

# 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: 280-107670-1  
TestAmerica Sample Delivery Group: DN0343  
Client Project/Site: S18-002 / X18-005

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

Attn: Mr. Scot Fitzgerald



Authorized for release by:  
4/11/2018 8:42:11 PM

Darlene Bandy, Project Manager I  
(303)736-0100  
[darlene.bandy@testamericainc.com](mailto:darlene.bandy@testamericainc.com)



### LINKS

Review your project results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*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.*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Chain of Custody . . . . .	5
Definitions . . . . .	13
Method Summary . . . . .	14
Sample Summary . . . . .	15
Client Sample Results . . . . .	16
QC Sample Results . . . . .	18
QC Association . . . . .	22
Surrogate Summary . . . . .	23

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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

**Job ID: 280-107670-1**

**Laboratory: TestAmerica Denver**

Narrative

## CASE NARRATIVE

**Client: CH2M Hill Plateau Remediation Company**

**Project: S18-002 / X18-005**

**Report Number: 280-107670-1**

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 Ethyl Cyanide 8260B. 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 3/22/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3° C.

### **VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples B3H8B7 (280-107670-2) and B3H050 (280-107670-3) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/29/2018 and 03/30/2018.

Acetone, a common laboratory contaminant, was detected in method blank MB 280-409567/6 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, the result has been flagged.

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

### **METALS (ICP/MS)**

Samples B3H536 (280-107670-1) and B3H543 (280-107670-4) were analyzed for Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 04/03/2018 and analyzed on 04/05/2018.

The accuracy and precision of Uranium in the MS/MSD performed on sample B3H536 (280-107670-1) in prep batch 280-409727 could not be reliably calculated due to the sample concentration reading greater than four times the spike amount. Control limits are not applicable and the MS/MSD results have been flagged "X".

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

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

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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

---

**Job ID: 280-107670-1 (Continued)**

---

**Laboratory: TestAmerica Denver (Continued)**

the laboratory's client services representative as verified by their signature on this report.

Reviewed and approved:

Darlene Bandy  
Project Manager

1
2
3
4
5
6
7
8
9
10
11

## Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 280-107670-1

SDG Number: DN0343

**Login Number: 107670****List Number: 1****Creator: Turner, Shelby R****List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	60 CPM
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.3 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

191165

<b>CH2M Hill Plateau Remediation Company</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C.# <b>S18-002-025</b>
		Page 1 of 2

Collector: <b>Juan Aguilar /CHPRC</b> <b>DN6343</b>	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650 <b>210.3/2018</b>
SAF No.: S18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: Sitewide Surv, February 2018	Logbook No.: HNF-N-506 - <b>98/60</b>	Ice Chest No.: <b>605-630</b>
Shipped To (Lab): <b>TestAmerica Denver</b>	Method of Shipment: Commercial Carrier	Bill of Lading/Air Bill No.: <b>7717 8630 5279</b>
Protocol: SURV	Priority: 30 Days	Offsite Property No.: <b>9196</b>

<b>POSSIBLE SAMPLE HAZARDS/REMARK</b> ** ** 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	<b>SPECIAL INSTRUCTIONS</b> N/A
---	------------------------------------

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3H536	N	W	3-19-18	1150	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2



280-107670 Chain of Custody

Page 6 of 23

04/12/2018

5.4 DR#8-0.1 Transfer RP 3-22-18

Relinquished By: <b>Juan Aguilar /CHPRC</b> <b>MAR 19 2018 1200</b> <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>Troy Bacon /CHPRC</b> <b>MAR 19 2018 1200</b> <small>Print First and Last Name Signature Date/Time</small>	<b>Matrix *</b> 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
Relinquished By: <b>Troy Bacon /CHPRC</b> <b>MAR 19 2018 1235</b> <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>SSU-1</b> <b>MAR 19 2018 1235</b> <small>Print First and Last Name Signature Date/Time</small>	
Relinquished By: <b>SSU-1</b> <b>MAR 20 2018 0800</b> <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>Lesly Wall /CHPRC</b> <b>MAR 20 2018 0800</b> <small>Print First and Last Name Signature Date/Time</small>	
Relinquished By: <b>Lesly Wall /CHPRC</b> <b>MAR 20 2018 1400</b> <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>FEDEX</b> <small>Print First and Last Name Signature Date/Time</small>	
<b>FINAL SAMPLE DISPOSITION</b> Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By: _____ Date/Time: _____

6 of 23  
4/17/2018

REV.0



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. **S18-002-025**  
 Page **2** of **2**

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
		<i>FedEx</i>		<i>Reed Kottmann</i>		<i>Reed</i>	<i>3-22-18 6850</i>
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

Page 7 of 23  
 7 of 23  
 4/11/2018

04/12/2018  
 REV.0



<b>CH2MHill Plateau Remediation Company</b>	<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>	C.O.C.# <b>S18-002-640</b>
		Page 1 of 1

Collector: <b>Kathy Turner CHPRC</b> <b>DW0343</b>	Contact/Requester: Karen Waters-Husted	Telephone No.: 509-376-4650
SAF No.: S18-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code: 300071
Project Title: Sitewide Surv, February 2018	Logbook No.: HNF-N-506-99-18	Ice Chest No.: <b>GL05-630</b>
Shipped To (Lab): <b>TestAmerica Denver</b>	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No.: <b>771786305279</b>
Protocol SURV	Priority: 30 Days	Offsite Property No.: <b>9196</b>

<b>POSSIBLE SAMPLE HAZARDS/REMARK</b> ** ** 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	<b>SPECIAL INSTRUCTIONS</b> N/A
---	------------------------------------

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3H8B7	N	W	MAR 19 2018	1503	5x40-mL aGs*	8260_VOA_GCMS: COMMON; 8260_VOA_GCMS: GW 01	14 Days	HCl or H2SO4- to pH <2 / Cool <=6C

Page 8 of 23

04/12/2018

Relinquished By: <b>Kathy Turner</b> <i>Kathy Turner</i> MAR 19 2018 1503 <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>SSU-1</b> <small>Print First and Last Name Signature Date/Time</small>	<b>Matrix *</b> 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	
Relinquished By: <b>SSU-1</b> <i>SSU-1</i> MAR 20 2018 0800 <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>Lesty Wall</b> <i>Lesty Wall</i> MAR 20 2018 0800 <small>Print First and Last Name Signature Date/Time</small>		
Relinquished By: <b>Lesty Wall</b> <i>Lesty Wall</i> MAR 20 2018 1400 <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>FEDEX</b> <small>Print First and Last Name Signature Date/Time</small>		
Relinquished By: <b>FedEx</b> <i>FedEx</i> <small>Print First and Last Name Signature Date/Time</small>	Received By: <b>Reed Kottmuff</b> <i>Reed Kottmuff</i> 3-22-18 0850 <small>Print First and Last Name Signature Date/Time</small>		
<b>FINAL SAMPLE DISPOSITION</b> Disposal Method (e.g., Return to customer, per lab procedure, used in process):		Disposed By:	Date/Time:

 8 of 23  
4/17/2018

REV.0

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C.# X18-005-146		
						Page 1 of 1		
Collector:	Kathy Turner IC/PRC	DNO343		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-506-99-18	Ice Chest No.:	GWS-630		
Shipped To (Lab):	TestAmerica Denver	Method of Shipment:	Commercial Carrier		Bill of Lading/Air Bill No.:	7717 8630 5379		
Protocol:	SURV	Priority:	30 Days		Offsite Property No.:	9196		
<b>POSSIBLE SAMPLE HAZARDS/REMARK</b> *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.				<b>SPECIAL INSTRUCTIONS</b> Batch with A, I, S, and W SAFs.				
Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3H050	N	W	MAR 19 2018	1503	5x40-mL aGs*	8260_VOA_GCMS: COMMON	14 Days	HCl or H2SO4 to pH <2 / Cool <=6C

Page 9 of 23

04/12/2018

Relinquished By:	Kathy Turner IC/PRC	Signature	Kathy Turner	Date/Time	MAR 19 2018 1550	Received By:	SSU-1	Signature	[Signature]	Date/Time	MAR 19 2018 1550	<b>Matrix *</b> 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
Relinquished By:	SSU-1	Signature	[Signature]	Date/Time	MAR 20 2018 0800	Received By:	Kathy Wall IC/PRC	Signature	[Signature]	Date/Time	MAR 20 2018 0800	
Relinquished By:	Kathy Wall IC/PRC	Signature	[Signature]	Date/Time	MAR 20 2018 1400	Received By:	FEDEX	Signature	[Signature]	Date/Time		
Relinquished By:	Fed Ex	Signature	[Signature]	Date/Time		Received By:	Reed Kottroff Reed Kottroff	Signature	[Signature]	Date/Time	3-22-18 0800	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process):						Disposed By:		Date/Time:			

90623  
11/2018

REV.0



<b>CH2M Hill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>				C.O.C.# <b>S18-002-026</b>		
						Page 1 of 2		
<b>Collector:</b> Juan Aguilar CHPRC	DNO313		<b>Contact/Requester:</b> Karen Waters-Husted		<b>Telephone No.:</b> 509-376-4650			
<b>SAF No.:</b> S18-002			<b>Sampling Origin:</b> Hanford Site		<b>Purchase Order/Charge Code:</b> 300071			
<b>Project Title:</b> Sitewide Surv, February 2018		<b>Logbook No.:</b> HNF-N-506-98160		<b>Ice Chest No.:</b> 6005-630				
<b>Shipped To (Lab):</b> TestAmerica Denver		<b>Method of Shipment:</b> Commercial Carrier		<b>Bill of Lading/Air Bill No.:</b> 7717863052M				
<b>Protocol:</b> SURV		<b>Priority:</b> 30 Days		<b>Offsite Property No.:</b> 919.6				
<b>POSSIBLE SAMPLE HAZARDS/REMARK</b> ** ** 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					<b>SPECIAL INSTRUCTIONS</b> N/A			
<b>Sample No.</b>	<b>Filter</b>	<b>*</b>	<b>Date</b>	<b>Time</b>	<b>No/Type Container</b>	<b>Sample Analysis</b>	<b>Holding Time</b>	<b>Preservative</b>
B3H543	N	W	3-19-18	1125	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2

Page 10 of 23

04/12/2018

Relinquished By: Juan Aguilar CHPRC		MAR 19 2018 1200		Received By: Troy Bacon CHPRC		MAR 19 2018 1200		<b>Matrix *</b> 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	
Print First and Last Name		Signature		Date/Time		Date/Time			
Relinquished By: Troy Bacon CHPRC		MAR 19 2018 1235		Received By: SSU-1		MAR 19 2018 1235			
Print First and Last Name		Signature		Date/Time		Date/Time			
Relinquished By: SSU-1		MAR 20 2018 0800		Received By: Leahy Wall CHPRC		MAR 20 2018 0800			
Print First and Last Name		Signature		Date/Time		Date/Time			
Relinquished By: Leahy Wall CHPRC		MAR 20 2018 1400		Received By: FEDEX					
Print First and Last Name		Signature		Date/Time		Date/Time			
<b>FINAL SAMPLE DISPOSITION</b>		Disposal Method (e.g., Return to customer, per lab procedure, used in process):				Disposed By:		Date/Time:	

10 of 23  
4/17/2018

REV.0







[Shipping](#)

[Tracking](#)

[Printing Services](#)

[Locations](#)

[Support](#)

[Sign In](#)

**IMPORTANT!**

FedEx is closely monitoring the winter storms across portions of the U.S. [Learn More](#)

FedEx® Tracking

**771786305279**

Ship date:	Actual delivery:
Tue 3/20/2018	Thu 3/22/2018 8:40 am
Richland, WA US	ARVADA, CO US
<b>Delivered</b>	
<i>Signed for by: R RITMISS</i>	

Travel History

Date/Time	Activity	Location
- 3/22/2018 - Thursday		
8:40 am	Delivered	ARVADA, CO
8:07 am	On FedEx vehicle for delivery	ARVADA, CO
7:01 am	At local FedEx facility	ARVADA, CO
- 3/21/2018 - Wednesday		
11:14 pm	At local FedEx facility	DENVER, CO
5:38 pm	At destination sort facility	DENVER, CO
4:04 pm	Departed FedEx location	MEMPHIS, TN
12:24 am	Arrived at FedEx location	MEMPHIS, TN
- 3/20/2018 - Tuesday		
4:43 pm	Left FedEx origin facility	PASCO, WA
11:29 am	Picked up	PASCO, WA
10:11 am	Shipment information sent to FedEx	

Shipment Facts

<b>Tracking Number</b>	771786305279	<b>Service</b>	FedEx Priority Overnight
<b>Weight</b>	19 lbs / 8.62 kgs	<b>Dimensions</b>	13x10x15 in
<b>Signature services</b>	Direct signature required	<b>Delivered To</b>	Shipping/Receiving
<b>Total pieces</b>	1	<b>Total shipment weight</b>	19 lbs / 8.62 kgs
<b>Terms</b>	Third Party	<b>Shipper reference</b>	pt# 9196/cooler# GWS-630
<b>Packaging</b>	Your Packaging	<b>Special handling section</b>	Deliver Weekday, Additional Handling Surcharge, Direct Signature Required
<b>Standard transit</b>	3/21/2018 by 10:30 am		

OUR COMPANY

- About FedEx
- Our Portfolio
- Investor Relations
- Careers

MORE FROM FEDEX

- FedEx Blog
- Corporate Responsibility
- Newsroom
- Contact Us
- FedEx Compatible
- Developer Resource Center
- FedEx Cross Border

LANGUAGE

Change Country

English



FOLLOW FEDEX

© FedEx 1995-2018

[Feedback](#) | [Site Map](#) | [Terms of Use](#) | [Security & Privacy](#)

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

TestAmerica Job ID: 280-107670-1  
 SDG: DN0343

**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.

**Metals**

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

**Glossary**

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



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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
6020B	Metals (ICP/MS)	SW846	TAL DEN

**Protocol References:**

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



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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-107670-1	B3H536	Water	03/19/18 11:50	03/22/18 11:13
280-107670-2	B3H8B7	Water	03/19/18 15:03	03/22/18 11:13
280-107670-3	B3H050	Water	03/19/18 15:03	03/22/18 11:13
280-107670-4	B3H543	Water	03/19/18 11:25	03/22/18 11:13



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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

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

**Client Sample ID: B3H8B7**  
**Date Collected: 03/19/18 15:03**  
**Date Received: 03/22/18 11:13**

**Lab Sample ID: 280-107670-2**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			03/29/18 23:06	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			03/29/18 23:06	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			03/29/18 23:06	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			03/29/18 23:06	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			03/29/18 23:06	1
1,4-Dichlorobenzene	0.16	U	1.0	0.16	ug/L			03/29/18 23:06	1
1-Butanol	17	U	60	17	ug/L			03/29/18 23:06	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			03/29/18 23:06	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			03/29/18 23:06	1
Acetone	1.9	U	10	1.9	ug/L			03/29/18 23:06	1
Benzene	0.16	U	1.0	0.16	ug/L			03/29/18 23:06	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			03/29/18 23:06	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			03/29/18 23:06	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			03/29/18 23:06	1
Chloroform	0.16	U	1.0	0.16	ug/L			03/29/18 23:06	1
cis-1,2-Dichloroethene	0.15	U	1.0	0.15	ug/L			03/29/18 23:06	1
Ethyl Cyanide	3.7	U	20	3.7	ug/L			03/29/18 23:06	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			03/29/18 23:06	1
Methylene Chloride	0.32	U	2.0	0.32	ug/L			03/29/18 23:06	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			03/29/18 23:06	1
Tetrahydrofuran	2.0	U	7.0	2.0	ug/L			03/29/18 23:06	1
Toluene	0.17	U	1.0	0.17	ug/L			03/29/18 23:06	1
trans-1,2-Dichloroethene	0.15	U	1.0	0.15	ug/L			03/29/18 23:06	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			03/29/18 23:06	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			03/29/18 23:06	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			03/29/18 23:06	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclotetrasiloxane, octamethyl-	1.4	N J	ug/L		10.21	556-67-2		03/29/18 23:06	1
Unknown	1.9	N	ug/L		11.67			03/29/18 23:06	1
Unknown	19	N	ug/L		13.54			03/29/18 23:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 130		03/29/18 23:06	1
4-Bromofluorobenzene (Surr)	106		70 - 130		03/29/18 23:06	1
Dibromofluoromethane (Surr)	95		70 - 130		03/29/18 23:06	1
Toluene-d8 (Surr)	113		70 - 130		03/29/18 23:06	1

**Client Sample ID: B3H050**  
**Date Collected: 03/19/18 15:03**  
**Date Received: 03/22/18 11:13**

**Lab Sample ID: 280-107670-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			03/30/18 00:04	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			03/30/18 00:04	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			03/30/18 00:04	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			03/30/18 00:04	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			03/30/18 00:04	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			03/30/18 00:04	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			03/30/18 00:04	1
Acetone	1.9	U	10	1.9	ug/L			03/30/18 00:04	1

TestAmerica Denver

**04/12/2018**  
**Client Sample Results**

**REV.0**

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

TestAmerica Job ID: 280-107670-1  
 SDG: DN0343

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

**Client Sample ID: B3H050**  
**Date Collected: 03/19/18 15:03**  
**Date Received: 03/22/18 11:13**

**Lab Sample ID: 280-107670-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.16	U	1.0	0.16	ug/L			03/30/18 00:04	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			03/30/18 00:04	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			03/30/18 00:04	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			03/30/18 00:04	1
Chloroform	0.16	U	1.0	0.16	ug/L			03/30/18 00:04	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			03/30/18 00:04	1
<b>Methylene Chloride</b>	<b>4.7</b>		2.0	0.32	ug/L			03/30/18 00:04	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			03/30/18 00:04	1
Toluene	0.17	U	1.0	0.17	ug/L			03/30/18 00:04	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			03/30/18 00:04	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			03/30/18 00:04	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			03/30/18 00:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclotrisiloxane, hexamethyl-	1.4	N J	ug/L		8.52	541-05-9		03/30/18 00:04	1
Cyclotetrasiloxane, octamethyl-	2.1	N J	ug/L		10.21	556-67-2		03/30/18 00:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		03/30/18 00:04	1
4-Bromofluorobenzene (Surr)	106		70 - 130		03/30/18 00:04	1
Dibromofluoromethane (Surr)	102		70 - 130		03/30/18 00:04	1
Toluene-d8 (Surr)	105		70 - 130		03/30/18 00:04	1

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

**Client Sample ID: B3H536**  
**Date Collected: 03/19/18 11:50**  
**Date Received: 03/22/18 11:13**

**Lab Sample ID: 280-107670-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Uranium</b>	<b>491</b>		1.0	0.050	ug/L		04/03/18 07:36	04/05/18 16:31	1

**Client Sample ID: B3H543**  
**Date Collected: 03/19/18 11:25**  
**Date Received: 03/22/18 11:13**

**Lab Sample ID: 280-107670-4**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Uranium</b>	<b>115</b>		1.0	0.050	ug/L		04/03/18 07:36	04/05/18 16:48	1

TestAmerica Denver

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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

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

Lab Sample ID: MB 280-409567/6  
Matrix: Water  
Analysis Batch: 409567

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L			03/29/18 22:27	1
1,1,2-Trichloroethane	0.27	U	1.0	0.27	ug/L			03/29/18 22:27	1
1,1-Dichloroethane	0.22	U	1.0	0.22	ug/L			03/29/18 22:27	1
1,1-Dichloroethene	0.23	U	1.0	0.23	ug/L			03/29/18 22:27	1
1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L			03/29/18 22:27	1
1,4-Dichlorobenzene	0.16	U	1.0	0.16	ug/L			03/29/18 22:27	1
1-Butanol	17	U	60	17	ug/L			03/29/18 22:27	1
2-Butanone (MEK)	2.0	U	6.0	2.0	ug/L			03/29/18 22:27	1
4-Methyl-2-pentanone (MIBK)	0.98	U	5.0	0.98	ug/L			03/29/18 22:27	1
Acetone	3.02	J	10	1.9	ug/L			03/29/18 22:27	1
Benzene	0.16	U	1.0	0.16	ug/L			03/29/18 22:27	1
Carbon disulfide	0.45	U	2.0	0.45	ug/L			03/29/18 22:27	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			03/29/18 22:27	1
Chlorobenzene	0.17	U	1.0	0.17	ug/L			03/29/18 22:27	1
Chloroform	0.16	U	1.0	0.16	ug/L			03/29/18 22:27	1
cis-1,2-Dichloroethene	0.15	U	1.0	0.15	ug/L			03/29/18 22:27	1
Ethyl Cyanide	3.7	U	20	3.7	ug/L			03/29/18 22:27	1
Ethylbenzene	0.16	U	1.0	0.16	ug/L			03/29/18 22:27	1
Methylene Chloride	0.32	U	2.0	0.32	ug/L			03/29/18 22:27	1
Tetrachloroethene	0.20	U	1.0	0.20	ug/L			03/29/18 22:27	1
Tetrahydrofuran	2.0	U	7.0	2.0	ug/L			03/29/18 22:27	1
Toluene	0.17	U	1.0	0.17	ug/L			03/29/18 22:27	1
trans-1,2-Dichloroethene	0.15	U	1.0	0.15	ug/L			03/29/18 22:27	1
Trichloroethene	0.16	U	1.0	0.16	ug/L			03/29/18 22:27	1
Vinyl chloride	0.10	U	1.0	0.10	ug/L			03/29/18 22:27	1
Xylenes, Total	0.19	U	2.0	0.19	ug/L			03/29/18 22:27	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1.59	N	ug/L		8.97			03/29/18 22:27	1
Cyclotetrasiloxane, octamethyl-	79.0	N J	ug/L		10.21	556-67-2		03/29/18 22:27	1
Unknown	38.2	N	ug/L		11.67			03/29/18 22:27	1
Acetic acid, 2-ethylhexyl ester	29.5	N J	ug/L		12.19	103-09-3		03/29/18 22:27	1
Unknown	3.11	N	ug/L		13.15			03/29/18 22:27	1
Unknown	23.4	N	ug/L		13.54			03/29/18 22:27	1
Unknown	2.58	N	ug/L		13.94			03/29/18 22:27	1
Unknown	1.47	N	ug/L		14.03			03/29/18 22:27	1
Unknown	1.37	N	ug/L		14.17			03/29/18 22:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		03/29/18 22:27	1
4-Bromofluorobenzene (Surr)	102		70 - 130		03/29/18 22:27	1
Dibromofluoromethane (Surr)	99		70 - 130		03/29/18 22:27	1
Toluene-d8 (Surr)	105		70 - 130		03/29/18 22:27	1

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

TestAmerica Job ID: 280-107670-1  
 SDG: DN0343

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

**Lab Sample ID: LCS 280-409567/4**

**Matrix: Water**

**Analysis Batch: 409567**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.45		ug/L		109	70 - 130
1,1,2-Trichloroethane	5.00	4.53		ug/L		91	70 - 130
1,1-Dichloroethane	5.00	5.05		ug/L		101	70 - 130
1,1-Dichloroethene	5.00	5.03		ug/L		101	70 - 130
1,2-Dichloroethane	5.00	4.67		ug/L		93	70 - 130
1,4-Dichlorobenzene	5.00	4.91		ug/L		98	70 - 130
2-Butanone (MEK)	20.0	17.0		ug/L		85	70 - 130
4-Methyl-2-pentanone (MIBK)	20.0	17.1		ug/L		85	70 - 130
Acetone	20.0	20.5		ug/L		102	70 - 130
Benzene	5.00	4.98		ug/L		100	70 - 130
Carbon disulfide	5.00	4.91		ug/L		98	70 - 130
Carbon tetrachloride	5.00	5.58		ug/L		112	70 - 130
Chlorobenzene	5.00	4.90		ug/L		98	70 - 130
Chloroform	5.00	4.89		ug/L		98	70 - 130
cis-1,2-Dichloroethene	5.00	4.80		ug/L		96	70 - 130
Ethylbenzene	5.00	5.09		ug/L		102	70 - 130
Methylene Chloride	5.00	4.57		ug/L		91	70 - 130
Tetrachloroethene	5.00	5.28		ug/L		106	70 - 130
Tetrahydrofuran	10.0	8.00		ug/L		80	70 - 130
Toluene	5.00	4.95		ug/L		99	70 - 130
trans-1,2-Dichloroethene	5.00	5.18		ug/L		104	70 - 130
Trichloroethene	5.00	4.85		ug/L		97	70 - 130
Vinyl chloride	5.00	6.07		ug/L		121	70 - 130
Xylenes, Total	10.0	10.1		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	99		70 - 130
Toluene-d8 (Surr)	105		70 - 130

**Lab Sample ID: 280-107670-2 MS**

**Matrix: Water**

**Analysis Batch: 409567**

**Client Sample ID: B3H8B7**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	0.16	U	5.00	5.69		ug/L		114	70 - 130
1,1,2-Trichloroethane	0.27	U	5.00	4.47		ug/L		89	70 - 130
1,1-Dichloroethane	0.22	U	5.00	5.17		ug/L		103	70 - 130
1,1-Dichloroethene	0.23	U	5.00	5.09		ug/L		102	70 - 130
1,2-Dichloroethane	0.13	U	5.00	4.78		ug/L		96	70 - 130
1,4-Dichlorobenzene	0.16	U	5.00	4.98		ug/L		100	70 - 130
2-Butanone (MEK)	2.0	U	20.0	18.0		ug/L		90	70 - 130
4-Methyl-2-pentanone (MIBK)	0.98	U	20.0	16.8		ug/L		84	70 - 130
Acetone	1.9	U	20.0	24.3		ug/L		122	70 - 130
Benzene	0.16	U	5.00	5.05		ug/L		101	70 - 130
Carbon disulfide	0.45	U	5.00	4.99		ug/L		100	70 - 130
Carbon tetrachloride	0.19	U	5.00	5.93		ug/L		119	70 - 130

TestAmerica Denver

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

TestAmerica Job ID: 280-107670-1  
SDG: DN0343

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

Lab Sample ID: 280-107670-2 MS

Matrix: Water

Analysis Batch: 409567

Client Sample ID: B3H8B7

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorobenzene	0.17	U	5.00	4.96		ug/L		99	70 - 130		
Chloroform	0.16	U	5.00	5.11		ug/L		102	70 - 130		
cis-1,2-Dichloroethene	0.15	U	5.00	4.89		ug/L		98	70 - 130		
Ethylbenzene	0.16	U	5.00	5.17		ug/L		103	70 - 130		
Methylene Chloride	0.32	U	5.00	4.55		ug/L		91	70 - 130		
Tetrachloroethene	0.20	U	5.00	5.34		ug/L		107	70 - 130		
Tetrahydrofuran	2.0	U	10.0	7.80		ug/L		78	70 - 130		
Toluene	0.17	U	5.00	5.03		ug/L		101	70 - 130		
trans-1,2-Dichloroethene	0.15	U	5.00	5.28		ug/L		106	70 - 130		
Trichloroethene	0.16	U	5.00	4.90		ug/L		98	70 - 130		
Vinyl chloride	0.10	U	5.00	6.32		ug/L		126	70 - 130		
Xylenes, Total	0.19	U	10.0	10.2		ug/L		102	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	MS Limits								
1,2-Dichloroethane-d4 (Surr)	92		70 - 130								
4-Bromofluorobenzene (Surr)	99		70 - 130								
Dibromofluoromethane (Surr)	100		70 - 130								
Toluene-d8 (Surr)	106		70 - 130								

Lab Sample ID: 280-107670-2 MSD

Matrix: Water

Analysis Batch: 409567

Client Sample ID: B3H8B7

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.16	U	5.00	5.67		ug/L		113	70 - 130	0	20
1,1,2-Trichloroethane	0.27	U	5.00	4.61		ug/L		92	70 - 130	3	20
1,1-Dichloroethane	0.22	U	5.00	5.20		ug/L		104	70 - 130	1	20
1,1-Dichloroethene	0.23	U	5.00	4.97		ug/L		99	70 - 130	2	20
1,2-Dichloroethane	0.13	U	5.00	4.94		ug/L		99	70 - 130	3	20
1,4-Dichlorobenzene	0.16	U	5.00	5.08		ug/L		102	70 - 130	2	20
2-Butanone (MEK)	2.0	U	20.0	18.7		ug/L		93	70 - 130	4	20
4-Methyl-2-pentanone (MIBK)	0.98	U	20.0	17.9		ug/L		90	70 - 130	7	20
Acetone	1.9	U	20.0	21.0		ug/L		105	70 - 130	14	20
Benzene	0.16	U	5.00	5.03		ug/L		101	70 - 130	0	20
Carbon disulfide	0.45	U	5.00	4.90		ug/L		98	70 - 130	2	20
Carbon tetrachloride	0.19	U	5.00	5.80		ug/L		116	70 - 130	2	20
Chlorobenzene	0.17	U	5.00	4.96		ug/L		99	70 - 130	0	20
Chloroform	0.16	U	5.00	5.14		ug/L		103	70 - 130	1	20
cis-1,2-Dichloroethene	0.15	U	5.00	4.88		ug/L		98	70 - 130	0	20
Ethylbenzene	0.16	U	5.00	5.09		ug/L		102	70 - 130	2	20
Methylene Chloride	0.32	U	5.00	4.63		ug/L		93	70 - 130	2	20
Tetrachloroethene	0.20	U	5.00	5.29		ug/L		106	70 - 130	1	20
Tetrahydrofuran	2.0	U	10.0	8.12		ug/L		81	70 - 130	4	20
Toluene	0.17	U	5.00	5.05		ug/L		101	70 - 130	0	20
trans-1,2-Dichloroethene	0.15	U	5.00	5.24		ug/L		105	70 - 130	1	20
Trichloroethene	0.16	U	5.00	4.90		ug/L		98	70 - 130	0	20
Vinyl chloride	0.10	U	5.00	6.34		ug/L		127	70 - 130	0	20
Xylenes, Total	0.19	U	10.0	10.1		ug/L		101	70 - 130	0	20

TestAmerica Denver

**04/12/2018**  
**QC Sample Results**

**REV.0**

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

TestAmerica Job ID: 280-107670-1  
 SDG: DN0343

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	101		70 - 130
Toluene-d8 (Surr)	105		70 - 130

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

**Lab Sample ID: MB 280-409727/1-A**  
**Matrix: Water**  
**Analysis Batch: 410385**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 409727**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	0.050	U	1.0	0.050	ug/L		04/03/18 07:36	04/05/18 16:24	1

**Lab Sample ID: LCS 280-409727/2-A**  
**Matrix: Water**  
**Analysis Batch: 410385**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 409727**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Uranium	40.0	42.93		ug/L		107	80 - 120

**Lab Sample ID: 280-107670-1 MS**  
**Matrix: Water**  
**Analysis Batch: 410385**

**Client Sample ID: B3H536**  
**Prep Type: Total/NA**  
**Prep Batch: 409727**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Uranium	491		40.0	525.6	X	ug/L		87	75 - 125

**Lab Sample ID: 280-107670-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 410385**

**Client Sample ID: B3H536**  
**Prep Type: Total/NA**  
**Prep Batch: 409727**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Uranium	491		40.0	480.3	X	ug/L		-26	75 - 125	9	20

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

TestAmerica Job ID: 280-107670-1  
 SDG: DN0343

**GC/MS VOA**

**Analysis Batch: 409567**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107670-2	B3H8B7	Total/NA	Water	8260B	
280-107670-3	B3H050	Total/NA	Water	8260B	
MB 280-409567/6	Method Blank	Total/NA	Water	8260B	
LCS 280-409567/4	Lab Control Sample	Total/NA	Water	8260B	
280-107670-2 MS	B3H8B7	Total/NA	Water	8260B	
280-107670-2 MSD	B3H8B7	Total/NA	Water	8260B	

**Metals**

**Prep Batch: 409727**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107670-1	B3H536	Total/NA	Water	3020A	
280-107670-4	B3H543	Total/NA	Water	3020A	
MB 280-409727/1-A	Method Blank	Total/NA	Water	3020A	
LCS 280-409727/2-A	Lab Control Sample	Total/NA	Water	3020A	
280-107670-1 MS	B3H536	Total/NA	Water	3020A	
280-107670-1 MSD	B3H536	Total/NA	Water	3020A	

**Analysis Batch: 410385**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-107670-1	B3H536	Total/NA	Water	6020B	409727
280-107670-4	B3H543	Total/NA	Water	6020B	409727
MB 280-409727/1-A	Method Blank	Total/NA	Water	6020B	409727
LCS 280-409727/2-A	Lab Control Sample	Total/NA	Water	6020B	409727
280-107670-1 MS	B3H536	Total/NA	Water	6020B	409727
280-107670-1 MSD	B3H536	Total/NA	Water	6020B	409727

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

TestAmerica Job ID: 280-107670-1  
 SDG: DN0343

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

**Matrix: Water**

**Prep Type: Total/NA**

**Percent Surrogate Recovery (Acceptance Limits)**

Lab Sample ID	Client Sample ID	DCA	BFB	DBFM	TOL
		(70-130)	(70-130)	(70-130)	(70-130)
280-107670-2	B3H8B7	85	106	95	113
280-107670-2 MS	B3H8B7	92	99	100	106
280-107670-2 MSD	B3H8B7	96	98	101	105
280-107670-3	B3H050	96	106	102	105
LCS 280-409567/4	Lab Control Sample	92	99	99	105
MB 280-409567/6	Method Blank	93	102	99	105

**Surrogate Legend**

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

