene	5.00	5.38		ug/L		108	70 - 130
1,2-Dichloroethane	5.00	5.48		ug/L		110	70 - 130
2-Butanone (MEK)	20.0	18.7		ug/L		94	70 - 130
4-Methyl-2-pentanone (MIBK)	20.0	18.2		ug/L		91	70 - 130
Acetone	20.0	21.9		ug/L		110	70 - 130
Benzene	5.00	5.74		ug/L		115	70 - 130
Carbon disulfide	5.00	5.31		ug/L		106	70 - 130
Carbon tetrachloride	5.00	5.58		ug/L		112	70 - 130
Chlorobenzene	5.00	5.30		ug/L		106	70 - 130
Chloroform	5.00	5.65		ug/L		113	70 - 130
Ethylbenzene	5.00	5.53		ug/L		111	70 - 130
Methylene Chloride	5.00	5.60		ug/L		112	70 - 130
Tetrachloroethene	5.00	5.34		ug/L		107	70 - 130
Toluene	5.00	5.86		ug/L		117	70 - 130
Trichloroethene	5.00	5.51		ug/L		110	70 - 130
Vinyl chloride	5.00	5.69		ug/L		114	70 - 130
Xylenes, Total	10.0	10.9		ug/L		109	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
Dibromofluoromethane (Surr)	*112*		*70 - 130*
Toluene-d8 (Surr)	*111*		*70 - 130*

Lab Sample ID: 280-105392-5 MS — **Client Sample ID: B3H038**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

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	6.07		ug/L		121	70 - 130
1,1,2-Trichloroethane	0.27	U	5.00	5.38		ug/L		108	70 - 130
1,1-Dichloroethane	0.22	U	5.00	5.73		ug/L		115	70 - 130
1,1-Dichloroethene	0.23	U	5.00	5.64		ug/L		113	70 - 130
1,2-Dichloroethane	0.13	U	5.00	5.47		ug/L		109	70 - 130
2-Butanone (MEK)	2.0	U	20.0	19.1		ug/L		95	70 - 130
4-Methyl-2-pentanone (MIBK)	0.98	U	20.0	18.5		ug/L		93	70 - 130
Acetone	3.6	J	20.0	25.3		ug/L		108	70 - 130
Benzene	0.16	U	5.00	5.77		ug/L		115	70 - 130
Carbon disulfide	0.45	U	5.00	5.46		ug/L		109	70 - 130
Carbon tetrachloride	0.19	U	5.00	6.05		ug/L		121	70 - 130
Chlorobenzene	0.17	U	5.00	5.37		ug/L		107	70 - 130
Chloroform	0.16	U	5.00	5.68		ug/L		114	70 - 130
Ethylbenzene	0.16	U	5.00	5.57		ug/L		111	70 - 130
Methylene Chloride	32		5.00	43.2		ug/L		221	70 - 130
Tetrachloroethene	0.20	U	5.00	5.59		ug/L		112	70 - 130

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

Lab Sample ID: 280-105392-5 MS — **Client Sample ID: B3H038**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	0.17	U	5.00	5.97		ug/L		119	70 - 130
Trichloroethene	0.16	U	5.00	5.71		ug/L		114	70 - 130
Vinyl chloride	0.10	U	5.00	5.55		ug/L		111	70 - 130
Xylenes, Total	0.19	U	10.0	11.0		ug/L		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
Dibromofluoromethane (Surr)	*112*		*70 - 130*
Toluene-d8 (Surr)	*111*		*70 - 130*

Lab Sample ID: 280-105392-5 MS — **Client Sample ID: B3H038**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Butanol	17	U	125	141		ug/L		113	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
Dibromofluoromethane (Surr)	*112*		*70 - 130*
Toluene-d8 (Surr)	*109*		*70 - 130*

Lab Sample ID: 280-105392-5 MSD — **Client Sample ID: B3H038**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

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	5.68		ug/L		114	70 - 130	7	20
1,1,2-Trichloroethane	0.27	U	5.00	5.26		ug/L		105	70 - 130	2	20
1,1-Dichloroethane	0.22	U	5.00	5.44		ug/L		109	70 - 130	5	20
1,1-Dichloroethene	0.23	U	5.00	5.25		ug/L		105	70 - 130	7	20
1,2-Dichloroethane	0.13	U	5.00	5.38		ug/L		108	70 - 130	2	20
2-Butanone (MEK)	2.0	U	20.0	19.0		ug/L		95	70 - 130	0	20
4-Methyl-2-pentanone (MIBK)	0.98	U	20.0	18.5		ug/L		92	70 - 130	0	20
Acetone	3.6	J	20.0	22.8		ug/L		96	70 - 130	10	20
Benzene	0.16	U	5.00	5.50		ug/L		110	70 - 130	5	20
Carbon disulfide	0.45	U	5.00	5.11		ug/L		102	70 - 130	7	20
Carbon tetrachloride	0.19	U	5.00	5.63		ug/L		113	70 - 130	7	20
Chlorobenzene	0.17	U	5.00	5.18		ug/L		104	70 - 130	4	20
Chloroform	0.16	U	5.00	5.52		ug/L		110	70 - 130	3	20
Ethylbenzene	0.16	U	5.00	5.28		ug/L		106	70 - 130	5	20
Methylene Chloride	32		5.00	39.6		ug/L		150	70 - 130	9	20
Tetrachloroethene	0.20	U	5.00	5.20		ug/L		104	70 - 130	7	20
Toluene	0.17	U	5.00	5.66		ug/L		113	70 - 130	5	20
Trichloroethene	0.16	U	5.00	5.45		ug/L		109	70 - 130	5	20
Vinyl chloride	0.10	U	5.00	5.37		ug/L		107	70 - 130	3	20

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

Lab Sample ID: 280-105392-5 MSD — **Client Sample ID: B3H038**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	0.19	U	10.0	10.6		ug/L		106	70 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
Dibromofluoromethane (Surr)	*107*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

Lab Sample ID: 280-105392-5 MSD — **Client Sample ID: B3H038**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401740

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Butanol	17	U	125	128		ug/L		102	70 - 130	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
Dibromofluoromethane (Surr)	*112*		*70 - 130*
Toluene-d8 (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 280-401775/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402496 — **Prep Batch: 401775**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	2.0	U	50	2.0	ug/L		01/16/18 10:28	01/23/18 17:07	1
2,4,5-Trichlorophenol	0.45	U	10	0.45	ug/L		01/16/18 10:28	01/23/18 17:07	1
2,4,6-Trichlorophenol	0.29	U	10	0.29	ug/L		01/16/18 10:28	01/23/18 17:07	1
2,4-Dichlorophenol	0.64	U	10	0.64	ug/L		01/16/18 10:28	01/23/18 17:07	1
2,4-Dimethylphenol	0.58	U	10	0.58	ug/L		01/16/18 10:28	01/23/18 17:07	1
2,4-Dinitrophenol	10	U	30	10	ug/L		01/16/18 10:28	01/23/18 17:07	1
2,6-Dichlorophenol	1.4	U	10	1.4	ug/L		01/16/18 10:28	01/23/18 17:07	1
2-Chlorophenol	2.0	U	10	2.0	ug/L		01/16/18 10:28	01/23/18 17:07	1
2-Methylphenol	0.98	U	10	0.98	ug/L		01/16/18 10:28	01/23/18 17:07	1
2-Nitrophenol	0.39	U	10	0.39	ug/L		01/16/18 10:28	01/23/18 17:07	1
3 & 4 Methylphenol	0.25	U	10	0.25	ug/L		01/16/18 10:28	01/23/18 17:07	1
4,6-Dinitro-2-methylphenol	4.0	U	50	4.0	ug/L		01/16/18 10:28	01/23/18 17:07	1
4-Chloro-3-methylphenol	2.4	U	10	2.4	ug/L		01/16/18 10:28	01/23/18 17:07	1
4-Nitrophenol	1.2	U	10	1.2	ug/L		01/16/18 10:28	01/23/18 17:07	1
Dinoseb	4.0	U	20	4.0	ug/L		01/16/18 10:28	01/23/18 17:07	1
Pentachlorophenol	20	U	50	20	ug/L		01/16/18 10:28	01/23/18 17:07	1
Phenol	2.0	U	10	2.0	ug/L		01/16/18 10:28	01/23/18 17:07	1
N-Nitrosodimethylamine	0.29	U	10	0.29	ug/L		01/16/18 10:28	01/23/18 17:07	1

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

Lab Sample ID: MB 280-401775/1-A
Matrix: Water
Analysis Batch: 402496

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 401775

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	94.0	N	ug/L		2.00		01/16/18 10:28	01/23/18 17:07	1
Unknown	4.01	N	ug/L		2.77		01/16/18 10:28	01/23/18 17:07	1
Unknown	26.3	N	ug/L		3.23		01/16/18 10:28	01/23/18 17:07	1
Unknown	5.10	N	ug/L		4.13		01/16/18 10:28	01/23/18 17:07	1
Kepone TIC	2.5	U	ug/L			143-50-0	01/16/18 10:28	01/23/18 17:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	67		42 - 131	01/16/18 10:28	01/23/18 17:07	1
2-Fluorobiphenyl (Surr)	68		48 - 120	01/16/18 10:28	01/23/18 17:07	1
2-Fluorophenol (Surr)	67		41 - 120	01/16/18 10:28	01/23/18 17:07	1
Nitrobenzene-d5 (Surr)	66		42 - 120	01/16/18 10:28	01/23/18 17:07	1
Phenol-d5 (Surr)	66		45 - 124	01/16/18 10:28	01/23/18 17:07	1
Terphenyl-d14 (Surr)	77		20 - 130	01/16/18 10:28	01/23/18 17:07	1

Lab Sample ID: LCS 280-401775/2-A
Matrix: Water
Analysis Batch: 402496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 401775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,4,6-Tetrachlorophenol	80.0	64.6		ug/L		81	70 - 130
2,4,5-Trichlorophenol	80.0	63.6		ug/L		79	70 - 130
2,4,6-Trichlorophenol	80.0	66.0		ug/L		83	70 - 130
2,4-Dichlorophenol	80.0	61.2		ug/L		76	70 - 130
2,4-Dimethylphenol	80.0	58.9		ug/L		74	70 - 130
2,4-Dinitrophenol	160	118		ug/L		74	70 - 130
2,6-Dichlorophenol	80.0	62.5		ug/L		78	70 - 130
2-Chlorophenol	80.0	59.3		ug/L		74	70 - 130
2-Methylphenol	80.0	59.5		ug/L		74	70 - 130
2-Nitrophenol	80.0	62.0		ug/L		78	70 - 130
3 & 4 Methylphenol	80.0	60.5		ug/L		76	70 - 130
4,6-Dinitro-2-methylphenol	160	111		ug/L		70	70 - 130
4-Chloro-3-methylphenol	80.0	62.9		ug/L		79	70 - 130
4-Nitrophenol	160	120		ug/L		75	70 - 130
Pentachlorophenol	160	123		ug/L		77	70 - 130
Phenol	80.0	58.7		ug/L		73	70 - 130
N-Nitrosodimethylamine	80.0	60.1		ug/L		75	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	81		42 - 131
2-Fluorobiphenyl (Surr)	72		48 - 120
2-Fluorophenol (Surr)	71		41 - 120
Nitrobenzene-d5 (Surr)	71		42 - 120
Phenol-d5 (Surr)	72		45 - 124
Terphenyl-d14 (Surr)	74		20 - 130

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

Lab Sample ID: 280-105392-13 MS — **Client Sample ID: B3FY21**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402496 — **Prep Batch: 401775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,4,6-Tetrachlorophenol	1.9	U	75.8	59.5		ug/L		78	60 - 122
2,4,5-Trichlorophenol	0.42	U	75.8	57.5		ug/L		76	59 - 120
2,4,6-Trichlorophenol	0.27	U	75.8	58.9		ug/L		78	59 - 121
2,4-Dichlorophenol	0.60	U	75.8	54.8		ug/L		72	59 - 120
2,4-Dimethylphenol	0.54	U	75.8	52.3		ug/L		69	43 - 120
2,4-Dinitrophenol	9.4	U	152	107		ug/L		71	48 - 129
2,6-Dichlorophenol	1.3	U	75.8	56.1		ug/L		74	30 - 150
2-Chlorophenol	1.9	U	75.8	53.8		ug/L		71	56 - 120
2-Methylphenol	0.92	U	75.8	54.7		ug/L		72	56 - 120
2-Nitrophenol	0.37	U	75.8	54.8		ug/L		72	56 - 121
3 & 4 Methylphenol	0.23	U	75.8	54.7		ug/L		72	58 - 120
4,6-Dinitro-2-methylphenol	3.7	U	152	105		ug/L		69	60 - 126
4-Chloro-3-methylphenol	2.3	U	75.8	57.1		ug/L		75	61 - 120
4-Nitrophenol	1.2	U	152	105		ug/L		70	59 - 129
N-Nitrosodimethylamine	0.27	U	75.8	54.4		ug/L		72	54 - 120
Pentachlorophenol	19	U	152	113		ug/L		75	43 - 126
Phenol	1.9	U	75.8	53.6		ug/L		71	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*76*		*42 - 131*
2-Fluorobiphenyl (Surr)	*68*		*48 - 120*
2-Fluorophenol (Surr)	*66*		*41 - 120*
Nitrobenzene-d5 (Surr)	*67*		*42 - 120*
Phenol-d5 (Surr)	*68*		*45 - 124*
Terphenyl-d14 (Surr)	*71*		*20 - 130*

Lab Sample ID: 280-105392-13 MSD — **Client Sample ID: B3FY21**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402496 — **Prep Batch: 401775**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,4,6-Tetrachlorophenol	1.9	U	75.9	64.4		ug/L		85	60 - 122	8	20
2,4,5-Trichlorophenol	0.42	U	75.9	63.2		ug/L		83	59 - 120	9	20
2,4,6-Trichlorophenol	0.27	U	75.9	65.2		ug/L		86	59 - 121	10	20
2,4-Dichlorophenol	0.60	U	75.9	60.6		ug/L		80	59 - 120	10	20
2,4-Dimethylphenol	0.54	U	75.9	58.8		ug/L		78	43 - 120	12	20
2,4-Dinitrophenol	9.4	U	152	119		ug/L		78	48 - 129	10	20
2,6-Dichlorophenol	1.3	U	75.9	61.6		ug/L		81	30 - 150	9	20
2-Chlorophenol	1.9	U	75.9	61.2		ug/L		81	56 - 120	13	20
2-Methylphenol	0.92	U	75.9	61.3		ug/L		81	56 - 120	12	20
2-Nitrophenol	0.37	U	75.9	62.1		ug/L		82	56 - 121	12	20
3 & 4 Methylphenol	0.23	U	75.9	61.0		ug/L		80	58 - 120	11	20
4,6-Dinitro-2-methylphenol	3.7	U	152	115		ug/L		75	60 - 126	9	20
4-Chloro-3-methylphenol	2.3	U	75.9	61.7		ug/L		81	61 - 120	8	20
4-Nitrophenol	1.2	U	152	117		ug/L		77	59 - 129	10	20
N-Nitrosodimethylamine	0.27	U	75.9	62.2		ug/L		82	54 - 120	13	20
Pentachlorophenol	19	U	152	126		ug/L		83	43 - 126	10	20
Phenol	1.9	U	75.9	60.9		ug/L		80	57 - 120	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	83		42 - 131
2-Fluorobiphenyl (Surr)	75		48 - 120
2-Fluorophenol (Surr)	76		41 - 120
Nitrobenzene-d5 (Surr)	73		42 - 120
Phenol-d5 (Surr)	77		45 - 124
Terphenyl-d14 (Surr)	75		20 - 130

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 280-401781/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402259 — **Prep Batch: 401781**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	5.2	U	20.0	5.2	ug/L		01/17/18 14:37	01/20/18 00:46	1
Arsenic	4.4	U	15.0	4.4	ug/L		01/17/18 14:37	01/20/18 00:46	1
Barium	0.82	U	10.0	0.82	ug/L		01/17/18 14:37	01/20/18 00:46	1
Cadmium	0.45	U	5.0	0.45	ug/L		01/17/18 14:37	01/20/18 00:46	1
Calcium	34.5	U	200	34.5	ug/L		01/17/18 14:37	01/20/18 00:46	1
Chromium	0.66	U	10.0	0.66	ug/L		01/17/18 14:37	01/20/18 00:46	1
Cobalt	1.2	U	10.0	1.2	ug/L		01/17/18 14:37	01/20/18 00:46	1
Copper	4.2	U	15.0	4.2	ug/L		01/17/18 14:37	01/20/18 00:46	1
Iron	22.0	U	100	22.0	ug/L		01/17/18 14:37	01/20/18 00:46	1
Magnesium	10.7	U	200	10.7	ug/L		01/17/18 14:37	01/20/18 00:46	1
Manganese	0.26	U	10.0	0.26	ug/L		01/17/18 14:37	01/20/18 00:46	1
Nickel	2.6	U	40.0	2.6	ug/L		01/17/18 14:37	01/20/18 00:46	1
Potassium	237	U	3000	237	ug/L		01/17/18 14:37	01/20/18 00:46	1
Silver	0.93	U	10.0	0.93	ug/L		01/17/18 14:37	01/20/18 00:46	1
Sodium	117	U	1000	117	ug/L		01/17/18 14:37	01/20/18 00:46	1
Vanadium	1.1	U	10.0	1.1	ug/L		01/17/18 14:37	01/20/18 00:46	1
Zinc	4.5	U	20.0	4.5	ug/L		01/17/18 14:37	01/20/18 00:46	1

Lab Sample ID: LCS 280-401781/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 402259 — **Prep Batch: 401781**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	516.7		ug/L		103	80 - 120
Arsenic	1000	996.9		ug/L		100	80 - 120
Barium	2000	2062		ug/L		103	80 - 120
Cadmium	100	99.00		ug/L		99	80 - 120
Calcium	50000	50240		ug/L		100	80 - 120
Chromium	200	200.9		ug/L		100	80 - 120
Cobalt	500	484.1		ug/L		97	80 - 120
Copper	250	247.3		ug/L		99	80 - 120
Iron	1000	1026		ug/L		103	80 - 120
Magnesium	50000	49520		ug/L		99	80 - 120
Manganese	500	499.1		ug/L		100	80 - 120
Nickel	500	477.4		ug/L		95	80 - 120
Potassium	50000	51480		ug/L		103	80 - 120
Silver	50.0	50.85		ug/L		102	80 - 120
Sodium	50000	50220		ug/L		100	80 - 120
Vanadium	500	504.1		ug/L		101	80 - 120
Zinc	500	489.5		ug/L		98	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

Lab Sample ID: 280-105392-6 MS
Matrix: Water
Analysis Batch: 402259

Client Sample ID: B3FT94
Prep Type: Total/NA
Prep Batch: 401781

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	5.2	U	500	516.1		ug/L		103	75 - 125
Arsenic	6.3	B	1000	1006		ug/L		100	75 - 125
Barium	46.1		2000	2136		ug/L		105	75 - 125
Cadmium	0.45	U	100	98.22		ug/L		98	75 - 125
Calcium	39600		50000	91280		ug/L		103	75 - 125
Chromium	7.6	B	200	208.4		ug/L		100	75 - 125
Cobalt	1.2	U	500	479.6		ug/L		96	75 - 125
Copper	4.2	U	250	248.3		ug/L		99	75 - 125
Iron	28.8	B	1000	1054		ug/L		103	75 - 125
Magnesium	12200		50000	61900		ug/L		100	75 - 125
Manganese	1.1	B	500	496.4		ug/L		99	75 - 125
Nickel	2.6	U	500	476.4		ug/L		95	75 - 125
Potassium	6130		50000	59660		ug/L		107	75 - 125
Silver	0.93	U	50.0	51.61		ug/L		103	75 - 125
Sodium	22400		50000	74140		ug/L		103	75 - 125
Vanadium	17.3		500	519.5		ug/L		100	75 - 125
Zinc	4.5	U	500	484.3		ug/L		97	75 - 125

Lab Sample ID: 280-105392-6 MSD
Matrix: Water
Analysis Batch: 402259

Client Sample ID: B3FT94
Prep Type: Total/NA
Prep Batch: 401781

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	5.2	U	500	528.0		ug/L		106	75 - 125	2	20
Arsenic	6.3	B	1000	1027		ug/L		102	75 - 125	2	20
Barium	46.1		2000	2127		ug/L		104	75 - 125	0	20
Cadmium	0.45	U	100	99.81		ug/L		100	75 - 125	2	20
Calcium	39600		50000	92260		ug/L		105	75 - 125	1	20
Chromium	7.6	B	200	211.5		ug/L		102	75 - 125	1	20
Cobalt	1.2	U	500	486.2		ug/L		97	75 - 125	1	20
Copper	4.2	U	250	251.6		ug/L		101	75 - 125	1	20
Iron	28.8	B	1000	1061		ug/L		103	75 - 125	1	20
Magnesium	12200		50000	63030		ug/L		102	75 - 125	2	20
Manganese	1.1	B	500	504.1		ug/L		101	75 - 125	2	20
Nickel	2.6	U	500	482.6		ug/L		97	75 - 125	1	20
Potassium	6130		50000	60350		ug/L		108	75 - 125	1	20
Silver	0.93	U	50.0	52.46		ug/L		105	75 - 125	2	20
Sodium	22400		50000	74910		ug/L		105	75 - 125	1	20
Vanadium	17.3		500	528.1		ug/L		102	75 - 125	2	20
Zinc	4.5	U	500	492.5		ug/L		99	75 - 125	2	20

Lab Sample ID: MB 280-401729/1-A
Matrix: Water
Analysis Batch: 402259

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 401729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	5.2	U	20.0	5.2	ug/L		01/18/18 15:07	01/20/18 01:55	1
Arsenic	4.4	U	15.0	4.4	ug/L		01/18/18 15:07	01/20/18 01:55	1
Barium	0.82	U	10.0	0.82	ug/L		01/18/18 15:07	01/20/18 01:55	1
Cadmium	0.45	U	5.0	0.45	ug/L		01/18/18 15:07	01/20/18 01:55	1
Calcium	34.5	U	200	34.5	ug/L		01/18/18 15:07	01/20/18 01:55	1

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

Lab Sample ID: MB 280-401729/1-A
Matrix: Water
Analysis Batch: 402259

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 401729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.66	U	10.0	0.66	ug/L		01/18/18 15:07	01/20/18 01:55	1
Cobalt	1.2	U	10.0	1.2	ug/L		01/18/18 15:07	01/20/18 01:55	1
Copper	4.2	U	15.0	4.2	ug/L		01/18/18 15:07	01/20/18 01:55	1
Iron	22.0	U	100	22.0	ug/L		01/18/18 15:07	01/20/18 01:55	1
Magnesium	10.7	U	200	10.7	ug/L		01/18/18 15:07	01/20/18 01:55	1
Manganese	0.26	U	10.0	0.26	ug/L		01/18/18 15:07	01/20/18 01:55	1
Nickel	2.6	U	40.0	2.6	ug/L		01/18/18 15:07	01/20/18 01:55	1
Potassium	237	U	3000	237	ug/L		01/18/18 15:07	01/20/18 01:55	1
Silver	0.93	U	10.0	0.93	ug/L		01/18/18 15:07	01/20/18 01:55	1
Sodium	117	U	1000	117	ug/L		01/18/18 15:07	01/20/18 01:55	1
Vanadium	1.1	U	10.0	1.1	ug/L		01/18/18 15:07	01/20/18 01:55	1
Zinc	4.5	U	20.0	4.5	ug/L		01/18/18 15:07	01/20/18 01:55	1

Lab Sample ID: LCS 280-401729/2-A
Matrix: Water
Analysis Batch: 402259

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 401729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	531.2		ug/L		106	80 - 120
Arsenic	1000	1040		ug/L		104	80 - 120
Barium	2000	2134		ug/L		107	80 - 120
Cadmium	100	102.8		ug/L		103	80 - 120
Calcium	50000	51610		ug/L		103	80 - 120
Chromium	200	207.7		ug/L		104	80 - 120
Cobalt	500	503.7		ug/L		101	80 - 120
Copper	250	257.2		ug/L		103	80 - 120
Iron	1000	1048		ug/L		105	80 - 120
Magnesium	50000	51500		ug/L		103	80 - 120
Manganese	500	518.3		ug/L		104	80 - 120
Nickel	500	496.0		ug/L		99	80 - 120
Potassium	50000	53400		ug/L		107	80 - 120
Silver	50.0	53.38		ug/L		107	80 - 120
Sodium	50000	51930		ug/L		104	80 - 120
Vanadium	500	524.2		ug/L		105	80 - 120
Zinc	500	508.2		ug/L		102	80 - 120

Lab Sample ID: 280-105392-7 MS
Matrix: Water
Analysis Batch: 402259

Client Sample ID: B3FT97
Prep Type: Dissolved
Prep Batch: 401729

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	5.2	U	500	526.3		ug/L		105	75 - 125
Arsenic	4.9	B	1000	1042		ug/L		104	75 - 125
Barium	49.8		2000	2011		ug/L		98	75 - 125
Cadmium	0.45	U	100	100.9		ug/L		101	75 - 125
Calcium	41700		50000	84830		ug/L		86	75 - 125
Chromium	4.4	B	200	208.9		ug/L		102	75 - 125
Cobalt	1.2	U	500	490.4		ug/L		98	75 - 125
Copper	4.2	U	250	253.1		ug/L		101	75 - 125

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

Lab Sample ID: 280-105392-7 MS — **Client Sample ID: B3FT97**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 402259 — **Prep Batch: 401729**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	22.0	U	1000	974.5		ug/L		97	75 - 125
Magnesium	12900		50000	63020		ug/L		100	75 - 125
Manganese	0.63	B	500	507.3		ug/L		101	75 - 125
Nickel	2.6	U	500	484.6		ug/L		97	75 - 125
Potassium	6400		50000	56750		ug/L		101	75 - 125
Silver	0.93	U	50.0	52.19		ug/L		104	75 - 125
Sodium	23500		50000	69990		ug/L		93	75 - 125
Vanadium	18.1		500	530.9		ug/L		103	75 - 125
Zinc	4.5	U	500	497.1		ug/L		99	75 - 125

Lab Sample ID: 280-105392-7 MSD — **Client Sample ID: B3FT97**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 402259 — **Prep Batch: 401729**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	5.2	U	500	543.9		ug/L		109	75 - 125	3	20
Arsenic	4.9	B	1000	1066		ug/L		106	75 - 125	2	20
Barium	49.8		2000	2166		ug/L		106	75 - 125	7	20
Cadmium	0.45	U	100	103.1		ug/L		103	75 - 125	2	20
Calcium	41700		50000	93550		ug/L		104	75 - 125	10	20
Chromium	4.4	B	200	214.5		ug/L		105	75 - 125	3	20
Cobalt	1.2	U	500	502.5		ug/L		101	75 - 125	2	20
Copper	4.2	U	250	261.3		ug/L		105	75 - 125	3	20
Iron	22.0	U	1000	1066		ug/L		107	75 - 125	9	20
Magnesium	12900		50000	65070		ug/L		104	75 - 125	3	20
Manganese	0.63	B	500	519.3		ug/L		104	75 - 125	2	20
Nickel	2.6	U	500	497.7		ug/L		100	75 - 125	3	20
Potassium	6400		50000	61680		ug/L		111	75 - 125	8	20
Silver	0.93	U	50.0	54.24		ug/L		108	75 - 125	4	20
Sodium	23500		50000	76230		ug/L		105	75 - 125	9	20
Vanadium	18.1		500	544.3		ug/L		105	75 - 125	2	20
Zinc	4.5	U	500	506.9		ug/L		101	75 - 125	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-401782/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401996 — **Prep Batch: 401782**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	30.0	9.2	ug/L		01/17/18 14:37	01/17/18 21:52	1
Antimony	0.40	U	2.0	0.40	ug/L		01/17/18 14:37	01/17/18 21:52	1
Cobalt	0.054	U	1.0	0.054	ug/L		01/17/18 14:37	01/17/18 21:52	1
Manganese	0.31	U	1.0	0.31	ug/L		01/17/18 14:37	01/17/18 21:52	1
Nickel	0.30	U	2.0	0.30	ug/L		01/17/18 14:37	01/17/18 21:52	1
Thallium	0.050	U	1.0	0.050	ug/L		01/17/18 14:37	01/17/18 21:52	1
Uranium	0.050	U	1.0	0.050	ug/L		01/17/18 14:37	01/17/18 21:52	1
Zinc	2.0	U	10.0	2.0	ug/L		01/17/18 14:37	01/17/18 21:52	1

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

Lab Sample ID: LCS 280-401782/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401996 — **Prep Batch: 401782**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	400	388.7		ug/L		97	80 - 120
Antimony	40.0	38.85		ug/L		97	80 - 120
Cobalt	40.0	40.53		ug/L		101	80 - 120
Manganese	40.0	41.07		ug/L		103	80 - 120
Nickel	40.0	39.84		ug/L		100	80 - 120
Thallium	40.0	39.43		ug/L		99	80 - 120
Uranium	40.0	38.61		ug/L		97	80 - 120
Zinc	40.0	42.02		ug/L		105	80 - 120

Lab Sample ID: 280-105392-9 MS — **Client Sample ID: B3FVK9**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401996 — **Prep Batch: 401782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	9.2	U	400	380.8		ug/L		95	75 - 125
Antimony	0.40	U	40.0	39.64		ug/L		99	75 - 125
Cobalt	0.058	B	40.0	38.46		ug/L		96	75 - 125
Manganese	0.51	B	40.0	40.27		ug/L		99	75 - 125
Nickel	2.8		40.0	41.26		ug/L		96	75 - 125
Thallium	0.050	U	40.0	38.48		ug/L		96	75 - 125
Uranium	10.3		40.0	48.85		ug/L		96	75 - 125
Zinc	2.0	U	40.0	40.37		ug/L		101	75 - 125

Lab Sample ID: 280-105392-9 MSD — **Client Sample ID: B3FVK9**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 401996 — **Prep Batch: 401782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	9.2	U	400	378.1		ug/L		95	75 - 125	1	20
Antimony	0.40	U	40.0	38.80		ug/L		97	75 - 125	2	20
Cobalt	0.058	B	40.0	37.86		ug/L		95	75 - 125	2	20
Manganese	0.51	B	40.0	39.61		ug/L		98	75 - 125	2	20
Nickel	2.8		40.0	40.16		ug/L		93	75 - 125	3	20
Thallium	0.050	U	40.0	38.80		ug/L		97	75 - 125	1	20
Uranium	10.3		40.0	48.61		ug/L		96	75 - 125	0	20
Zinc	2.0	U	40.0	39.86		ug/L		100	75 - 125	1	20

Lab Sample ID: MB 280-401731/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 402123 — **Prep Batch: 401731**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.2	U	50.0	9.2	ug/L		01/18/18 07:28	01/18/18 19:26	1
Antimony	0.40	U	2.0	0.40	ug/L		01/18/18 07:28	01/18/18 19:26	1
Cobalt	0.054	U	1.0	0.054	ug/L		01/18/18 07:28	01/18/18 19:26	1
Manganese	0.31	U	1.0	0.31	ug/L		01/18/18 07:28	01/18/18 19:26	1
Nickel	0.30	U	2.0	0.30	ug/L		01/18/18 07:28	01/18/18 19:26	1
Thallium	0.050	U	1.0	0.050	ug/L		01/18/18 07:28	01/18/18 19:26	1
Uranium	0.050	U	1.0	0.050	ug/L		01/18/18 07:28	01/18/18 19:26	1

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

Lab Sample ID: MB 280-401731/1-A
Matrix: Water
Analysis Batch: 402123

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 401731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	2.0	U	10.0	2.0	ug/L		01/18/18 07:28	01/18/18 19:26	1

Lab Sample ID: LCS 280-401731/2-A
Matrix: Water
Analysis Batch: 402123

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 401731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	400	434.7		ug/L		109	80 - 120
Antimony	40.0	42.54		ug/L		106	80 - 120
Cobalt	40.0	41.51		ug/L		104	80 - 120
Manganese	40.0	42.64		ug/L		107	80 - 120
Nickel	40.0	40.77		ug/L		102	80 - 120
Thallium	40.0	42.26		ug/L		106	80 - 120
Uranium	40.0	42.11		ug/L		105	80 - 120
Zinc	40.0	44.43		ug/L		111	80 - 120

Lab Sample ID: 280-105392-8 MS
Matrix: Water
Analysis Batch: 402123

Client Sample ID: B3FVP8
Prep Type: Dissolved
Prep Batch: 401731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	9.2	U	400	426.6		ug/L		107	75 - 125
Antimony	0.40	U	40.0	41.93		ug/L		105	75 - 125
Cobalt	0.054	B	40.0	40.63		ug/L		101	75 - 125
Manganese	0.68	B	40.0	43.31		ug/L		107	75 - 125
Nickel	2.3		40.0	42.37		ug/L		100	75 - 125
Thallium	0.050	U	40.0	42.59		ug/L		106	75 - 125
Uranium	10.6		40.0	54.72		ug/L		110	75 - 125
Zinc	2.0	U	40.0	44.14		ug/L		110	75 - 125

Lab Sample ID: 280-105392-8 MSD
Matrix: Water
Analysis Batch: 402123

Client Sample ID: B3FVP8
Prep Type: Dissolved
Prep Batch: 401731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	9.2	U	400	429.6		ug/L		107	75 - 125	1	20
Antimony	0.40	U	40.0	43.64		ug/L		109	75 - 125	4	20
Cobalt	0.054	B	40.0	40.61		ug/L		101	75 - 125	0	20
Manganese	0.68	B	40.0	41.68		ug/L		102	75 - 125	4	20
Nickel	2.3		40.0	41.13		ug/L		97	75 - 125	3	20
Thallium	0.050	U	40.0	43.35		ug/L		108	75 - 125	2	20
Uranium	10.6		40.0	54.01		ug/L		109	75 - 125	1	20
Zinc	2.0	U	40.0	44.11		ug/L		110	75 - 125	0	20

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-401839/29
Matrix: Water
Analysis Batch: 401839

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	2070	B	5000	1070	ug/L			01/16/18 17:07	1

Lab Sample ID: LCS 280-401839/28
Matrix: Water
Analysis Batch: 401839

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	189300		ug/L		95	80 - 120		

Lab Sample ID: 280-105392-4 DU
Matrix: Water
Analysis Batch: 401839

Client Sample ID: B3FYD5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	189000			189100		ug/L				0.05	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

GC/MS VOA

Analysis Batch: 401740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-1	B3FXT9	Total/NA	Water	8260B	
280-105392-2	B3FXT6	Total/NA	Water	8260B	
280-105392-3	B3FXV0	Total/NA	Water	8260B	
280-105392-5	B3H038	Total/NA	Water	8260B	
280-105392-10	B3H039	Total/NA	Water	8260B	
280-105392-12	B3FTK1	Total/NA	Water	8260B	
MB 280-401740/6	Method Blank	Total/NA	Water	8260B	
LCS 280-401740/10	Lab Control Sample	Total/NA	Water	8260B	
LCS 280-401740/4	Lab Control Sample	Total/NA	Water	8260B	
280-105392-5 MS	B3H038	Total/NA	Water	8260B	
280-105392-5 MS	B3H038	Total/NA	Water	8260B	
280-105392-5 MSD	B3H038	Total/NA	Water	8260B	
280-105392-5 MSD	B3H038	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 401775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-2	B3FXT6	Total/NA	Water	3520C	
280-105392-12	B3FTK1	Total/NA	Water	3520C	
280-105392-13	B3FY21	Total/NA	Water	3520C	
280-105392-14	B3FY16	Total/NA	Water	3520C	
280-105392-15	B3FXV4	Total/NA	Water	3520C	
MB 280-401775/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-401775/2-A	Lab Control Sample	Total/NA	Water	3520C	
280-105392-13 MS	B3FY21	Total/NA	Water	3520C	
280-105392-13 MSD	B3FY21	Total/NA	Water	3520C	

Analysis Batch: 402496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-2	B3FXT6	Total/NA	Water	8270D	401775
280-105392-12	B3FTK1	Total/NA	Water	8270D	401775
280-105392-13	B3FY21	Total/NA	Water	8270D	401775
280-105392-14	B3FY16	Total/NA	Water	8270D	401775
280-105392-15	B3FXV4	Total/NA	Water	8270D	401775
MB 280-401775/1-A	Method Blank	Total/NA	Water	8270D	401775
LCS 280-401775/2-A	Lab Control Sample	Total/NA	Water	8270D	401775
280-105392-13 MS	B3FY21	Total/NA	Water	8270D	401775
280-105392-13 MSD	B3FY21	Total/NA	Water	8270D	401775

Metals

Prep Batch: 401729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-7	B3FT97	Dissolved	Water	3005A	
280-105392-8	B3FVP8	Dissolved	Water	3005A	
280-105392-11	B3FR34	Dissolved	Water	3005A	
280-105392-16	B3FX55	Dissolved	Water	3005A	
MB 280-401729/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-401729/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 401729 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-7 MS	B3FT97	Dissolved	Water	3005A	
280-105392-7 MSD	B3FT97	Dissolved	Water	3005A	

Prep Batch: 401731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-8	B3FVP8	Dissolved	Water	3005A	
280-105392-16	B3FX55	Dissolved	Water	3005A	
MB 280-401731/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-401731/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-105392-8 MS	B3FVP8	Dissolved	Water	3005A	
280-105392-8 MSD	B3FVP8	Dissolved	Water	3005A	

Prep Batch: 401781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-6	B3FT94	Total/NA	Water	3010A	
280-105392-9	B3FVK9	Total/NA	Water	3010A	
280-105392-12	B3FTK1	Total/NA	Water	3010A	
280-105392-17	B3FXV5	Total/NA	Water	3010A	
MB 280-401781/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-401781/2-A	Lab Control Sample	Total/NA	Water	3010A	
280-105392-6 MS	B3FT94	Total/NA	Water	3010A	
280-105392-6 MSD	B3FT94	Total/NA	Water	3010A	

Prep Batch: 401782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-6	B3FT94	Total/NA	Water	3020A	
280-105392-9	B3FVK9	Total/NA	Water	3020A	
280-105392-17	B3FXV5	Total/NA	Water	3020A	
MB 280-401782/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-401782/2-A	Lab Control Sample	Total/NA	Water	3020A	
280-105392-9 MS	B3FVK9	Total/NA	Water	3020A	
280-105392-9 MSD	B3FVK9	Total/NA	Water	3020A	

Analysis Batch: 401996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-6	B3FT94	Total/NA	Water	6020B	401782
280-105392-9	B3FVK9	Total/NA	Water	6020B	401782
280-105392-17	B3FXV5	Total/NA	Water	6020B	401782
MB 280-401782/1-A	Method Blank	Total/NA	Water	6020B	401782
LCS 280-401782/2-A	Lab Control Sample	Total/NA	Water	6020B	401782
280-105392-9 MS	B3FVK9	Total/NA	Water	6020B	401782
280-105392-9 MSD	B3FVK9	Total/NA	Water	6020B	401782

Analysis Batch: 402123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-8	B3FVP8	Dissolved	Water	6020B	401731
280-105392-16	B3FX55	Dissolved	Water	6020B	401731
MB 280-401731/1-A	Method Blank	Total Recoverable	Water	6020B	401731
LCS 280-401731/2-A	Lab Control Sample	Total Recoverable	Water	6020B	401731
280-105392-8 MS	B3FVP8	Dissolved	Water	6020B	401731
280-105392-8 MSD	B3FVP8	Dissolved	Water	6020B	401731

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

Analysis Batch: 402259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-6	B3FT94	Total/NA	Water	6010D	401781
280-105392-7	B3FT97	Dissolved	Water	6010D	401729
280-105392-8	B3FVP8	Dissolved	Water	6010D	401729
280-105392-9	B3FVK9	Total/NA	Water	6010D	401781
280-105392-11	B3FR34	Dissolved	Water	6010D	401729
280-105392-12	B3FTK1	Total/NA	Water	6010D	401781
280-105392-16	B3FX55	Dissolved	Water	6010D	401729
280-105392-17	B3FXV5	Total/NA	Water	6010D	401781
MB 280-401729/1-A	Method Blank	Total Recoverable	Water	6010D	401729
MB 280-401781/1-A	Method Blank	Total/NA	Water	6010D	401781
LCS 280-401729/2-A	Lab Control Sample	Total Recoverable	Water	6010D	401729
LCS 280-401781/2-A	Lab Control Sample	Total/NA	Water	6010D	401781
280-105392-6 MS	B3FT94	Total/NA	Water	6010D	401781
280-105392-6 MSD	B3FT94	Total/NA	Water	6010D	401781
280-105392-7 MS	B3FT97	Dissolved	Water	6010D	401729
280-105392-7 MSD	B3FT97	Dissolved	Water	6010D	401729

Analysis Batch: 404392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-12	B3FTK1	Total/NA	Water	6010D	401781

General Chemistry

Analysis Batch: 401839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-105392-2	B3FXT6	Total/NA	Water	SM 2320B	
280-105392-4	B3FYD5	Total/NA	Water	SM 2320B	
280-105392-12	B3FTK1	Total/NA	Water	SM 2320B	
MB 280-401839/29	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-401839/28	Lab Control Sample	Total/NA	Water	SM 2320B	
280-105392-4 DU	B3FYD5	Total/NA	Water	SM 2320B	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-001 / X18-005 / S18-001

TestAmerica Job ID: 280-105392-1
SDG: DN0304

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)
280-105392-1	B3FXT9	113	107	113	110
280-105392-2	B3FXT6	110	104	109	104
280-105392-3	B3FXV0	114	106	119	107
280-105392-5	B3H038	92	90	95	94
280-105392-5 MS	B3H038	111	107	112	111
280-105392-5 MS	B3H038	111	108	112	109
280-105392-5 MSD	B3H038	108	102	107	106
280-105392-5 MSD	B3H038	112	107	112	108
280-105392-10	B3H039	115	104	119	108
280-105392-12	B3FTK1	118	107	120	107
LCS 280-401740/10	Lab Control Sample	113	118	116	117
LCS 280-401740/4	Lab Control Sample	109	109	112	111
MB 280-401740/6	Method Blank	110	115	113	112

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(42-131)	(48-120)	(41-120)	(42-120)	(45-124)	(20-130)
280-105392-2	B3FXT6	83	76	80	77	80	84
280-105392-12	B3FTK1	74	70	68	69	68	81
280-105392-13	B3FY21	83	70	62	63	63	94
280-105392-13 MS	B3FY21	76	68	66	67	68	71
280-105392-13 MSD	B3FY21	83	75	76	73	77	75
280-105392-14	B3FY16	34 X	35 X	42	33 X	45	70
280-105392-15	B3FXV4	74	66	67	64	67	78
LCS 280-401775/2-A	Lab Control Sample	81	72	71	71	72	74
MB 280-401775/1-A	Method Blank	67	68	67	66	66	77

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)