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: 280-108541-1
TestAmerica Sample Delivery Group: DN0357
Client Project/Site: W18-004 / S18-004 / X18-005

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:*
*5/18/2018 8:07:31 PM*

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LINKS

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

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

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

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## Job ID: 280-108541-1

**Laboratory: TestAmerica Denver**

**Narrative**

# CASE NARRATIVE

## Client: CH2M Hill Plateau Remediation Company

## Project: W18-004 / S18-004 / X18-005

## Report Number: 280-108541-1

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

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

The laboratory is not able to achieve project specified Highest Allowable Practical Quantitation Limits (HAPQL limits) for several analytes. These include: Boron 6010D, Beryllium 6020B, Silver 6020B, Tin 6020B, Ethyl Cyanide 8260B, 4,6-Dintro-2-methyl phenol 8270D, Pentachlorophenol 8270D, Total Organic Halides 9020B. All analytes met statistical limits, unless otherwise detailed in the individual sections below. As instructed by the client, the data is reported.

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

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

**RECEIPT**

The samples were received on 4/13/2018 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.1º C and 0.3º C.

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

Samples B3HV90 (280-108541-17) and B3H056 (280-108541-18) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/25/2018.

Carbon tetrachloride failed the recovery criteria high for LCS 280-412749/4. All associated results have been flagged "o". This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Carbon tetrachloride failed the recovery criteria high for the MS/MSD of sample B3HV90 (280-108541-17) in batch 280-412749. All associated results have been flagged "T". This analyte was biased high and was not detected in the associated samples; therefore, the data have been reported.

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

**SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples B3HWL7 (280-108541-1) and B3HWL5 (280-108541-8) were analyzed for semivolatile organic compounds (GC-MS) in accordance with SW-846 8270D. The samples were prepared on 04/18/2018 and analyzed on 05/12/2018.

## Job ID: 280-108541-1 (Continued)

### Laboratory: TestAmerica Denver (Continued)

4-Nitrophenol failed the recovery criteria high for LCS 280-411810/2-A. All associated results have been flagged "o". This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

2,4,6-Trichlorophenol failed the recovery criteria high for the MS of sample B3HWL7 (280-108541-1) in batch 280-414658. Several analytes failed the recovery criteria high for the MSD. All associated results have been flagged "T". These analytes ere biased high and was not detected in the associated samples; therefore, the data have been reported.

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

**ORGANOCHLORINE PESTICIDES (GC)**
Sample B3HWL7 (280-108541-1) was analyzed for Organochlorine Pesticides (GC) in accordance with SW 846 8081B. The samples were prepared on 04/17/2018 and analyzed on 05/03/2018.

Aldrin failed the project-specific recovery criteria low for LCS 280-411522/2-A. All associated results have been flagged "o". This was within the QSM 5.1 limits; therefore, the data are reported.

Endosulfan II and Endosulfan sulfate failed the recovery criteria low for the MS of sample B3HWL7 (280-108541-1) in batch 280-413653. All associated results have been flagged "N". The recoveries are within QSM 5.1 limits. The acceptable LCS data indicates that the analytical system was operating within control; therefore, the data are reported.

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

**TOTAL METALS (ICP)**
Samples B3HRK4 (280-108541-4), B3HWL6 (280-108541-5), B3HWL5 (280-108541-8), B3HRJ9 (280-108541-10), B3HT18 (280-108541-15) and B3HT20 (280-108541-16) were analyzed for Total Metals (ICP) in accordance with EPA SW846 6010D. The samples were prepared on 04/27/2018 and analyzed on 04/30/2018 and 05/04/2018.

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

**TOTAL METALS (ICP/MS)**
Samples B3HRK4 (280-108541-4), B3HWL6 (280-108541-5), B3HWL5 (280-108541-8), B3HRJ9 (280-108541-10), B3HT18 (280-108541-15) and B3HT20 (280-108541-16) were analyzed for Total Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 04/27/2018 and analyzed on 04/30/2018.

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

Zinc was detected in method blank MB 280-412547/1-A at a level that was above the method detection limit (MDL) but below half the reporting limit (RL). 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.

The accuracy and precision of Strontium in the MS/MSD performed on sample B3HWL6 (280-108541-5) in prep batch 280-412547 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.

**TOTAL MERCURY**
Samples B3HRK4 (280-108541-4), B3HWL6 (280-108541-5), B3HWL5 (280-108541-8) and B3HRJ9 (280-108541-10) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 05/02/2018.

## Job ID: 280-108541-1 (Continued)

### Laboratory: TestAmerica Denver (Continued)

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

**ALKALINITY**

Samples B3HWL7 (280-108541-1), B3HWC5 (280-108541-12), B3HWN2 (280-108541-13) and B3HWN1 (280-108541-14) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 04/18/2018 and 04/21/2018.

It can be noted that the sample duplicate for batch 280-411955 was performed on sample B3HV94 (280-108430-20) in SDG DN00356, and all parameters were within control limits (duplicate RPD = 2%; limit 20%). The following samples in this SDG are associated with this duplicate: B3HWN2 (280-108541-13) and B3HWN1 (280-108541-14).

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

**TOTAL ORGANIC HALIDES**

Samples B3HR42 (280-108541-2), B3HR43 (280-108541-3), B3HWL6 (280-108541-5), B3HR41 (280-108541-6), B3HR40 (280-108541-7), B3HWL5 (280-108541-8), B3HR38 (280-108541-9) and B3HR39 (280-108541-11) were analyzed for total organic halides in accordance with EPA SW846 Method 9020B. The samples were analyzed on 05/03/2018 and 05/04/2018.

It can be noted that the MS/MSD for batch 280-413963 was performed on sample B3HRL2 (280-108430-17) in SDG DN00356, and all spike parameters were within control limits (MS = 98%, MSD = 102%, limits 75-130%; RPD = 4%; limit 20%). The following samples in this SDG are associated with this MS/MSD: B3HR38 (280-108541-9) and B3HR39 (280-108541-11).

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

**TOTAL ORGANIC CARBON**

Samples B3HR42 (280-108541-2), B3HR43 (280-108541-3), B3HWL6 (280-108541-5), B3HR41 (280-108541-6), B3HR40 (280-108541-7), B3HWL5 (280-108541-8), B3HR38 (280-108541-9) and B3HR39 (280-108541-11) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060A. The samples were analyzed on 05/08/2018.

Total Organic Carbon - Average was detected in method blank MB 280-414079/46 at a level that was above the method detection limit but below half 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

# Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 280-108541-1
SDG Number: DN0357

**Login Number: 108541**
**List Number: 1**
**Creator: Gomez, Alyssa I**

**List Source: TestAmerica Denver**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | 60 CPM |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 0.1, 0.3 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 <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # W18-004-321 Page 1 of 1 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Collector: | Larry Rosane ICHPRC DN0357 | Contact/Requester: | Karen Waters-Husted | Telephone No.: | 509-376-4650 |
| SAF No.: | W18-004 | Sampling Origin: | Hanford Site | Purchase Order/Charge Code: | 300071 |
| Project Title: | RCRA_WAC, APRIL 2018 | Logbook No.: | HNF-N-506 97/83 | Ice Chest No.: | GWS-553 |
| Shipped To (Lab): | TestAmerica Denver | Method of Shipment | Commercial Carrier | Bill of Lading/Air Bill No.: | 7719816737009 |
| Protocol | RCRA | Priority: | 30 Days | Offsite Property No.: | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HWL7 | N | W | 4-12-18 | 1040 | 4x1-L aG | 8081_PEST_GC: COMMON | 7/40 Days | Cool <=6C |
| B3HWL7 | N | W | ↓ | ↓ | 4x1-L aG | 8270_PHENOLIC_GC: COMMON | 7/40 Days | Cool <=6C |
| B3HWL7 | N | W | 4-12-18 | 1040 | 1x250-mL G/P | 2320_ALKALINITY: GW 01 | 14 Days | Cool <=6C |

280-108541 Chain of Custody

0.2, 0.4, -0.1, FR8, Dy A16 4.13.18

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: Larry Rosane ICHPRC | Larry Rosane | APR 12 2018 1400 | Received By: FEDEX | 924-127 ~~APR 12 2018 1400~~ | |
| Print First and Last Name | Signature | Date/Time | Print First and Last Name | Signature | Date/Time |
| Relinquished By: Ted Op | | | Received By: Alyssa Gomez | Alyssa Gomez | 4.13.18 0915 |
| Print First and Last Name | Signature | Date/Time | Print First and Last Name | Signature | Date/Time |
| Relinquished By: | | | Received By: | | |
| Print First and Last Name | Signature | Date/Time | Print First and Last Name | Signature | Date/Time |
| Relinquished By: | | | Received By: | | |
| Print First and Last Name | Signature | Date/Time | Print First and Last Name | Signature | Date/Time |

Matrix *

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

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

Printed On 3/8/2018 FSR ID = FSR58662 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # W18-004-322 Page 1 of 2 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Larry Rosane ICHPRC DN0357 | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 |
| **SAF No.:** | W18-004 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | RCRA_WAC, APRIL 2018 | **Logbook No.:** | HNF-N-506 97/83 | **Ice Chest No.:** | GWS-553 |
| **Shipped To (Lab):** | TestAmerica ~~St. Louis~~ Denver | **Method of Shipment** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 779816737089 |
| **Protocol** | RCRA KS 4/11/18 | **Priority:** | 30 Days | **Offsite Property No.:** | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HR42 | N | W | 4-12-18 | 1040 | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HR42 | N | W | | | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |
| B3HR43 | N | W | | | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HR43 | N | W | | | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |
| B3HRK4 | Y | W | | | 1x500-mL G/P | 7470_MERCURY_CV: COMMON (AQUEOUS); 6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01 | 28 Days | HNO3 to pH <2 |
| B3HWL6 | N | W | 4-12-18 | 1040 | 1x500-mL G/P | 7470_MERCURY_CV: COMMON (AQUEOUS); 6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01 | 28 Days | HNO3 to pH <2 |

| Relinquished By: | Received By: |
|---|---|
| Larry Rosane ICHPRC — Larry Rosane — APR 12 2018 1460 (Print First and Last Name / Signature / Date/Time) | FEDEX — ~~APR 12 2018 1400~~ LW, 4/12/18 (Print First and Last Name / Signature / Date/Time) |
| Relinquished By: Dell Dp (Print First and Last Name / Signature / Date/Time) | Received By: Alyssa Gomez — Alyssa Gomez 4.13.18 0915 (Print First and Last Name / Signature / Date/Time) |
| Relinquished By: (Print First and Last Name / Signature / Date/Time) | Received By: (Print First and Last Name / Signature / Date/Time) |
| Relinquished By: (Print First and Last Name / Signature / Date/Time) | Received By: (Print First and Last Name / Signature / Date/Time) |

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

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

Printed On 3/8/2018 FSR ID = FSR58662 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # W18-004-322 Page 2 of 2 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Larry Rosane KHPRC | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 |
| **SAF No.:** | W18-004 DN0367 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | RCRA_WAC, APRIL 2018 | **Logbook No.:** | HNF-N-506 97/83 | **Ice Chest No.:** | 6WS-563 |
| **Shipped To (Lab):** | TestAmerica ~~St. Louis~~ Denver | **Method of Shipment** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 7719803 7009 |
| **Protocol** | RCRA KS 4/11/18 | **Priority:** | 30 Days | **Offsite Property No.:** | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HWL6 | N | W | 4-12-18 | 1040 | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HWL6 | N | W | | | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |
| B3HR41 | N | W | | | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HR41 | N | W | 4-12-18 | 1040 | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |

LW 4/12/18

| Relinquished By | Print First and Last Name | Signature | Date/Time | Received By | Print First and Last Name | Signature | Date/Time |
|---|---|---|---|---|---|---|---|
| Larry Rosane KHPRC | Larry Rosane | Larry Rosane | APR 12 2018 1400 | FEDEX | | | ~~APR 12 2018 1400~~ |
| Relinquished By | FedEx | | | Received By | Alyssa Gomez | Alyssa Gomez | 4.13.18 0915 |
| Relinquished By | | | | Received By | | | |
| Relinquished By | | | | Received By | | | |

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

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

Printed On 3/8/2018 FSR ID = FSR58662 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | 79115 CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C.# W18-004-320 Page 1 of 2 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Collector: | Larry Rosane ICHPRC DN0357 | Contact/Requester: | Karen Waters-Husted | Telephone No.: | 509-376-4650 |
| SAF No.: | W18-004 | Sampling Origin: | Hanford Site | Purchase Order/Charge Code: | 300071 |
| Project Title: | RCRA_WAC, APRIL 2018 | Logbook No.: | HNF-N-506 97/83 | Ice Chest No.: | GWS-1673 |
| Shipped To (Lab): | TestAmerica Denver | Method of Shipment | Commercial Carrier | Bill of Lading/Air Bill No.: | 9719 8667 6070 |
| Protocol | RCRA | Priority: | 30 Days | Offsite Property No.: | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HR40 | N | W | 4-12-18 | 0905 | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HR40 | N | W | | | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |
| B3HWL5 | N | W | | | 1x500-mL G/P | 7470_MERCURY_CV: COMMON (AQUEOUS); 6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01 | 28 Days | HNO3 to pH <2 |
| B3HWL5 | N | W | | | 4x1-L aG | 8270_PHENOLIC_GC: COMMON | 7/40 Days | Cool <=6C |
| B3HWL5 | N | W | | | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HWL5 | N | W | | | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |
| B3HR38 | N | W | 4-12-18 | 0905 | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |

| Relinquished By: (Print First and Last Name / Signature / Date/Time) | Received By: (Print First and Last Name / Signature / Date/Time) |
|---|---|
| Larry Rosane ICHPRC — Larry Rosane — APR 12 2018 1400 | FEDEX — Lesly Wall ICHPRC — APR 12 2018 1400 (DW 4/12/18) |
| Lesly Wall ICHPRC — Lesly Wall — APR 12 2018 1415 | FEDEX |
| FedEx | Alyssa Gomez — Alyssa Gomez — 4/13/18 0915 |
| | |

Matrix *

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

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

Printed On 2/22/2018 FSR ID = FSR58196 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | 79165 | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C.# W18-004-320 Page 2 of 2 |
|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Larry Rosane ICHPRC DD0357 | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 |
| **SAF No.:** | W18-004 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | RCRA_WAC, APRIL 2018 | **Logbook No.:** | HNF-N-506 97/83 | **Ice Chest No.:** | 665-673 |
| **Shipped To (Lab):** | TestAmerica Denver | **Method of Shipment** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 7719 8676 701 |
| **Protocol** | RCRA | **Priority:** | 30 Days | **Offsite Property No.:** | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HR38 | N | W | 4-12-18 | 0905 | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |
| B3HRJ9 | Y | W | ↓ | ↓ | 1x500-mL G/P | 7470_MERCURY_CV: COMMON (AQUEOUS); 6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01 | 28 Days | HNO3 to pH <2 |
| B3HR39 | N | W | ↓ | ↓ | 1x1-L aGs* | 9020_TOX: COMMON | 28 Days | H2SO4 to pH <2 / Cool <=6C |
| B3HR39 | N | W | 4-12-18 | 0905 | 1x250-mL aG | 9060_TOC: COMMON | 28 Days | HCl or H2SO4 to pH <2 / Cool <=6C |

| Relinquished By | Print First and Last Name | Signature | Date/Time | Received By | Print First and Last Name | Signature | Date/Time |
|---|---|---|---|---|---|---|---|
| Larry Rosane ICHPRC | Larry Rosane | Larry Rosane | APR 12 2018 1400 | Lesly Wall ICHPRC | Lesly Wall | Lesly Wall | APR 12 2018 1400 |
| Lesly Wall ICHPRC | Lesly Wall | Lesly Wall | APR 12 2018 1415 | | FEDEX | | |
| | FedEX | | | | Alyssa Gomez | Alyssa Gomez | 4.13.18 0915 |
| | | | | | | | |

Matrix *

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

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

Printed On 2/22/2018 FSR ID = FSR58196 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # W18-004-280 Page 1 of 12 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Collector: | Juan Aguilar /CHPRC | Contact/Requester: | Karen Waters-Husted | Telephone No.: | 509-376-4650 a241218 |
| SAF No.: | W18-004 DN 0357 | Sampling Origin: | Hanford Site | Purchase Order/Charge Code: | 300071 |
| Project Title: | RCRA_WAC, APRIL 2018 | Logbook No.: | HNF-N-506-98148 | Ice Chest No.: | GWS-553 |
| Shipped To (Lab): | TestAmerica Denver | Method of Shipment | Commercial Carrier | Bill of Lading/Air Bill No.: | 7719 8673 7009 |
| Protocol | RCRA | Priority: | 30 Days | Offsite Property No.: | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HWC5 | N | W | 4-12-18 | 0842 | 1x250-mL G/P | 2320_ALKALINITY: COMMON | 14 Days | Cool <=6C |

| Relinquished By | Print First and Last Name | Signature | Date/Time | Received By | Print First and Last Name | Signature | Date/Time |
|---|---|---|---|---|---|---|---|
| Juan Aguilar /CHPRC | | | APR 12 2018 0900 | Troy Bacon /CHPRC | | Troy L. Bacon | APR 12 2018 0900 |
| Troy Bacon /CHPRC | | Troy L. Bacon | APR 12 2018 0915 | SSU-1 | | | APR 12 2018 0915 |
| SSU-1 | | | APR 12 2018 0945 | Janelle Zunker CHPRC | | | APR 12 2018 0945 |
| Janelle Zunker CHPRC | | | APR 12 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 3/1/2018 FSR ID = FSR58345 A-6004-842 (REV 3)

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. W18- 004-280

Page 2 of 2

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| | FedEx | | | | Alyssa Gomez | Alyssa Gomez | 4.13.15 0915 |
| 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 |
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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 |

A-6003-962 (03/05)

05/18/2018

REV.0

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C.# S18-004-395 Page 1 of 1 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Kevin Patterson CHPRC DN 0357 | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 4/11/18 |
| **SAF No.:** | S18-004 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | SURV, APRIL 2018 | **Logbook No.:** | HNF-N-506-97 | **Ice Chest No.:** | GWS-553 |
| **Shipped To (Lab):** | TestAmerica Denver | **Method of Shipment** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 771986737009 |
| **Protocol** | CERCLA | **Priority:** | 30 Days | **Offsite Property No.:** | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HWN2 | N | W | 4/11/18 | 0700 | 1x250-mL G/P | 2320_ALKALINITY: GW 01 | 14 Days | Cool <=6C |

| Relinquished By: | Received By: |
|---|---|
| Kevin Patterson CHPRC — APR 11 2018 0955 (Print First and Last Name / Signature / Date/Time) | Ivan Schaeffer /CHPRC — APR 11 2018 0955 (Print First and Last Name / Signature / Date/Time) |
| Ivan Schaeffer /CHPRC — APR 11 2018 1400 (Print First and Last Name / Signature / Date/Time) | 92418 FEDEX — SSU-1 APR 11 2018 1400 (Print First and Last Name / Signature / Date/Time) |
| SSU-1 — APR 12 2018 0945 (Print First and Last Name / Signature / Date/Time) | Janelle Zunker CHPRC — APR 12 2018 0945 (Print First and Last Name / Signature / Date/Time) |
| Janelle Zunker CHPRC — APR 12 2018 0945 (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 2/22/2018 FSR ID = FSR58152 A-6004-842 (REV 3)

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 518-004-395

Page 2 of 2

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| | FedEx | | | | Alyssa Gomez | Alyssa Gomez | 4-13-18 0915 |
| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
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A-6003-962 (03/05)

05/18/2018

REV.0

89 Lbs

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C.# S18-004-394 Page 1 of 1 |
|---|---|---|

| | | |
|---|---|---|
| **Collector:** Kevin Patterson CHPRC | **Contact/Requester:** Karen Waters-Husted | **Telephone No.:** 509-376-4650 TCH 12-18 |
| **SAF No.:** S18-004 DN 0367 | **Sampling Origin:** Hanford Site | **Purchase Order/Charge Code:** 300071 |
| **Project Title:** SURV, APRIL 2018 | **Logbook No.:** HNF-N-506 -97 | **Ice Chest No.:** GWS-553 |
| **Shipped To (Lab):** TestAmerica Denver | **Method of Shipment** Commercial Carrier | **Bill of Lading/Air Bill No.:** 771986737009 |
| **Protocol** CERCLA | **Priority:** 30 Days | **Offsite Property No.:** 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HWN1 | N | W | APR 11 2018 | 0935 | 1x250-mL G/P | 2320_ALKALINITY: GW 01 | 14 Days | Cool <=6C |

| Relinquished By: | Received By: |
|---|---|
| Kevin Patterson CHPRC — APR 11 2018 0955 (Print First and Last Name / Signature / Date/Time) | Ivan Schaeffer /CHPRC — APR 11 2018 0955 (Print First and Last Name / Signature / Date/Time) |
| Ivan Schaeffer /CHPRC — APR 11 2018 1400 (Print First and Last Name / Signature / Date/Time) | ~~FEDEX~~ SSU-1 — 1400 (Print First and Last Name / Signature / Date/Time) |
| SSU-1 — APR 12 2018 0945 (Print First and Last Name / Signature / Date/Time) | Janelle Zunker CHPRC — APR 12 2018 0945 (Print First and Last Name / Signature / Date/Time) |
| Janelle Zunker CHPRC — APR 12 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 2/22/2018 FSR ID = FSR58145 A-6004-842 (REV 3)

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 518-004-394

Page 2 of 2

| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |
|---|---|---|---|---|---|---|---|
| | FedEx | | | Alyssa Gomez | Alyssa Gomez | | 4.13.18 0915 |
| 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 |
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| Relinquished By | Print | Sign | Date/Time | Received By | Print | Sign | Date/Time |

A-6003-962 (03/05)

05/18/2018

REV.0

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # S18-004-167 Page 1 of 1 |
|---|---|---|

| | | |
|---|---|---|
| **Collector:** Kevin Patterson CHPRC DN0357 | **Contact/Requester:** Karen Waters-Husted | **Telephone No.:** 509-376-4650 |
| **SAF No.:** S18-004 | **Sampling Origin:** Hanford Site | **Purchase Order/Charge Code:** 300071 |
| **Project Title:** SURV, APRIL 2018 | **Logbook No.:** HNF-N-506 97-81 | **Ice Chest No.:** GW5-553 |
| **Shipped To (Lab):** TestAmerica Denver | **Method of Shipment** Commercial Carrier | **Bill of Lading/Air Bill No.:** 7798673 7089 |
| **Protocol** CERCLA | **Priority:** 30 Days | **Offsite Property No.:** 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HT18 | N | W | 4/11/18 | 1212 | 1x500-mL G/P | 6020_METALS_ICPMS: GW 04; 6010_METALS_ICP: GW 09; 6020_METALS_ICPMS: Uranium (1) | 6 Months | HNO3 to pH <2 |
| B3HT20 | Y | W | 4/11/18 | 1212 | 1x500-mL G/P | 6020_METALS_ICPMS: GW 04; 6010_METALS_ICP: GW 09 | 6 Months | HNO3 to pH <2 |

| Relinquished By: | Signature | Date/Time | Received By: | Signature | Date/Time |
|---|---|---|---|---|---|
| Kevin Patterson CHPRC | APR 11 2018 | 1315 | SSU-1 | APR 11 2018 | 1315 |
| SSU-1 | APR 12 2018 | 0945 | Janelle Zunker CHPRC | APR 12 2018 | 0945 |
| Janelle Zunker CHPRC | APR 12 2018 | 1400 | FEDEX | | |
| FedEx | | | Alyssa Gomez | 4.13.18 | 0915 |

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 3/12/2018 FSR ID = FSR58092 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # S18-004-345 Page 1 of 1 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Juan Aguilar /CHPRC | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 |
| **SAF No.:** | S18-004 DN0357 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | SURV, APRIL 2018 | **Logbook No.:** | HNF-N-506-98174 | **Ice Chest No.:** | GWS-673 |
| **Shipped To (Lab):** | TestAmerica Denver | **Method of Shipment** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 7719867646701 |
| **Protocol** | CERCLA | **Priority:** | 30 Days | **Offsite Property No.:** | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3HV90 | N | W | 4-12-18 | 1059 | 5x40-mL aGs* | 8260_VOA_GCMS: COMMON;<br>8260_VOA_GCMS: GW 01 | 14 Days | HCl or H2SO4 to pH <2 / Cool <=6C |

| Relinquished By: | Signature | Date/Time | Received By: | Signature | Date/Time |
|---|---|---|---|---|---|
| Juan Aguilar /CHPRC | | APR 12 2018 1300 | Janelle Zunker CHPRC | | APR 12 2018 1300 |
| Janelle Zunker CHPRC | | APR 12 2018 1400 | FEDEX | | |
| FedEX | | | Alyssa Gomez | | 4.13.18 0915 |
| | | | | | |

Matrix *

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

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

Printed On 2/22/2018 FSR ID = FSR58068 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # X18-005-152 Page 1 of 1 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Juan Aguilar /CHPRC DN 0357 | **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 | **Ice Chest No.:** | GWS-1673 |
| **Shipped To (Lab):** | TestAmerica Denver | **Method of Shipment** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 7719 8616 6700 |
| **Protocol** | SURV | **Priority:** | 30 Days | **Offsite Property No.:** | 9301 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3H056 | N | W | 4-12-18 | 1059 | 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 |
|---|---|---|---|---|---|---|---|
| Juan Aguilar /CHPRC | | | APR 12 2018 1300 | Janelle Zunker CHPRC | | | APR 12 2018 1300 |
| Janelle Zunker CHPRC | | | APR 12 2018 1400 | FEDEX | | | |
| FedEx | | | | | | | 4-13-18 0915 |
| | | | | | | | |

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 = FSR54044 A-6004-842 (REV 3)

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

# FedEx® Tracking

**771986737009**

| Ship date: | | Actual delivery: |
|---|---|---|
| **Thu 4/12/2018** | | **Fri 4/13/2018 8:57 am** |
| Richland, WA US | **Delivered**<br>*Signed for by: B.BURTNESS* | ARVADA, CO US |

## 2 Piece shipment

## Travel History

| Date/Time | Activity | Location |
|---|---|---|
| 4/13/2018 - Friday | | |
| 8:57 am | Delivered | ARVADA, CO |
| 8:53 am | On FedEx vehicle for delivery | ARVADA, CO |
| 8:02 am | At local FedEx facility | ARVADA, CO |
| 5:22 am | At destination sort facility | DENVER, CO |
| 4:13 am | Departed FedEx location | MEMPHIS, TN |
| 12:58 am | Arrived at FedEx location | MEMPHIS, TN |
| 4/12/2018 - Thursday | | |
| 4:51 pm | Left FedEx origin facility | PASCO, WA |
| 3:36 pm | Shipment information sent to FedEx | |
| 2:57 pm | Picked up | PASCO, WA |

## Shipment Facts

| | | | |
|---|---|---|---|
| **Tracking Number** | 771986737009 | **Service** | FedEx Priority Overnight |
| **Master tracking number** | 771986737009 | **Weight** | 89 lbs / 40.37 kgs |
| **Signature services** | Direct signature required | **Delivered To** | Shipping/Receiving |
| **Total pieces** | 2 | **Total shipment weight** | 168 lbs / 76.2 kgs |
| **Terms** | Third Party | **Shipper reference** | 9301 |
| **Packaging** | Your Packaging | **Special handling section** | Deliver Weekday, Direct Signature Required |
| **Standard transit** | 4/13/2018 by 10:30 am | | |



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

# FedEx® Tracking

**771986736701**

| Ship date | | Actual delivery |
|---|---|---|
| **Thu 4/12/2018** | | **Fri 4/13/2018 8:57 am** |
| Richland, WA US | **Delivered** *Signed for by B.BURTNESS* | ARVADA, CO US |

## 2 Piece shipment

## Travel History

| Date/Time | Activity | Location |
|---|---|---|
| 4/13/2018 - Friday | | |
| 8 57 am | Delivered | ARVADA CO |
| 8 53 am | On FedEx vehicle for delivery | ARVADA, CO |
| 8.03 am | At local FedEx facility | ARVADA, CO |
| 5 22 am | At destination sort facility | DENVER, CO |
| 4.13 am | Departed FedEx location | MEMPHIS TN |
| 12 58 am | Arrived at FedEx location | MEMPHIS, TN |
| 4/12/2018 - Thursday | | |
| 4:51 pm | Left FedEx origin facility | PASCO, WA |
| 3 36 pm | Shipment information sent to FedEx | |
| 2 57 pm | Picked up | PASCO, WA |

## Shipment Facts

| | | | |
|---|---|---|---|
| Tracking Number | 771986736701 | Service | FedEx Priority Overnight |
| Master tracking number | 771986737009 | Weight | 79 lbs / 35 83 kgs |
| Signature services | Direct signature required | Delivered To | Shipping/Receiving |
| Total pieces | 2 | Total shipment weight | 79 lbs / 35.83 kgs |
| Terms | Third Party | Shipper reference | 9301 |
| Packaging | Your Packaging | Special handling section | Deliver Weekday, Direct Signature Required |
| Standard transit | 4/13/2018 by 10:30 am | | |

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## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| U | Analyzed for but not detected. |
| o | LCS, LCSD: Recovery exceeds upper or lower control limits. |
| T | MS, MSD: Recovery exceeds upper or lower control limits. |
| 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 |
|---|---|
| T | MS, MSD: Recovery exceeds upper or lower control limits. |
| U | Analyzed for but not detected. |
| o | LCS, LCSD: Recovery exceeds upper or lower control limits. |

### GC/MS Semi VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| J | Indicates an Estimated Value for TICs |
| N | Presumptive evidence of material. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC Semi VOA

| Qualifier | Qualifier Description |
|---|---|
| U | Analyzed for but not detected. |
| o | LCS, LCSD: Recovery exceeds upper or lower control limits. |
| N | MS, MSD: Spike recovery  is outside acceptance limits. |

### Metals

| Qualifier | Qualifier Description |
|---|---|
| U | Analyzed for but not detected. |
| B | Estimated result. Result is less than the RL, but greater than MDL |
| C | The analyte was detected in both the sample and the associated QC blank, and the sample concentration was <= 5% the blank concentration. |
| X | See case narrative notes for explanation of the 'X' flag |

### General Chemistry

| Qualifier | Qualifier Description |
|---|---|
| U | Analyzed for but not detected. |
| B | Estimated result. Result is less than the RL, but greater than MDL |
| C | The analyte was detected in both the sample and the associated QC blank, and the sample concentration was <= 5% the blank concentration. |

## 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) |

## Glossary (Continued)

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

# Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-004 / S18-004 / X18-005

TestAmerica Job ID: 280-108541-1
SDG: DN0357

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL DEN |
| 8270D | Semivolatile Organic Compounds (GC/MS) | SW846 | TAL DEN |
| 8081B | Organochlorine Pesticides (GC) | SW846 | TAL DEN |
| 6010D | Metals (ICP) | SW846 | TAL DEN |
| 6020B | Metals (ICP/MS) | SW846 | TAL DEN |
| 7470A | Mercury (CVAA) | SW846 | TAL DEN |
| 9020B | Organic Halides, Total (TOX) | SW846 | TAL DEN |
| 9060A | Organic Carbon, Total (TOC) | SW846 | TAL DEN |
| SM 2320B | Alkalinity | SM | TAL DEN |
| 3010A | Preparation, Total Metals | SW846 | TAL DEN |
| 3020A | Preparation, Total Metals | SW846 | TAL DEN |
| 3510C | Liquid-Liquid Extraction (Separatory Funnel) | SW846 | TAL DEN |
| 3520C | Liquid-Liquid Extraction (Continuous) | SW846 | TAL DEN |
| 5030B | Purge and Trap | SW846 | TAL DEN |
| 7470A | Preparation, Mercury | SW846 | 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: W18-004 / S18-004 / X18-005

TestAmerica Job ID: 280-108541-1
SDG: DN0357

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 280-108541-1 | B3HWL7 | Water | 04/12/18 10:40 | 04/13/18 09:15 |
| 280-108541-2 | B3HR42 | Water | 04/12/18 10:40 | 04/13/18 09:15 |
| 280-108541-3 | B3HR43 | Water | 04/12/18 10:40 | 04/13/18 09:15 |
| 280-108541-4 | B3HRK4 | Water | 04/12/18 10:40 | 04/13/18 09:15 |
| 280-108541-5 | B3HWL6 | Water | 04/12/18 10:40 | 04/13/18 09:15 |
| 280-108541-6 | B3HR41 | Water | 04/12/18 10:40 | 04/13/18 09:15 |
| 280-108541-7 | B3HR40 | Water | 04/12/18 09:05 | 04/13/18 09:15 |
| 280-108541-8 | B3HWL5 | Water | 04/12/18 09:05 | 04/13/18 09:15 |
| 280-108541-9 | B3HR38 | Water | 04/12/18 09:05 | 04/13/18 09:15 |
| 280-108541-10 | B3HRJ9 | Water | 04/12/18 09:05 | 04/13/18 09:15 |
| 280-108541-11 | B3HR39 | Water | 04/12/18 09:05 | 04/13/18 09:15 |
| 280-108541-12 | B3HWC5 | Water | 04/12/18 08:42 | 04/13/18 09:15 |
| 280-108541-13 | B3HWN2 | Water | 04/11/18 07:00 | 04/13/18 09:15 |
| 280-108541-14 | B3HWN1 | Water | 04/11/18 09:35 | 04/13/18 09:15 |
| 280-108541-15 | B3HT18 | Water | 04/11/18 12:12 | 04/13/18 09:15 |
| 280-108541-16 | B3HT20 | Water | 04/11/18 12:12 | 04/13/18 09:15 |
| 280-108541-17 | B3HV90 | Water | 04/12/18 10:59 | 04/13/18 09:15 |
| 280-108541-18 | B3H056 | Water | 04/12/18 10:59 | 04/13/18 09:15 |

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

**Client Sample ID: B3HV90** — **Lab Sample ID: 280-108541-17**
**Date Collected: 04/12/18 10:59** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 19:26 | 1 |
| 1,1,2-Trichloroethane | 0.27 | U | 1.0 | 0.27 | ug/L | | | 04/25/18 19:26 | 1 |
| 1,1-Dichloroethane | 0.22 | U | 1.0 | 0.22 | ug/L | | | 04/25/18 19:26 | 1 |
| 1,1-Dichloroethene | 0.23 | U | 1.0 | 0.23 | ug/L | | | 04/25/18 19:26 | 1 |
| 1,2-Dichloroethane | 0.13 | U | 1.0 | 0.13 | ug/L | | | 04/25/18 19:26 | 1 |
| 1,4-Dichlorobenzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 19:26 | 1 |
| 1-Butanol | 17 | U | 60 | 17 | ug/L | | | 04/25/18 19:26 | 1 |
| 2-Butanone (MEK) | 2.0 | U | 6.0 | 2.0 | ug/L | | | 04/25/18 19:26 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 0.98 | U | 5.0 | 0.98 | ug/L | | | 04/25/18 19:26 | 1 |
| Acetone | 1.9 | U | 10 | 1.9 | ug/L | | | 04/25/18 19:26 | 1 |
| Benzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 19:26 | 1 |
| Carbon disulfide | 0.45 | U | 2.0 | 0.45 | ug/L | | | 04/25/18 19:26 | 1 |
| Carbon tetrachloride | 0.19 | U T o | 1.0 | 0.19 | ug/L | | | 04/25/18 19:26 | 1 |
| Chlorobenzene | 0.17 | U | 1.0 | 0.17 | ug/L | | | 04/25/18 19:26 | 1 |
| Chloroform | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 19:26 | 1 |
| cis-1,2-Dichloroethene | 0.15 | U | 1.0 | 0.15 | ug/L | | | 04/25/18 19:26 | 1 |
| Ethyl Cyanide | 3.7 | U | 20 | 3.7 | ug/L | | | 04/25/18 19:26 | 1 |
| Ethylbenzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 19:26 | 1 |
| Methylene Chloride | 0.32 | U | 2.0 | 0.32 | ug/L | | | 04/25/18 19:26 | 1 |
| Tetrachloroethene | 0.20 | U | 1.0 | 0.20 | ug/L | | | 04/25/18 19:26 | 1 |
| Tetrahydrofuran | 2.0 | U | 7.0 | 2.0 | ug/L | | | 04/25/18 19:26 | 1 |
| Toluene | 0.17 | U | 1.0 | 0.17 | ug/L | | | 04/25/18 19:26 | 1 |
| trans-1,2-Dichloroethene | 0.15 | U | 1.0 | 0.15 | ug/L | | | 04/25/18 19:26 | 1 |
| Trichloroethene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 19:26 | 1 |
| Vinyl chloride | 0.10 | U | 1.0 | 0.10 | ug/L | | | 04/25/18 19:26 | 1 |
| Xylenes, Total | 0.19 | U | 2.0 | 0.19 | ug/L | | | 04/25/18 19:26 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *04/25/18 19:26* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* | | *04/25/18 19:26* | *1* |
| *4-Bromofluorobenzene (Surr)* | *92* | | *70 - 130* | | *04/25/18 19:26* | *1* |
| *Dibromofluoromethane (Surr)* | *106* | | *70 - 130* | | *04/25/18 19:26* | *1* |
| *Toluene-d8 (Surr)* | *101* | | *70 - 130* | | *04/25/18 19:26* | *1* |

**Client Sample ID: B3H056** — **Lab Sample ID: 280-108541-18**
**Date Collected: 04/12/18 10:59** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 20:30 | 1 |
| 1,1,2-Trichloroethane | 0.27 | U | 1.0 | 0.27 | ug/L | | | 04/25/18 20:30 | 1 |
| 1,1-Dichloroethane | 0.22 | U | 1.0 | 0.22 | ug/L | | | 04/25/18 20:30 | 1 |
| 1,1-Dichloroethene | 0.23 | U | 1.0 | 0.23 | ug/L | | | 04/25/18 20:30 | 1 |
| 1,2-Dichloroethane | 0.13 | U | 1.0 | 0.13 | ug/L | | | 04/25/18 20:30 | 1 |
| 2-Butanone (MEK) | 2.0 | U | 6.0 | 2.0 | ug/L | | | 04/25/18 20:30 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 0.98 | U | 5.0 | 0.98 | ug/L | | | 04/25/18 20:30 | 1 |
| Acetone | 1.9 | U | 10 | 1.9 | ug/L | | | 04/25/18 20:30 | 1 |
| Benzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 20:30 | 1 |
| Carbon disulfide | 0.45 | U | 2.0 | 0.45 | ug/L | | | 04/25/18 20:30 | 1 |

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

**Client Sample ID: B3H056** — **Lab Sample ID: 280-108541-18**
**Date Collected: 04/12/18 10:59** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.19 | U o T | 1.0 | 0.19 | ug/L | | | 04/25/18 20:30 | 1 |
| Chlorobenzene | 0.17 | U | 1.0 | 0.17 | ug/L | | | 04/25/18 20:30 | 1 |
| Chloroform | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 20:30 | 1 |
| Ethylbenzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 20:30 | 1 |
| **Methylene Chloride** | **1.4** | **J** | 2.0 | 0.32 | ug/L | | | 04/25/18 20:30 | 1 |
| Tetrachloroethene | 0.20 | U | 1.0 | 0.20 | ug/L | | | 04/25/18 20:30 | 1 |
| Toluene | 0.17 | U | 1.0 | 0.17 | ug/L | | | 04/25/18 20:30 | 1 |
| Trichloroethene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 20:30 | 1 |
| Vinyl chloride | 0.10 | U | 1.0 | 0.10 | ug/L | | | 04/25/18 20:30 | 1 |
| Xylenes, Total | 0.19 | U | 2.0 | 0.19 | ug/L | | | 04/25/18 20:30 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *04/25/18 20:30* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *114* | | *70 - 130* | | *04/25/18 20:30* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *70 - 130* | | *04/25/18 20:30* | *1* |
| *Dibromofluoromethane (Surr)* | *111* | | *70 - 130* | | *04/25/18 20:30* | *1* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* | | *04/25/18 20:30* | *1* |

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

**Client Sample ID: B3HWL7** — **Lab Sample ID: 280-108541-1**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 2,3,4,6-Tetrachlorophenol | 1.9 | U T | 48 | 1.9 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2,4,5-Trichlorophenol | 0.43 | U T | 9.6 | 0.43 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2,4,6-Trichlorophenol | 0.28 | U T | 9.6 | 0.28 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2,4-Dichlorophenol | 0.61 | U | 9.6 | 0.61 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2,4-Dimethylphenol | 0.56 | U | 9.6 | 0.56 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2,4-Dinitrophenol | 9.6 | U T | 29 | 9.6 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2,6-Dichlorophenol | 1.3 | U | 9.6 | 1.3 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2-Chlorophenol | 1.9 | U | 9.6 | 1.9 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2-Methylphenol | 0.94 | U | 9.6 | 0.94 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2-Nitrophenol | 0.37 | U | 9.6 | 0.37 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 3 & 4 Methylphenol | 0.24 | U | 9.6 | 0.24 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 4,6-Dinitro-2-methylphenol | 3.8 | U | 48 | 3.8 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 4-Chloro-3-methylphenol | 2.3 | U | 9.6 | 2.3 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 4-Nitrophenol | 1.2 | U T o | 9.6 | 1.2 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| Dinoseb | 3.8 | U | 19 | 3.8 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| Pentachlorophenol | 19 | U | 48 | 19 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| Phenol | 1.9 | U | 9.6 | 1.9 | ug/L | | 04/18/18 14:22 | 05/12/18 19:53 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Butane, 2-methoxy-2-methyl-* | *31* | *N J* | *ug/L* | | *1.65* | *994-05-8* | *04/18/18 14:22* | *05/12/18 19:53* | *1* |
| *Unknown* | *18* | *N* | *ug/L* | | *2.50* | | *04/18/18 14:22* | *05/12/18 19:53* | *1* |
| *Unknown* | *8.3* | *N* | *ug/L* | | *2.79* | | *04/18/18 14:22* | *05/12/18 19:53* | *1* |
| *Unknown* | *150* | *N* | *ug/L* | | *3.01* | | *04/18/18 14:22* | *05/12/18 19:53* | *1* |
| *Unknown* | *5.9* | *N* | *ug/L* | | *3.92* | | *04/18/18 14:22* | *05/12/18 19:53* | *1* |

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

**Client Sample ID: B3HWL7** — **Lab Sample ID: 280-108541-1**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1-Propene, 1,1,2-trichloro- | 28 | N J | ug/L | | 3.97 | 21400-25-9 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 2,4,6-Tribromophenol (Surr) | 93 | | 42 - 131 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2-Fluorobiphenyl (Surr) | 91 | | 48 - 120 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| 2-Fluorophenol (Surr) | 85 | | 41 - 120 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| Nitrobenzene-d5 (Surr) | 87 | | 42 - 120 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| Phenol-d5 (Surr) | 88 | | 45 - 124 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |
| Terphenyl-d14 (Surr) | 94 | | 20 - 130 | 04/18/18 14:22 | 05/12/18 19:53 | 1 |

**Client Sample ID: B3HWL5** — **Lab Sample ID: 280-108541-8**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 2,3,4,6-Tetrachlorophenol | 1.9 | U T | 49 | 1.9 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2,4,5-Trichlorophenol | 0.44 | U T | 9.7 | 0.44 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2,4,6-Trichlorophenol | 0.28 | U T | 9.7 | 0.28 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2,4-Dichlorophenol | 0.62 | U | 9.7 | 0.62 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2,4-Dimethylphenol | 0.56 | U | 9.7 | 0.56 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2,4-Dinitrophenol | 9.7 | U T | 29 | 9.7 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2,6-Dichlorophenol | 1.3 | U | 9.7 | 1.3 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2-Chlorophenol | 1.9 | U | 9.7 | 1.9 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2-Methylphenol | 0.95 | U | 9.7 | 0.95 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2-Nitrophenol | 0.38 | U | 9.7 | 0.38 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 3 & 4 Methylphenol | 0.24 | U | 9.7 | 0.24 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 4,6-Dinitro-2-methylphenol | 3.9 | U | 49 | 3.9 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 4-Chloro-3-methylphenol | 2.3 | U | 9.7 | 2.3 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 4-Nitrophenol | 1.2 | U T o | 9.7 | 1.2 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Dinoseb | 3.9 | U | 19 | 3.9 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Pentachlorophenol | 19 | U | 49 | 19 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Phenol | 1.9 | U | 9.7 | 1.9 | ug/L | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Butane, 2-methoxy-2-methyl- | 33 | N J | ug/L | | 1.65 | 994-05-8 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Unknown | 9.5 | N | ug/L | | 2.50 | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Unknown | 4.4 | N | ug/L | | 2.79 | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Unknown | 99 | N | ug/L | | 3.01 | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Unknown | 5.9 | N | ug/L | | 3.91 | | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 1-Propene, 1,2,3-trichloro-, (Z)- | 23 | N J | ug/L | | 3.97 | 13116-57-9 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Bis(2-ethylhexyl) phthalate | 3.5 | J | ug/L | | 13.04 | 117-81-7 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 2,4,6-Tribromophenol (Surr) | 98 | | 42 - 131 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2-Fluorobiphenyl (Surr) | 93 | | 48 - 120 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| 2-Fluorophenol (Surr) | 85 | | 41 - 120 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Nitrobenzene-d5 (Surr) | 88 | | 42 - 120 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Phenol-d5 (Surr) | 89 | | 45 - 124 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |
| Terphenyl-d14 (Surr) | 100 | | 20 - 130 | 04/18/18 14:22 | 05/12/18 21:14 | 1 |

## Method: 8081B - Organochlorine Pesticides (GC)

**Client Sample ID: B3HWL7** — **Lab Sample ID: 280-108541-1**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.0074 | U | 0.048 | 0.0074 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| 4,4'-DDE | 0.0072 | U | 0.048 | 0.0072 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| 4,4'-DDT | 0.014 | U | 0.048 | 0.014 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Aldrin | 0.0057 | U o | 0.048 | 0.0057 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| alpha-BHC | 0.0051 | U | 0.048 | 0.0051 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| beta-BHC | 0.0083 | U | 0.048 | 0.0083 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| delta-BHC | 0.0056 | U | 0.048 | 0.0056 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Dieldrin | 0.0060 | U | 0.048 | 0.0060 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Endosulfan I | 0.0056 | U | 0.048 | 0.0056 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Endosulfan II | 0.0067 | U N | 0.048 | 0.0067 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Endosulfan sulfate | 0.0055 | U N | 0.048 | 0.0055 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Endrin | 0.0076 | U | 0.048 | 0.0076 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Endrin aldehyde | 0.0084 | U | 0.048 | 0.0084 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| gamma-BHC (Lindane) | 0.0066 | U | 0.048 | 0.0066 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Heptachlor epoxide | 0.0072 | U | 0.048 | 0.0072 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Methoxychlor | 0.012 | U | 0.096 | 0.012 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |
| Toxaphene | 0.35 | U | 1.9 | 0.35 | ug/L | | 04/17/18 08:18 | 05/03/18 17:59 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Decachlorobiphenyl* | *93* | | *34 - 122* | *04/17/18 08:18* | *05/03/18 17:59* | *1* |
| *Tetrachloro-m-xylene* | *75* | | *28 - 115* | *04/17/18 08:18* | *05/03/18 17:59* | *1* |

## Method: 6010D - Metals (ICP)

**Client Sample ID: B3HRK4** — **Lab Sample ID: 280-108541-4**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Boron | 10.6 | B | 100 | 4.4 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |
| Calcium | 30300 | | 200 | 34.5 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |
| Iron | 71.5 | B | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |
| Magnesium | 11800 | | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |
| Potassium | 5280 | | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |
| Sodium | 22100 | | 1000 | 117 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |
| Vanadium | 27.1 | | 10.0 | 1.1 | ug/L | | 04/27/18 15:56 | 04/30/18 19:39 | 1 |

**Client Sample ID: B3HWL6** — **Lab Sample ID: 280-108541-5**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Boron | 10.8 | B | 100 | 4.4 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |
| Calcium | 30000 | | 200 | 34.5 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |
| Iron | 262 | | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |
| Magnesium | 11700 | | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |
| Potassium | 5230 | | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |
| Sodium | 21900 | | 1000 | 117 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |
| Vanadium | 27.5 | | 10.0 | 1.1 | ug/L | | 04/27/18 15:56 | 04/30/18 19:55 | 1 |

## Method: 6010D - Metals (ICP)

**Client Sample ID: B3HWL5** — **Lab Sample ID: 280-108541-8**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Boron | 12.2 | B | 100 | 4.4 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |
| Calcium | 21800 | | 200 | 34.5 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |
| Iron | 43.7 | B | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |
| Magnesium | 9050 | | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |
| Potassium | 4320 | | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |
| Sodium | 20000 | | 1000 | 117 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |
| Vanadium | 27.0 | | 10.0 | 1.1 | ug/L | | 04/27/18 15:56 | 04/30/18 20:06 | 1 |

**Client Sample ID: B3HRJ9** — **Lab Sample ID: 280-108541-10**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Boron | 12.0 | B | 100 | 4.4 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |
| Calcium | 22500 | | 200 | 34.5 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |
| Iron | 22.4 | B | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |
| Magnesium | 9360 | | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |
| Potassium | 4480 | | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |
| Sodium | 20700 | | 1000 | 117 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |
| Vanadium | 28.3 | | 10.0 | 1.1 | ug/L | | 04/27/18 15:56 | 04/30/18 20:09 | 1 |

**Client Sample ID: B3HT18** — **Lab Sample ID: 280-108541-15**
**Date Collected: 04/11/18 12:12** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Iron | 283 | | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 20:12 | 1 |
| Magnesium | 10900 | | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 20:12 | 1 |
| Potassium | 7610 | | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 20:12 | 1 |
| Sodium | 27600 | | 1000 | 117 | ug/L | | 04/27/18 15:56 | 05/04/18 16:16 | 1 |

**Client Sample ID: B3HT20** — **Lab Sample ID: 280-108541-16**
**Date Collected: 04/11/18 12:12** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Iron | 24.9 | B | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 20:16 | 1 |
| Magnesium | 11200 | | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 20:16 | 1 |
| Potassium | 7890 | | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 20:16 | 1 |
| Sodium | 30200 | | 1000 | 117 | ug/L | | 04/27/18 15:56 | 04/30/18 20:16 | 1 |

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

**Client Sample ID: B3HRK4** — **Lab Sample ID: 280-108541-4**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9.2 | U | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Antimony | 0.77 | B | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Arsenic | 5.5 | | 5.0 | 0.33 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Barium | 40.2 | | 1.0 | 0.29 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Beryllium | 0.080 | U | 1.0 | 0.080 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Cadmium | 0.27 | U | 1.0 | 0.27 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |

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

**Client Sample ID: B3HRK4** — **Lab Sample ID: 280-108541-4**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chromium | 0.58 | B | 2.0 | 0.50 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Copper | 0.56 | U | 2.0 | 0.56 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Lead | 0.18 | U | 1.0 | 0.18 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Manganese | 2.5 | | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Molybdenum | 4.1 | | 2.0 | 0.14 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Nickel | 0.30 | U | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Selenium | 3.9 | B | 5.0 | 0.70 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Silver | 0.033 | U | 5.0 | 0.033 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Strontium | 249 | | 10.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Thorium | 1.2 | U | 5.0 | 1.2 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Tin | 0.77 | U | 10.0 | 0.77 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Uranium | 2.7 | | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |
| Zinc | 2.0 | U | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 15:45 | 1 |

**Client Sample ID: B3HWL6** — **Lab Sample ID: 280-108541-5**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12.0 | B | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Antimony | 0.40 | U | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Arsenic | 5.3 | | 5.0 | 0.33 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Barium | 38.9 | | 1.0 | 0.29 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Beryllium | 0.080 | U | 1.0 | 0.080 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Cadmium | 0.27 | U | 1.0 | 0.27 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Chromium | 0.62 | B | 2.0 | 0.50 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Copper | 0.56 | U | 2.0 | 0.56 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Lead | 0.18 | U | 1.0 | 0.18 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Manganese | 3.7 | | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Molybdenum | 4.1 | | 2.0 | 0.14 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Nickel | 0.30 | U | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Selenium | 3.8 | B | 5.0 | 0.70 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Silver | 0.033 | U | 5.0 | 0.033 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Strontium | 239 | | 10.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Thorium | 1.2 | U | 5.0 | 1.2 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Tin | 0.77 | U | 10.0 | 0.77 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Uranium | 2.7 | | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |
| Zinc | 2.0 | U | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 15:48 | 1 |

**Client Sample ID: B3HWL5** — **Lab Sample ID: 280-108541-8**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 24.4 | B | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Antimony | 0.45 | B | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Arsenic | 5.4 | | 5.0 | 0.33 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Barium | 54.1 | | 1.0 | 0.29 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |

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

**Client Sample ID: B3HWL5** — **Lab Sample ID: 280-108541-8**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Beryllium | 0.080 | U | 1.0 | 0.080 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Cadmium | 0.27 | U | 1.0 | 0.27 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| **Chromium** | **0.71** | **B** | 2.0 | 0.50 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Copper | 0.56 | U | 2.0 | 0.56 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Lead | 0.18 | U | 1.0 | 0.18 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| **Manganese** | **33.6** | | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| **Molybdenum** | **6.4** | | 2.0 | 0.14 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Nickel | 0.30 | U | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| **Selenium** | **0.82** | **B** | 5.0 | 0.70 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Silver | 0.033 | U | 5.0 | 0.033 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| **Strontium** | **182** | | 10.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Thorium | 1.2 | U | 5.0 | 1.2 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Tin | 0.77 | U | 10.0 | 0.77 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| **Uranium** | **3.3** | | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |
| Zinc | 2.0 | U | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 16:12 | 1 |

**Client Sample ID: B3HRJ9** — **Lab Sample ID: 280-108541-10**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9.2 | U | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Antimony | 0.40 | U | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Arsenic** | **5.5** | | 5.0 | 0.33 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Barium** | **54.1** | | 1.0 | 0.29 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Beryllium | 0.080 | U | 1.0 | 0.080 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Cadmium | 0.27 | U | 1.0 | 0.27 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Chromium** | **0.57** | **B** | 2.0 | 0.50 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Copper | 0.56 | U | 2.0 | 0.56 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Lead | 0.18 | U | 1.0 | 0.18 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Manganese** | **31.0** | | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Molybdenum** | **6.6** | | 2.0 | 0.14 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Nickel | 0.30 | U | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Selenium | 0.70 | U | 5.0 | 0.70 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Silver | 0.033 | U | 5.0 | 0.033 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Strontium** | **178** | | 10.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Thorium | 1.2 | U | 5.0 | 1.2 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Tin | 0.77 | U | 10.0 | 0.77 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| **Uranium** | **3.4** | | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |
| Zinc | 2.0 | U | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 16:16 | 1 |

**Client Sample ID: B3HT18** — **Lab Sample ID: 280-108541-15**
**Date Collected: 04/11/18 12:12** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Aluminum** | **11.0** | **B** | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |
| Antimony | 0.40 | U | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |

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

**Client Sample ID: B3HT18** — **Lab Sample ID: 280-108541-15**
**Date Collected: 04/11/18 12:12** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |
| **Manganese** | **4.6** | | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |
| **Nickel** | **0.92** | **B** | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |
| **Uranium** | **2.5** | | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |
| **Zinc** | **3.4** | **B C** | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 16:19 | 1 |

**Client Sample ID: B3HT20** — **Lab Sample ID: 280-108541-16**
**Date Collected: 04/11/18 12:12** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9.2 | U | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |
| Antimony | 0.40 | U | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |
| **Manganese** | **0.61** | **B** | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |
| **Nickel** | **0.83** | **B** | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |
| **Zinc** | **2.7** | **B C** | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 16:23 | 1 |

## Method: 7470A - Mercury (CVAA)

**Client Sample ID: B3HRK4** — **Lab Sample ID: 280-108541-4**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 0.20 | 0.027 | ug/L | | 05/02/18 12:21 | 05/02/18 19:42 | 1 |

**Client Sample ID: B3HWL6** — **Lab Sample ID: 280-108541-5**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 0.20 | 0.027 | ug/L | | 05/02/18 12:21 | 05/02/18 19:45 | 1 |

**Client Sample ID: B3HWL5** — **Lab Sample ID: 280-108541-8**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 0.20 | 0.027 | ug/L | | 05/02/18 12:21 | 05/02/18 19:56 | 1 |

**Client Sample ID: B3HRJ9** — **Lab Sample ID: 280-108541-10**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 0.20 | 0.027 | ug/L | | 05/02/18 12:21 | 05/02/18 19:58 | 1 |

## General Chemistry

**Client Sample ID: B3HWL7** — **Lab Sample ID: 280-108541-1**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 91700 | | 5000 | 1070 | ug/L | | | 04/21/18 12:21 | 1 |
| Bicarbonate Alkalinity as CaCO3 | 91700 | | 5000 | 1070 | ug/L | | | 04/21/18 12:21 | 1 |
| Carbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/21/18 12:21 | 1 |
| Hydroxide Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/21/18 12:21 | 1 |

**Client Sample ID: B3HR42** — **Lab Sample ID: 280-108541-2**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |
| Total Organic Carbon - Average | 518 | B C | 1000 | 155 | ug/L | | | 05/08/18 05:46 | 1 |

**Client Sample ID: B3HR43** — **Lab Sample ID: 280-108541-3**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |
| Total Organic Carbon - Average | 632 | B C | 1000 | 155 | ug/L | | | 05/08/18 08:41 | 1 |

**Client Sample ID: B3HWL6** — **Lab Sample ID: 280-108541-5**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |
| Total Organic Carbon - Average | 599 | B C | 1000 | 155 | ug/L | | | 05/08/18 06:53 | 1 |

**Client Sample ID: B3HR41** — **Lab Sample ID: 280-108541-6**
**Date Collected: 04/12/18 10:40** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |
| Total Organic Carbon - Average | 596 | B C | 1000 | 155 | ug/L | | | 05/08/18 08:20 | 1 |

**Client Sample ID: B3HR40** — **Lab Sample ID: 280-108541-7**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |
| Total Organic Carbon - Average | 628 | B C | 1000 | 155 | ug/L | | | 05/08/18 05:29 | 1 |

**Client Sample ID: B3HWL5** — **Lab Sample ID: 280-108541-8**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 8.1 | B | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |
| Total Organic Carbon - Average | 617 | B C | 1000 | 155 | ug/L | | | 05/08/18 06:03 | 1 |

## General Chemistry

**Client Sample ID: B3HR38** — **Lab Sample ID: 280-108541-9**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/04/18 06:57 | 1 |
| **Total Organic Carbon - Average** | **648** | **B C** | 1000 | 155 | ug/L | | | 05/08/18 07:47 | 1 |

**Client Sample ID: B3HR39** — **Lab Sample ID: 280-108541-11**
**Date Collected: 04/12/18 09:05** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/04/18 06:57 | 1 |
| **Total Organic Carbon - Average** | **620** | **B C** | 1000 | 155 | ug/L | | | 05/08/18 08:06 | 1 |

**Client Sample ID: B3HWC5** — **Lab Sample ID: 280-108541-12**
**Date Collected: 04/12/18 08:42** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Alkalinity as CaCO3** | **84500** | | 5000 | 1070 | ug/L | | | 04/21/18 12:34 | 1 |

**Client Sample ID: B3HWN2** — **Lab Sample ID: 280-108541-13**
**Date Collected: 04/11/18 07:00** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 18:19 | 1 |
| Bicarbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 18:19 | 1 |
| Carbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 18:19 | 1 |
| Hydroxide Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 18:19 | 1 |

**Client Sample ID: B3HWN1** — **Lab Sample ID: 280-108541-14**
**Date Collected: 04/11/18 09:35** — **Matrix: Water**
**Date Received: 04/13/18 09:15**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Alkalinity as CaCO3** | **127000** | | 5000 | 1070 | ug/L | | | 04/18/18 18:25 | 1 |
| **Bicarbonate Alkalinity as CaCO3** | **127000** | | 5000 | 1070 | ug/L | | | 04/18/18 18:25 | 1 |
| Carbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 18:25 | 1 |
| Hydroxide Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 18:25 | 1 |

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

**Lab Sample ID: MB 280-412749/6**
**Matrix: Water**
**Analysis Batch: 412749**

**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 | | | 04/25/18 18:47 | 1 |
| 1,1,2-Trichloroethane | 0.27 | U | 1.0 | 0.27 | ug/L | | | 04/25/18 18:47 | 1 |
| 1,1-Dichloroethane | 0.22 | U | 1.0 | 0.22 | ug/L | | | 04/25/18 18:47 | 1 |
| 1,1-Dichloroethene | 0.23 | U | 1.0 | 0.23 | ug/L | | | 04/25/18 18:47 | 1 |
| 1,2-Dichloroethane | 0.13 | U | 1.0 | 0.13 | ug/L | | | 04/25/18 18:47 | 1 |
| 1,4-Dichlorobenzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 18:47 | 1 |
| 1-Butanol | 17 | U | 60 | 17 | ug/L | | | 04/25/18 18:47 | 1 |
| 2-Butanone (MEK) | 2.0 | U | 6.0 | 2.0 | ug/L | | | 04/25/18 18:47 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 0.98 | U | 5.0 | 0.98 | ug/L | | | 04/25/18 18:47 | 1 |
| Acetone | 1.9 | U | 10 | 1.9 | ug/L | | | 04/25/18 18:47 | 1 |
| Benzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 18:47 | 1 |
| Carbon disulfide | 0.45 | U | 2.0 | 0.45 | ug/L | | | 04/25/18 18:47 | 1 |
| Carbon tetrachloride | 0.19 | U | 1.0 | 0.19 | ug/L | | | 04/25/18 18:47 | 1 |
| Chlorobenzene | 0.17 | U | 1.0 | 0.17 | ug/L | | | 04/25/18 18:47 | 1 |
| Chloroform | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 18:47 | 1 |
| cis-1,2-Dichloroethene | 0.15 | U | 1.0 | 0.15 | ug/L | | | 04/25/18 18:47 | 1 |
| Ethyl Cyanide | 3.7 | U | 20 | 3.7 | ug/L | | | 04/25/18 18:47 | 1 |
| Ethylbenzene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 18:47 | 1 |
| Methylene Chloride | 0.32 | U | 2.0 | 0.32 | ug/L | | | 04/25/18 18:47 | 1 |
| Tetrachloroethene | 0.20 | U | 1.0 | 0.20 | ug/L | | | 04/25/18 18:47 | 1 |
| Tetrahydrofuran | 2.0 | U | 7.0 | 2.0 | ug/L | | | 04/25/18 18:47 | 1 |
| Toluene | 0.17 | U | 1.0 | 0.17 | ug/L | | | 04/25/18 18:47 | 1 |
| trans-1,2-Dichloroethene | 0.15 | U | 1.0 | 0.15 | ug/L | | | 04/25/18 18:47 | 1 |
| Trichloroethene | 0.16 | U | 1.0 | 0.16 | ug/L | | | 04/25/18 18:47 | 1 |
| Vinyl chloride | 0.10 | U | 1.0 | 0.10 | ug/L | | | 04/25/18 18:47 | 1 |
| Xylenes, Total | 0.19 | U | 2.0 | 0.19 | ug/L | | | 04/25/18 18:47 | 1 |

| *Tentatively Identified Compound* | *MB Est. Result* | *MB Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Cyclotetrasiloxane, octamethyl-* | *28.9* | *N J* | *ug/L* | | *10.21* | *556-67-2* | | *04/25/18 18:47* | *1* |
| *Unknown* | *8.23* | *N* | *ug/L* | | *11.67* | | | *04/25/18 18:47* | *1* |
| *Unknown* | *1.45* | *N* | *ug/L* | | *13.54* | | | *04/25/18 18:47* | *1* |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *116* | | *70 - 130* | | *04/25/18 18:47* | *1* |
| *4-Bromofluorobenzene (Surr)* | *105* | | *70 - 130* | | *04/25/18 18:47* | *1* |
| *Dibromofluoromethane (Surr)* | *108* | | *70 - 130* | | *04/25/18 18:47* | *1* |
| *Toluene-d8 (Surr)* | *100* | | *70 - 130* | | *04/25/18 18:47* | *1* |

**Lab Sample ID: LCS 280-412749/4**
**Matrix: Water**
**Analysis Batch: 412749**

**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 | 6.23 | | ug/L | | 125 | 70 - 130 |
| 1,1,2-Trichloroethane | 5.00 | 6.01 | | ug/L | | 120 | 70 - 130 |
| 1,1-Dichloroethane | 5.00 | 5.63 | | ug/L | | 113 | 70 - 130 |
| 1,1-Dichloroethene | 5.00 | 5.97 | | ug/L | | 119 | 70 - 130 |

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

**Lab Sample ID: LCS 280-412749/4**
**Matrix: Water**
**Analysis Batch: 412749**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 5.00 | 6.07 | | ug/L | | 121 | 70 - 130 |
| 1,4-Dichlorobenzene | 5.00 | 5.17 | | ug/L | | 103 | 70 - 130 |
| 2-Butanone (MEK) | 20.0 | 20.0 | | ug/L | | 100 | 70 - 130 |
| 4-Methyl-2-pentanone (MIBK) | 20.0 | 19.2 | | ug/L | | 96 | 70 - 130 |
| Acetone | 20.0 | 23.4 | | ug/L | | 117 | 70 - 130 |
| Benzene | 5.00 | 5.76 | | ug/L | | 115 | 70 - 130 |
| Carbon disulfide | 5.00 | 6.09 | | ug/L | | 122 | 70 - 130 |
| Carbon tetrachloride | 5.00 | 6.55 | o | ug/L | | 131 | 70 - 130 |
| Chlorobenzene | 5.00 | 5.25 | | ug/L | | 105 | 70 - 130 |
| Chloroform | 5.00 | 5.93 | | ug/L | | 119 | 70 - 130 |
| cis-1,2-Dichloroethene | 5.00 | 5.83 | | ug/L | | 117 | 70 - 130 |
| Ethylbenzene | 5.00 | 5.26 | | ug/L | | 105 | 70 - 130 |
| Methylene Chloride | 5.00 | 5.73 | | ug/L | | 115 | 70 - 130 |
| Tetrachloroethene | 5.00 | 5.74 | | ug/L | | 115 | 70 - 130 |
| Tetrahydrofuran | 10.0 | 8.78 | | ug/L | | 88 | 70 - 130 |
| Toluene | 5.00 | 5.93 | | ug/L | | 119 | 70 - 130 |
| trans-1,2-Dichloroethene | 5.00 | 6.04 | | ug/L | | 121 | 70 - 130 |
| Trichloroethene | 5.00 | 5.70 | | ug/L | | 114 | 70 - 130 |
| Vinyl chloride | 5.00 | 5.01 | | ug/L | | 100 | 70 - 130 |
| Xylenes, Total | 10.0 | 10.4 | | ug/L | | 104 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *96* | | *70 - 130* |

**Lab Sample ID: 280-108541-17 MS**
**Matrix: Water**
**Analysis Batch: 412749**

**Client Sample ID: B3HV90**
**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 | 6.43 | | ug/L | | 129 | 70 - 130 |
| 1,1,2-Trichloroethane | 0.27 | U | 5.00 | 5.42 | | ug/L | | 108 | 70 - 130 |
| 1,1-Dichloroethane | 0.22 | U | 5.00 | 5.70 | | ug/L | | 114 | 70 - 130 |
| 1,1-Dichloroethene | 0.23 | U | 5.00 | 6.03 | | ug/L | | 121 | 70 - 130 |
| 1,2-Dichloroethane | 0.13 | U | 5.00 | 5.60 | | ug/L | | 112 | 70 - 130 |
| 1,4-Dichlorobenzene | 0.16 | U | 5.00 | 5.19 | | ug/L | | 104 | 70 - 130 |
| 2-Butanone (MEK) | 2.0 | U | 20.0 | 16.8 | | ug/L | | 84 | 70 - 130 |
| 4-Methyl-2-pentanone (MIBK) | 0.98 | U | 20.0 | 16.9 | | ug/L | | 85 | 70 - 130 |
| Acetone | 1.9 | U | 20.0 | 21.1 | | ug/L | | 106 | 70 - 130 |
| Benzene | 0.16 | U | 5.00 | 5.80 | | ug/L | | 116 | 70 - 130 |
| Carbon disulfide | 0.45 | U | 5.00 | 6.14 | | ug/L | | 123 | 70 - 130 |
| Carbon tetrachloride | 0.19 | U T o | 5.00 | 6.72 | T | ug/L | | 134 | 70 - 130 |
| Chlorobenzene | 0.17 | U | 5.00 | 5.27 | | ug/L | | 105 | 70 - 130 |
| Chloroform | 0.16 | U | 5.00 | 5.85 | | ug/L | | 117 | 70 - 130 |
| cis-1,2-Dichloroethene | 0.15 | U | 5.00 | 5.78 | | ug/L | | 116 | 70 - 130 |
| Ethylbenzene | 0.16 | U | 5.00 | 5.43 | | ug/L | | 109 | 70 - 130 |

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

**Lab Sample ID: 280-108541-17 MS** — **Client Sample ID: B3HV90**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 412749**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 0.32 | U | 5.00 | 5.35 | | ug/L | | 107 | 70 - 130 |
| Tetrachloroethene | 0.20 | U | 5.00 | 5.97 | | ug/L | | 119 | 70 - 130 |
| Tetrahydrofuran | 2.0 | U | 10.0 | 7.60 | | ug/L | | 76 | 70 - 130 |
| Toluene | 0.17 | U | 5.00 | 5.96 | | ug/L | | 119 | 70 - 130 |
| trans-1,2-Dichloroethene | 0.15 | U | 5.00 | 6.12 | | ug/L | | 122 | 70 - 130 |
| Trichloroethene | 0.16 | U | 5.00 | 5.71 | | ug/L | | 114 | 70 - 130 |
| Vinyl chloride | 0.10 | U | 5.00 | 5.23 | | ug/L | | 105 | 70 - 130 |
| Xylenes, Total | 0.19 | U | 10.0 | 10.7 | | ug/L | | 107 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *70 - 130* |
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* |
| *Dibromofluoromethane (Surr)* | *103* | | *70 - 130* |
| *Toluene-d8 (Surr)* | *102* | | *70 - 130* |

**Lab Sample ID: 280-108541-17 MSD** — **Client Sample ID: B3HV90**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 412749**

| 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 | 6.45 | | ug/L | | 129 | 70 - 130 | 0 | 20 |
| 1,1,2-Trichloroethane | 0.27 | U | 5.00 | 6.00 | | ug/L | | 120 | 70 - 130 | 10 | 20 |
| 1,1-Dichloroethane | 0.22 | U | 5.00 | 5.90 | | ug/L | | 118 | 70 - 130 | 3 | 20 |
| 1,1-Dichloroethene | 0.23 | U | 5.00 | 6.19 | | ug/L | | 124 | 70 - 130 | 3 | 20 |
| 1,2-Dichloroethane | 0.13 | U | 5.00 | 5.92 | | ug/L | | 118 | 70 - 130 | 6 | 20 |
| 1,4-Dichlorobenzene | 0.16 | U | 5.00 | 5.35 | | ug/L | | 107 | 70 - 130 | 3 | 20 |
| 2-Butanone (MEK) | 2.0 | U | 20.0 | 18.7 | | ug/L | | 94 | 70 - 130 | 11 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 0.98 | U | 20.0 | 17.9 | | ug/L | | 90 | 70 - 130 | 6 | 20 |
| Acetone | 1.9 | U | 20.0 | 21.4 | | ug/L | | 107 | 70 - 130 | 2 | 20 |
| Benzene | 0.16 | U | 5.00 | 5.95 | | ug/L | | 119 | 70 - 130 | 3 | 20 |
| Carbon disulfide | 0.45 | U | 5.00 | 6.24 | | ug/L | | 125 | 70 - 130 | 2 | 20 |
| Carbon tetrachloride | 0.19 | U T o | 5.00 | 6.73 | T | ug/L | | 135 | 70 - 130 | 0 | 20 |
| Chlorobenzene | 0.17 | U | 5.00 | 5.41 | | ug/L | | 108 | 70 - 130 | 3 | 20 |
| Chloroform | 0.16 | U | 5.00 | 6.12 | | ug/L | | 122 | 70 - 130 | 4 | 20 |
| cis-1,2-Dichloroethene | 0.15 | U | 5.00 | 6.09 | | ug/L | | 122 | 70 - 130 | 5 | 20 |
| Ethylbenzene | 0.16 | U | 5.00 | 5.47 | | ug/L | | 109 | 70 - 130 | 1 | 20 |
| Methylene Chloride | 0.32 | U | 5.00 | 5.59 | | ug/L | | 112 | 70 - 130 | 4 | 20 |
| Tetrachloroethene | 0.20 | U | 5.00 | 5.98 | | ug/L | | 120 | 70 - 130 | 0 | 20 |
| Tetrahydrofuran | 2.0 | U | 10.0 | 8.55 | | ug/L | | 85 | 70 - 130 | 12 | 20 |
| Toluene | 0.17 | U | 5.00 | 6.16 | | ug/L | | 123 | 70 - 130 | 3 | 20 |
| trans-1,2-Dichloroethene | 0.15 | U | 5.00 | 6.41 | | ug/L | | 128 | 70 - 130 | 5 | 20 |
| Trichloroethene | 0.16 | U | 5.00 | 5.86 | | ug/L | | 117 | 70 - 130 | 3 | 20 |
| Vinyl chloride | 0.10 | U | 5.00 | 5.04 | | ug/L | | 101 | 70 - 130 | 4 | 20 |
| Xylenes, Total | 0.19 | U | 10.0 | 10.8 | | ug/L | | 108 | 70 - 130 | 1 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *70 - 130* |

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

**Lab Sample ID: 280-108541-17 MSD** **Client Sample ID: B3HV90**
**Matrix: Water** **Prep Type: Total/NA**
**Analysis Batch: 412749**

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 92 | | 70 - 130 |
| Dibromofluoromethane (Surr) | 102 | | 70 - 130 |
| Toluene-d8 (Surr) | 98 | | 70 - 130 |

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

**Lab Sample ID: MB 280-411810/1-A** **Client Sample ID: Method Blank**
**Matrix: Water** **Prep Type: Total/NA**
**Analysis Batch: 414658** **Prep Batch: 411810**

| 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 | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2,4,5-Trichlorophenol | 0.45 | U | 10 | 0.45 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2,4,6-Trichlorophenol | 0.29 | U | 10 | 0.29 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2,4-Dichlorophenol | 0.64 | U | 10 | 0.64 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2,4-Dimethylphenol | 0.58 | U | 10 | 0.58 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2,4-Dinitrophenol | 10 | U | 30 | 10 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2,6-Dichlorophenol | 1.4 | U | 10 | 1.4 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2-Chlorophenol | 2.0 | U | 10 | 2.0 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2-Methylphenol | 0.98 | U | 10 | 0.98 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2-Nitrophenol | 0.39 | U | 10 | 0.39 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 3 & 4 Methylphenol | 0.25 | U | 10 | 0.25 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 4,6-Dinitro-2-methylphenol | 4.0 | U | 50 | 4.0 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 4-Chloro-3-methylphenol | 2.4 | U | 10 | 2.4 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 4-Nitrophenol | 1.2 | U | 10 | 1.2 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Dinoseb | 4.0 | U | 20 | 4.0 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Pentachlorophenol | 20 | U | 50 | 20 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Phenol | 2.0 | U | 10 | 2.0 | ug/L | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |

| Tentatively Identified Compound | MB Est. Result | MB Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Butane, 2-methoxy-2-methyl- | 34.6 | N J | ug/L | | 1.65 | 994-05-8 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Unknown | 9.45 | N | ug/L | | 2.50 | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Unknown | 4.44 | N | ug/L | | 2.79 | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Unknown | 108 | N | ug/L | | 3.01 | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Unknown | 7.27 | N | ug/L | | 3.91 | | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 1-Propene, 1,1,2-trichloro- | 28.1 | N J | ug/L | | 3.97 | 21400-25-9 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Hexanoic acid, 2-ethyl- | 8.85 | N J | ug/L | | 5.11 | 149-57-5 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 2,4,6-Tribromophenol (Surr) | 100 | | 42 - 131 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2-Fluorobiphenyl (Surr) | 101 | | 48 - 120 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| 2-Fluorophenol (Surr) | 92 | | 41 - 120 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Nitrobenzene-d5 (Surr) | 98 | | 42 - 120 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Phenol-d5 (Surr) | 93 | | 45 - 124 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |
| Terphenyl-d14 (Surr) | 105 | | 20 - 130 | 04/18/18 14:22 | 05/12/18 15:24 | 1 |

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

**Lab Sample ID: LCS 280-411810/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414658** — **Prep Batch: 411810**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 2,3,4,6-Tetrachlorophenol | 70.0 | 81.5 | | ug/L | | 116 | 70 - 130 |
| 2,4,5-Trichlorophenol | 70.0 | 79.8 | | ug/L | | 114 | 70 - 130 |
| 2,4,6-Trichlorophenol | 70.0 | 83.6 | | ug/L | | 119 | 70 - 130 |
| 2,4-Dichlorophenol | 70.0 | 71.3 | | ug/L | | 102 | 70 - 130 |
| 2,4-Dimethylphenol | 70.0 | 49.1 | | ug/L | | 70 | 70 - 130 |
| 2,4-Dinitrophenol | 140 | 172 | | ug/L | | 123 | 70 - 130 |
| 2,6-Dichlorophenol | 70.0 | 70.8 | | ug/L | | 101 | 70 - 130 |
| 2-Chlorophenol | 70.0 | 69.8 | | ug/L | | 100 | 70 - 130 |
| 2-Methylphenol | 70.0 | 66.7 | | ug/L | | 95 | 70 - 130 |
| 2-Nitrophenol | 70.0 | 74.4 | | ug/L | | 106 | 70 - 130 |
| 3 & 4 Methylphenol | 70.0 | 66.7 | | ug/L | | 95 | 70 - 130 |
| 4,6-Dinitro-2-methylphenol | 140 | 154 | | ug/L | | 110 | 70 - 130 |
| 4-Chloro-3-methylphenol | 70.0 | 70.8 | | ug/L | | 101 | 70 - 130 |
| 4-Nitrophenol | 140 | 183 | o | ug/L | | 131 | 70 - 130 |
| Pentachlorophenol | 140 | 151 | | ug/L | | 108 | 70 - 130 |
| Phenol | 70.0 | 69.5 | | ug/L | | 99 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *2,4,6-Tribromophenol (Surr)* | *97* | | *42 - 131* |
| *2-Fluorobiphenyl (Surr)* | *95* | | *48 - 120* |
| *2-Fluorophenol (Surr)* | *86* | | *41 - 120* |
| *Nitrobenzene-d5 (Surr)* | *91* | | *42 - 120* |
| *Phenol-d5 (Surr)* | *86* | | *45 - 124* |
| *Terphenyl-d14 (Surr)* | *93* | | *20 - 130* |

**Lab Sample ID: 280-108541-1 MS** — **Client Sample ID: B3HWL7**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414658** — **Prep Batch: 411810**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| 2,3,4,6-Tetrachlorophenol | 1.9 | U T | 68.8 | 82.3 | | ug/L | | 120 | 60 - 122 |
| 2,4,5-Trichlorophenol | 0.43 | U T | 68.8 | 79.9 | | ug/L | | 116 | 59 - 120 |
| 2,4,6-Trichlorophenol | 0.28 | U T | 68.8 | 84.0 | T | ug/L | | 122 | 59 - 121 |
| 2,4-Dichlorophenol | 0.61 | U | 68.8 | 72.7 | | ug/L | | 106 | 59 - 120 |
| 2,4-Dimethylphenol | 0.56 | U | 68.8 | 56.3 | | ug/L | | 82 | 43 - 120 |
| 2,4-Dinitrophenol | 9.6 | U T | 138 | 173 | | ug/L | | 125 | 48 - 129 |
| 2,6-Dichlorophenol | 1.3 | U | 68.8 | 71.9 | | ug/L | | 104 | 30 - 150 |
| 2-Chlorophenol | 1.9 | U | 68.8 | 70.0 | | ug/L | | 102 | 56 - 120 |
| 2-Methylphenol | 0.94 | U | 68.8 | 70.4 | | ug/L | | 102 | 56 - 120 |
| 2-Nitrophenol | 0.37 | U | 68.8 | 74.9 | | ug/L | | 109 | 56 - 121 |
| 3 & 4 Methylphenol | 0.24 | U | 68.8 | 70.3 | | ug/L | | 102 | 58 - 120 |
| 4,6-Dinitro-2-methylphenol | 3.8 | U | 138 | 158 | | ug/L | | 115 | 60 - 126 |
| 4-Chloro-3-methylphenol | 2.3 | U | 68.8 | 74.0 | | ug/L | | 108 | 61 - 120 |
| 4-Nitrophenol | 1.2 | U T o | 138 | 177 | | ug/L | | 129 | 59 - 129 |
| Pentachlorophenol | 19 | U | 138 | 152 | | ug/L | | 110 | 43 - 126 |
| Phenol | 1.9 | U | 68.8 | 73.1 | | ug/L | | 106 | 57 - 120 |

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

**Lab Sample ID: 280-108541-1 MS** — **Client Sample ID: B3HWL7**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414658** — **Prep Batch: 411810**

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|---|---|---|---|
| 2,4,6-Tribromophenol (Surr) | 101 | | 42 - 131 |
| 2-Fluorobiphenyl (Surr) | 96 | | 48 - 120 |
| 2-Fluorophenol (Surr) | 88 | | 41 - 120 |
| Nitrobenzene-d5 (Surr) | 93 | | 42 - 120 |
| Phenol-d5 (Surr) | 91 | | 45 - 124 |
| Terphenyl-d14 (Surr) | 96 | | 20 - 130 |

**Lab Sample ID: 280-108541-1 MSD** — **Client Sample ID: B3HWL7**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414658** — **Prep Batch: 411810**

| 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 T | 66.9 | 84.6 | T | ug/L | | 126 | 60 - 122 | 3 | 20 |
| 2,4,5-Trichlorophenol | 0.43 | U T | 66.9 | 83.9 | T | ug/L | | 125 | 59 - 120 | 5 | 20 |
| 2,4,6-Trichlorophenol | 0.28 | U T | 66.9 | 86.7 | T | ug/L | | 130 | 59 - 121 | 3 | 20 |
| 2,4-Dichlorophenol | 0.61 | U | 66.9 | 74.7 | | ug/L | | 112 | 59 - 120 | 3 | 20 |
| 2,4-Dimethylphenol | 0.56 | U | 66.9 | 53.1 | | ug/L | | 79 | 43 - 120 | 6 | 20 |
| 2,4-Dinitrophenol | 9.6 | U T | 134 | 175 | T | ug/L | | 131 | 48 - 129 | 1 | 20 |
| 2,6-Dichlorophenol | 1.3 | U | 66.9 | 73.7 | | ug/L | | 110 | 30 - 150 | 2 | 20 |
| 2-Chlorophenol | 1.9 | U | 66.9 | 73.6 | | ug/L | | 110 | 56 - 120 | 5 | 20 |
| 2-Methylphenol | 0.94 | U | 66.9 | 72.6 | | ug/L | | 108 | 56 - 120 | 3 | 20 |
| 2-Nitrophenol | 0.37 | U | 66.9 | 77.0 | | ug/L | | 115 | 56 - 121 | 3 | 20 |
| 3 & 4 Methylphenol | 0.24 | U | 66.9 | 70.5 | | ug/L | | 105 | 58 - 120 | 0 | 20 |
| 4,6-Dinitro-2-methylphenol | 3.8 | U | 134 | 159 | | ug/L | | 119 | 60 - 126 | 0 | 20 |
| 4-Chloro-3-methylphenol | 2.3 | U | 66.9 | 73.9 | | ug/L | | 110 | 61 - 120 | 0 | 20 |
| 4-Nitrophenol | 1.2 | U T o | 134 | 177 | T | ug/L | | 132 | 59 - 129 | 0 | 20 |
| Pentachlorophenol | 19 | U | 134 | 154 | | ug/L | | 115 | 43 - 126 | 2 | 20 |
| Phenol | 1.9 | U | 66.9 | 76.0 | | ug/L | | 114 | 57 - 120 | 4 | 20 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|---|---|---|---|
| 2,4,6-Tribromophenol (Surr) | 108 | | 42 - 131 |
| 2-Fluorobiphenyl (Surr) | 101 | | 48 - 120 |
| 2-Fluorophenol (Surr) | 95 | | 41 - 120 |
| Nitrobenzene-d5 (Surr) | 99 | | 42 - 120 |
| Phenol-d5 (Surr) | 97 | | 45 - 124 |
| Terphenyl-d14 (Surr) | 100 | | 20 - 130 |

## Method: 8081B - Organochlorine Pesticides (GC)

**Lab Sample ID: MB 280-411522/1-A** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413653** — **Prep Batch: 411522**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.0077 | U | 0.050 | 0.0077 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| 4,4'-DDE | 0.0075 | U | 0.050 | 0.0075 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| 4,4'-DDT | 0.015 | U | 0.050 | 0.015 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

**Lab Sample ID: MB 280-411522/1-A** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413653** — **Prep Batch: 411522**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aldrin | 0.0059 | U | 0.050 | 0.0059 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| alpha-BHC | 0.0053 | U | 0.050 | 0.0053 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| beta-BHC | 0.0087 | U | 0.050 | 0.0087 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| delta-BHC | 0.0058 | U | 0.050 | 0.0058 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Dieldrin | 0.0063 | U | 0.050 | 0.0063 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Endosulfan I | 0.0058 | U | 0.050 | 0.0058 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Endosulfan II | 0.0070 | U | 0.050 | 0.0070 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Endosulfan sulfate | 0.0057 | U | 0.050 | 0.0057 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Endrin | 0.0079 | U | 0.050 | 0.0079 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Endrin aldehyde | 0.0088 | U | 0.050 | 0.0088 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| gamma-BHC (Lindane) | 0.0069 | U | 0.050 | 0.0069 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Heptachlor epoxide | 0.0075 | U | 0.050 | 0.0075 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Methoxychlor | 0.013 | U | 0.10 | 0.013 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |
| Toxaphene | 0.37 | U | 2.0 | 0.37 | ug/L | | 04/17/18 08:18 | 05/03/18 17:26 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Decachlorobiphenyl* | *96* | | *34 - 122* | *04/17/18 08:18* | *05/03/18 17:26* | *1* |
| *Tetrachloro-m-xylene* | *52* | | *28 - 115* | *04/17/18 08:18* | *05/03/18 17:26* | *1* |

**Lab Sample ID: LCS 280-411522/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413653** — **Prep Batch: 411522**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.500 | 0.439 | | ug/L | | 88 | 70 - 130 |
| 4,4'-DDE | 0.500 | 0.421 | | ug/L | | 84 | 70 - 130 |
| 4,4'-DDT | 0.500 | 0.453 | | ug/L | | 91 | 70 - 130 |
| Aldrin | 0.500 | 0.325 | o | ug/L | | 65 | 70 - 130 |
| alpha-BHC | 0.500 | 0.449 | | ug/L | | 90 | 70 - 130 |
| beta-BHC | 0.500 | 0.426 | | ug/L | | 85 | 70 - 130 |
| delta-BHC | 0.500 | 0.450 | | ug/L | | 90 | 70 - 130 |
| Dieldrin | 0.500 | 0.453 | | ug/L | | 91 | 70 - 130 |
| Endosulfan I | 0.500 | 0.430 | | ug/L | | 86 | 70 - 130 |
| Endosulfan II | 0.500 | 0.426 | | ug/L | | 85 | 70 - 130 |
| Endosulfan sulfate | 0.500 | 0.441 | | ug/L | | 88 | 70 - 130 |
| Endrin | 0.500 | 0.467 | | ug/L | | 93 | 70 - 130 |
| Endrin aldehyde | 0.500 | 0.414 | | ug/L | | 83 | 70 - 130 |
| gamma-BHC (Lindane) | 0.500 | 0.450 | | ug/L | | 90 | 70 - 130 |
| Heptachlor epoxide | 0.500 | 0.445 | | ug/L | | 89 | 70 - 130 |
| Methoxychlor | 0.500 | 0.478 | | ug/L | | 96 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Decachlorobiphenyl* | *94* | | *34 - 122* |
| *Tetrachloro-m-xylene* | *76* | | *28 - 115* |

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

**Lab Sample ID: 280-108541-1 MS** — **Client Sample ID: B3HWL7**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413653** — **Prep Batch: 411522**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.0074 | U | 0.488 | 0.380 | | ug/L | | 78 | 78 - 138 |
| 4,4'-DDE | 0.0072 | U | 0.488 | 0.373 | | ug/L | | 76 | 74 - 124 |
| 4,4'-DDT | 0.014 | U | 0.488 | 0.389 | | ug/L | | 80 | 72 - 139 |
| Aldrin | 0.0057 | U o | 0.488 | 0.284 | | ug/L | | 58 | 44 - 127 |
| alpha-BHC | 0.0051 | U | 0.488 | 0.393 | | ug/L | | 81 | 73 - 133 |
| beta-BHC | 0.0083 | U | 0.488 | 0.374 | | ug/L | | 77 | 67 - 133 |
| delta-BHC | 0.0056 | U | 0.488 | 0.393 | | ug/L | | 81 | 72 - 135 |
| Dieldrin | 0.0060 | U | 0.488 | 0.392 | | ug/L | | 80 | 78 - 132 |
| Endosulfan I | 0.0056 | U | 0.488 | 0.372 | | ug/L | | 76 | 73 - 128 |
| Endosulfan II | 0.0067 | U N | 0.488 | 0.363 | N | ug/L | | 74 | 75 - 132 |
| Endosulfan sulfate | 0.0055 | U N | 0.488 | 0.373 | N | ug/L | | 76 | 77 - 135 |
| Endrin | 0.0076 | U | 0.488 | 0.408 | | ug/L | | 84 | 74 - 171 |
| Endrin aldehyde | 0.0084 | U | 0.488 | 0.358 | | ug/L | | 73 | 59 - 136 |
| gamma-BHC (Lindane) | 0.0066 | U | 0.488 | 0.393 | | ug/L | | 80 | 71 - 132 |
| Heptachlor epoxide | 0.0072 | U | 0.488 | 0.388 | | ug/L | | 80 | 77 - 132 |
| Methoxychlor | 0.012 | U | 0.488 | 0.396 | | ug/L | | 81 | 67 - 150 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *Decachlorobiphenyl* | *81* | | *34 - 122* |
| *Tetrachloro-m-xylene* | *73* | | *28 - 115* |

**Lab Sample ID: 280-108541-1 MSD** — **Client Sample ID: B3HWL7**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413653** — **Prep Batch: 411522**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 0.0074 | U | 0.486 | 0.425 | | ug/L | | 87 | 78 - 138 | 11 | 20 |
| 4,4'-DDE | 0.0072 | U | 0.486 | 0.417 | | ug/L | | 86 | 74 - 124 | 11 | 20 |
| 4,4'-DDT | 0.014 | U | 0.486 | 0.426 | | ug/L | | 88 | 72 - 139 | 9 | 20 |
| Aldrin | 0.0057 | U o | 0.486 | 0.303 | | ug/L | | 62 | 44 - 127 | 7 | 20 |
| alpha-BHC | 0.0051 | U | 0.486 | 0.425 | | ug/L | | 87 | 73 - 133 | 8 | 50 |
| beta-BHC | 0.0083 | U | 0.486 | 0.403 | | ug/L | | 83 | 67 - 133 | 8 | 20 |
| delta-BHC | 0.0056 | U | 0.486 | 0.427 | | ug/L | | 88 | 72 - 135 | 8 | 20 |
| Dieldrin | 0.0060 | U | 0.486 | 0.434 | | ug/L | | 89 | 78 - 132 | 10 | 20 |
| Endosulfan I | 0.0056 | U | 0.486 | 0.410 | | ug/L | | 84 | 73 - 128 | 10 | 20 |
| Endosulfan II | 0.0067 | U N | 0.486 | 0.404 | | ug/L | | 83 | 75 - 132 | 11 | 20 |
| Endosulfan sulfate | 0.0055 | U N | 0.486 | 0.420 | | ug/L | | 86 | 77 - 135 | 12 | 20 |
| Endrin | 0.0076 | U | 0.486 | 0.425 | | ug/L | | 87 | 74 - 171 | 4 | 20 |
| Endrin aldehyde | 0.0084 | U | 0.486 | 0.406 | | ug/L | | 83 | 59 - 136 | 13 | 20 |
| gamma-BHC (Lindane) | 0.0066 | U | 0.486 | 0.426 | | ug/L | | 88 | 71 - 132 | 8 | 20 |
| Heptachlor epoxide | 0.0072 | U | 0.486 | 0.427 | | ug/L | | 88 | 77 - 132 | 9 | 20 |
| Methoxychlor | 0.012 | U | 0.486 | 0.438 | | ug/L | | 90 | 67 - 150 | 10 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *Decachlorobiphenyl* | *89* | | *34 - 122* |
| *Tetrachloro-m-xylene* | *81* | | *28 - 115* |

# QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-004 / S18-004 / X18-005

TestAmerica Job ID: 280-108541-1
SDG: DN0357

## Method: 6010D - Metals (ICP)

**Lab Sample ID: MB 280-412543/1-A** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413271** — **Prep Batch: 412543**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Boron | 4.4 | U | 100 | 4.4 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |
| Calcium | 34.5 | U | 200 | 34.5 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |
| Iron | 22.0 | U | 100 | 22.0 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |
| Magnesium | 10.7 | U | 200 | 10.7 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |
| Potassium | 237 | U | 3000 | 237 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |
| Sodium | 117 | U | 1000 | 117 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |
| Vanadium | 1.1 | U | 10.0 | 1.1 | ug/L | | 04/27/18 15:56 | 04/30/18 18:41 | 1 |

**Lab Sample ID: LCS 280-412543/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413271** — **Prep Batch: 412543**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Boron | 1000 | 1063 | | ug/L | | 106 | 80 - 120 |
| Calcium | 50000 | 49110 | | ug/L | | 98 | 80 - 120 |
| Iron | 1000 | 996.9 | | ug/L | | 100 | 80 - 120 |
| Magnesium | 50000 | 49370 | | ug/L | | 99 | 80 - 120 |
| Potassium | 50000 | 53230 | | ug/L | | 106 | 80 - 120 |
| Sodium | 50000 | 54180 | | ug/L | | 108 | 80 - 120 |
| Vanadium | 500 | 499.9 | | ug/L | | 100 | 80 - 120 |

**Lab Sample ID: 280-108541-5 MS** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413271** — **Prep Batch: 412543**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Boron | 10.8 | B | 1000 | 1091 | | ug/L | | 108 | 75 - 125 |
| Calcium | 30000 | | 50000 | 80560 | | ug/L | | 101 | 75 - 125 |
| Iron | 262 | | 1000 | 1275 | | ug/L | | 101 | 75 - 125 |
| Magnesium | 11700 | | 50000 | 62270 | | ug/L | | 101 | 75 - 125 |
| Potassium | 5230 | | 50000 | 58340 | | ug/L | | 106 | 75 - 125 |
| Sodium | 21900 | | 50000 | 77020 | | ug/L | | 110 | 75 - 125 |
| Vanadium | 27.5 | | 500 | 530.8 | | ug/L | | 101 | 75 - 125 |

**Lab Sample ID: 280-108541-5 MSD** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413271** — **Prep Batch: 412543**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Boron | 10.8 | B | 1000 | 1083 | | ug/L | | 107 | 75 - 125 | 1 | 20 |
| Calcium | 30000 | | 50000 | 79430 | | ug/L | | 99 | 75 - 125 | 1 | 20 |
| Iron | 262 | | 1000 | 1251 | | ug/L | | 99 | 75 - 125 | 2 | 20 |
| Magnesium | 11700 | | 50000 | 61480 | | ug/L | | 100 | 75 - 125 | 1 | 20 |
| Potassium | 5230 | | 50000 | 57540 | | ug/L | | 105 | 75 - 125 | 1 | 20 |
| Sodium | 21900 | | 50000 | 75920 | | ug/L | | 108 | 75 - 125 | 1 | 20 |
| Vanadium | 27.5 | | 500 | 525.0 | | ug/L | | 99 | 75 - 125 | 1 | 20 |

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

**Lab Sample ID: MB 280-412547/1-A**
**Matrix: Water**
**Analysis Batch: 413265**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 412547**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9.2 | U | 50.0 | 9.2 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Antimony | 0.40 | U | 2.0 | 0.40 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Arsenic | 0.33 | U | 5.0 | 0.33 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Barium | 0.29 | U | 1.0 | 0.29 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Beryllium | 0.080 | U | 1.0 | 0.080 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Cadmium | 0.27 | U | 1.0 | 0.27 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Chromium | 0.50 | U | 2.0 | 0.50 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Cobalt | 0.054 | U | 1.0 | 0.054 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Copper | 0.56 | U | 2.0 | 0.56 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Lead | 0.18 | U | 1.0 | 0.18 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Manganese | 0.31 | U | 1.0 | 0.31 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Molybdenum | 0.14 | U | 2.0 | 0.14 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Nickel | 0.30 | U | 2.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Selenium | 0.70 | U | 5.0 | 0.70 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Silver | 0.033 | U | 5.0 | 0.033 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Strontium | 0.30 | U | 10.0 | 0.30 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Thallium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Thorium | 1.2 | U | 5.0 | 1.2 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Tin | 0.77 | U | 10.0 | 0.77 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Uranium | 0.050 | U | 1.0 | 0.050 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |
| Zinc | 3.33 | B | 10.0 | 2.0 | ug/L | | 04/27/18 15:56 | 04/30/18 15:38 | 1 |

**Lab Sample ID: LCS 280-412547/2-A**
**Matrix: Water**
**Analysis Batch: 413265**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 412547**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Aluminum | 400 | 422.0 | | ug/L | | 105 | 80 - 120 |
| Antimony | 40.0 | 39.29 | | ug/L | | 98 | 80 - 120 |
| Arsenic | 40.0 | 39.04 | | ug/L | | 98 | 80 - 120 |
| Barium | 40.0 | 40.49 | | ug/L | | 101 | 80 - 120 |
| Beryllium | 40.0 | 41.31 | | ug/L | | 103 | 80 - 120 |
| Cadmium | 40.0 | 39.91 | | ug/L | | 100 | 80 - 120 |
| Chromium | 40.0 | 42.42 | | ug/L | | 106 | 80 - 120 |
| Cobalt | 40.0 | 42.63 | | ug/L | | 107 | 80 - 120 |
| Copper | 40.0 | 41.61 | | ug/L | | 104 | 80 - 120 |
| Lead | 40.0 | 42.03 | | ug/L | | 105 | 80 - 120 |
| Manganese | 40.0 | 42.95 | | ug/L | | 107 | 80 - 120 |
| Molybdenum | 40.0 | 40.01 | | ug/L | | 100 | 80 - 120 |
| Nickel | 40.0 | 42.73 | | ug/L | | 107 | 80 - 120 |
| Selenium | 40.0 | 40.12 | | ug/L | | 100 | 80 - 120 |
| Silver | 40.0 | 41.54 | | ug/L | | 104 | 80 - 120 |
| Strontium | 40.0 | 45.09 | | ug/L | | 113 | 80 - 120 |
| Thallium | 40.0 | 41.04 | | ug/L | | 103 | 80 - 120 |
| Thorium | 40.0 | 40.70 | | ug/L | | 102 | 80 - 120 |
| Tin | 40.0 | 40.80 | | ug/L | | 102 | 80 - 120 |
| Uranium | 40.0 | 40.40 | | ug/L | | 101 | 80 - 120 |
| Zinc | 40.0 | 41.66 | | ug/L | | 104 | 80 - 120 |

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

**Lab Sample ID: 280-108541-5 MS** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413265** — **Prep Batch: 412547**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12.0 | B | 400 | 426.7 | | ug/L | | 104 | 75 - 125 |
| Antimony | 0.40 | U | 40.0 | 39.92 | | ug/L | | 100 | 75 - 125 |
| Arsenic | 5.3 | | 40.0 | 45.45 | | ug/L | | 100 | 75 - 125 |
| Barium | 38.9 | | 40.0 | 79.34 | | ug/L | | 101 | 75 - 125 |
| Beryllium | 0.080 | U | 40.0 | 41.63 | | ug/L | | 104 | 75 - 125 |
| Cadmium | 0.27 | U | 40.0 | 39.57 | | ug/L | | 99 | 75 - 125 |
| Chromium | 0.62 | B | 40.0 | 41.22 | | ug/L | | 101 | 75 - 125 |
| Cobalt | 0.054 | U | 40.0 | 40.36 | | ug/L | | 101 | 75 - 125 |
| Copper | 0.56 | U | 40.0 | 42.63 | | ug/L | | 107 | 75 - 125 |
| Lead | 0.18 | U | 40.0 | 40.44 | | ug/L | | 101 | 75 - 125 |
| Manganese | 3.7 | | 40.0 | 44.59 | | ug/L | | 102 | 75 - 125 |
| Molybdenum | 4.1 | | 40.0 | 43.66 | | ug/L | | 99 | 75 - 125 |
| Nickel | 0.30 | U | 40.0 | 40.47 | | ug/L | | 101 | 75 - 125 |
| Selenium | 3.8 | B | 40.0 | 43.44 | | ug/L | | 99 | 75 - 125 |
| Silver | 0.033 | U | 40.0 | 40.61 | | ug/L | | 102 | 75 - 125 |
| Strontium | 239 | | 40.0 | 296.9 | X | ug/L | | 144 | 75 - 125 |
| Thallium | 0.050 | U | 40.0 | 40.49 | | ug/L | | 101 | 75 - 125 |
| Thorium | 1.2 | U | 40.0 | 39.34 | | ug/L | | 98 | 75 - 125 |
| Tin | 0.77 | U | 40.0 | 39.68 | | ug/L | | 99 | 75 - 125 |
| Uranium | 2.7 | | 40.0 | 42.65 | | ug/L | | 100 | 75 - 125 |
| Zinc | 2.0 | U | 40.0 | 40.50 | | ug/L | | 101 | 75 - 125 |

**Lab Sample ID: 280-108541-5 MSD** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413265** — **Prep Batch: 412547**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12.0 | B | 400 | 420.7 | | ug/L | | 102 | 75 - 125 | 1 | 20 |
| Antimony | 0.40 | U | 40.0 | 40.95 | | ug/L | | 102 | 75 - 125 | 3 | 20 |
| Arsenic | 5.3 | | 40.0 | 44.17 | | ug/L | | 97 | 75 - 125 | 3 | 20 |
| Barium | 38.9 | | 40.0 | 78.46 | | ug/L | | 99 | 75 - 125 | 1 | 20 |
| Beryllium | 0.080 | U | 40.0 | 42.86 | | ug/L | | 107 | 75 - 125 | 3 | 20 |
| Cadmium | 0.27 | U | 40.0 | 40.22 | | ug/L | | 101 | 75 - 125 | 2 | 20 |
| Chromium | 0.62 | B | 40.0 | 41.21 | | ug/L | | 101 | 75 - 125 | 0 | 20 |
| Cobalt | 0.054 | U | 40.0 | 41.17 | | ug/L | | 103 | 75 - 125 | 2 | 20 |
| Copper | 0.56 | U | 40.0 | 42.39 | | ug/L | | 106 | 75 - 125 | 1 | 20 |
| Lead | 0.18 | U | 40.0 | 41.49 | | ug/L | | 104 | 75 - 125 | 3 | 20 |
| Manganese | 3.7 | | 40.0 | 47.08 | | ug/L | | 108 | 75 - 125 | 5 | 20 |
| Molybdenum | 4.1 | | 40.0 | 44.93 | | ug/L | | 102 | 75 - 125 | 3 | 20 |
| Nickel | 0.30 | U | 40.0 | 40.39 | | ug/L | | 101 | 75 - 125 | 0 | 20 |
| Selenium | 3.8 | B | 40.0 | 42.24 | | ug/L | | 96 | 75 - 125 | 3 | 20 |
| Silver | 0.033 | U | 40.0 | 40.85 | | ug/L | | 102 | 75 - 125 | 1 | 20 |
| Strontium | 239 | | 40.0 | 277.3 | X | ug/L | | 95 | 75 - 125 | 7 | 20 |
| Thallium | 0.050 | U | 40.0 | 41.02 | | ug/L | | 103 | 75 - 125 | 1 | 20 |
| Thorium | 1.2 | U | 40.0 | 39.85 | | ug/L | | 100 | 75 - 125 | 1 | 20 |
| Tin | 0.77 | U | 40.0 | 42.29 | | ug/L | | 106 | 75 - 125 | 6 | 20 |
| Uranium | 2.7 | | 40.0 | 43.54 | | ug/L | | 102 | 75 - 125 | 2 | 20 |
| Zinc | 2.0 | U | 40.0 | 42.53 | | ug/L | | 106 | 75 - 125 | 5 | 20 |

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 280-413459/1-A** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413613** — **Prep Batch: 413459**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 0.20 | 0.027 | ug/L | | 05/02/18 12:21 | 05/02/18 19:38 | 1 |

**Lab Sample ID: LCS 280-413459/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413613** — **Prep Batch: 413459**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Mercury | 5.00 | 5.36 | | ug/L | | 107 | 80 - 120 |

**Lab Sample ID: 280-108541-5 MS** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413613** — **Prep Batch: 413459**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 5.00 | 5.38 | | ug/L | | 108 | 75 - 125 |

**Lab Sample ID: 280-108541-5 MSD** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413613** — **Prep Batch: 413459**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.027 | U | 5.00 | 5.28 | | ug/L | | 106 | 75 - 125 | 2 | 20 |

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

**Lab Sample ID: MB 280-413704/2** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413704**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/03/18 06:55 | 1 |

**Lab Sample ID: LCS 280-413704/4** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413704**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 100 | 109.8 | | ug/L | | 110 | 80 - 120 |

**Lab Sample ID: LCSD 280-413704/5** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413704**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 100 | 108.2 | | ug/L | | 108 | 80 - 120 | 1 | 20 |

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

**Lab Sample ID: 280-108541-5 MS** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413704**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 100 | 104.5 | | ug/L | | 105 | 75 - 125 |

**Lab Sample ID: 280-108541-5 MSD** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413704**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 100 | 105.6 | | ug/L | | 106 | 75 - 125 | 1 | 20 |

**Lab Sample ID: MB 280-413963/2** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413963**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 7.7 | U | 30.0 | 7.7 | ug/L | | | 05/04/18 06:57 | 1 |

**Lab Sample ID: LCS 280-413963/4** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413963**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 100 | 96.72 | | ug/L | | 97 | 80 - 120 |

**Lab Sample ID: LCSD 280-413963/5** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 413963**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Halogens - Dup | 100 | 98.97 | | ug/L | | 99 | 80 - 120 | 2 | 20 |

## Method: 9060A - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 280-414079/46** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414079**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Average | 281.4 | B | 1000 | 155 | ug/L | | | 05/08/18 04:56 | 1 |

**Lab Sample ID: LCS 280-414079/45** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414079**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Average | 25000 | 23700 | | ug/L | | 95 | 80 - 120 |

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

**Lab Sample ID: 280-108541-5 MS** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414079**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Average | 599 | B C | 25000 | 25390 | | ug/L | | 99 | 75 - 125 |

**Lab Sample ID: 280-108541-5 MSD** — **Client Sample ID: B3HWL6**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 414079**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Organic Carbon - Average | 599 | B C | 25000 | 26680 | | ug/L | | 104 | 75 - 125 | 5 | 20 |

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 280-411955/6** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 411955**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 17:45 | 1 |
| Bicarbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 17:45 | 1 |
| Carbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 17:45 | 1 |
| Hydroxide Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/18/18 17:45 | 1 |

**Lab Sample ID: LCS 280-411955/4** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 411955**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 200000 | 186200 | | ug/L | | 93 | 80 - 120 |

**Lab Sample ID: LCSD 280-411955/5** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 411955**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 200000 | 186300 | | ug/L | | 93 | 80 - 120 | 0 | 20 |

**Lab Sample ID: MB 280-412254/6** — **Client Sample ID: Method Blank**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 412254**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/21/18 12:14 | 1 |
| Bicarbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/21/18 12:14 | 1 |
| Carbonate Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/21/18 12:14 | 1 |
| Hydroxide Alkalinity as CaCO3 | 1070 | U | 5000 | 1070 | ug/L | | | 04/21/18 12:14 | 1 |

## Method: SM 2320B - Alkalinity (Continued)

**Lab Sample ID: LCS 280-412254/4** — **Client Sample ID: Lab Control Sample**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 412254**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | | | 200000 | 192600 | | ug/L | | 96 | 80 - 120 | | |

**Lab Sample ID: LCSD 280-412254/5** — **Client Sample ID: Lab Control Sample Dup**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 412254**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | | | 200000 | 192200 | | ug/L | | 96 | 80 - 120 | 0 | 20 |

**Lab Sample ID: 280-108541-1 DU** — **Client Sample ID: B3HWL7**
**Matrix: Water** — **Prep Type: Total/NA**
**Analysis Batch: 412254**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity as CaCO3 | 91700 | | | 92210 | | ug/L | | | | 0.6 | 20 |

# QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-004 / S18-004 / X18-005

TestAmerica Job ID: 280-108541-1
SDG: DN0357



## GC/MS VOA

### Analysis Batch: 412749

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-17 | B3HV90 | Total/NA | Water | 8260B | |
| 280-108541-18 | B3H056 | Total/NA | Water | 8260B | |
| MB 280-412749/6 | Method Blank | Total/NA | Water | 8260B | |
| LCS 280-412749/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| 280-108541-17 MS | B3HV90 | Total/NA | Water | 8260B | |
| 280-108541-17 MSD | B3HV90 | Total/NA | Water | 8260B | |

## GC/MS Semi VOA

### Prep Batch: 411810

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-1 | B3HWL7 | Total/NA | Water | 3520C | |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 3520C | |
| MB 280-411810/1-A | Method Blank | Total/NA | Water | 3520C | |
| LCS 280-411810/2-A | Lab Control Sample | Total/NA | Water | 3520C | |
| 280-108541-1 MS | B3HWL7 | Total/NA | Water | 3520C | |
| 280-108541-1 MSD | B3HWL7 | Total/NA | Water | 3520C | |

### Analysis Batch: 414658

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-1 | B3HWL7 | Total/NA | Water | 8270D | 411810 |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 8270D | 411810 |
| MB 280-411810/1-A | Method Blank | Total/NA | Water | 8270D | 411810 |
| LCS 280-411810/2-A | Lab Control Sample | Total/NA | Water | 8270D | 411810 |
| 280-108541-1 MS | B3HWL7 | Total/NA | Water | 8270D | 411810 |
| 280-108541-1 MSD | B3HWL7 | Total/NA | Water | 8270D | 411810 |

## GC Semi VOA

### Prep Batch: 411522

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-1 | B3HWL7 | Total/NA | Water | 3510C | |
| MB 280-411522/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 280-411522/2-A | Lab Control Sample | Total/NA | Water | 3510C | |
| 280-108541-1 MS | B3HWL7 | Total/NA | Water | 3510C | |
| 280-108541-1 MSD | B3HWL7 | Total/NA | Water | 3510C | |

### Analysis Batch: 413653

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-1 | B3HWL7 | Total/NA | Water | 8081B | 411522 |
| MB 280-411522/1-A | Method Blank | Total/NA | Water | 8081B | 411522 |
| LCS 280-411522/2-A | Lab Control Sample | Total/NA | Water | 8081B | 411522 |
| 280-108541-1 MS | B3HWL7 | Total/NA | Water | 8081B | 411522 |
| 280-108541-1 MSD | B3HWL7 | Total/NA | Water | 8081B | 411522 |

## Metals

### Prep Batch: 412543

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-4 | B3HRK4 | Total/NA | Water | 3010A | |

## Metals (Continued)

### Prep Batch: 412543 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-5 | B3HWL6 | Total/NA | Water | 3010A | |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 3010A | |
| 280-108541-10 | B3HRJ9 | Total/NA | Water | 3010A | |
| 280-108541-15 | B3HT18 | Total/NA | Water | 3010A | |
| 280-108541-16 | B3HT20 | Total/NA | Water | 3010A | |
| MB 280-412543/1-A | Method Blank | Total/NA | Water | 3010A | |
| LCS 280-412543/2-A | Lab Control Sample | Total/NA | Water | 3010A | |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 3010A | |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 3010A | |

### Prep Batch: 412547

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-4 | B3HRK4 | Total/NA | Water | 3020A | |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 3020A | |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 3020A | |
| 280-108541-10 | B3HRJ9 | Total/NA | Water | 3020A | |
| 280-108541-15 | B3HT18 | Total/NA | Water | 3020A | |
| 280-108541-16 | B3HT20 | Total/NA | Water | 3020A | |
| MB 280-412547/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 280-412547/2-A | Lab Control Sample | Total/NA | Water | 3020A | |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 3020A | |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 3020A | |

### Analysis Batch: 413265

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-4 | B3HRK4 | Total/NA | Water | 6020B | 412547 |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 6020B | 412547 |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 6020B | 412547 |
| 280-108541-10 | B3HRJ9 | Total/NA | Water | 6020B | 412547 |
| 280-108541-15 | B3HT18 | Total/NA | Water | 6020B | 412547 |
| 280-108541-16 | B3HT20 | Total/NA | Water | 6020B | 412547 |
| MB 280-412547/1-A | Method Blank | Total/NA | Water | 6020B | 412547 |
| LCS 280-412547/2-A | Lab Control Sample | Total/NA | Water | 6020B | 412547 |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 6020B | 412547 |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 6020B | 412547 |

### Analysis Batch: 413271

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-4 | B3HRK4 | Total/NA | Water | 6010D | 412543 |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 6010D | 412543 |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 6010D | 412543 |
| 280-108541-10 | B3HRJ9 | Total/NA | Water | 6010D | 412543 |
| 280-108541-15 | B3HT18 | Total/NA | Water | 6010D | 412543 |
| 280-108541-16 | B3HT20 | Total/NA | Water | 6010D | 412543 |
| MB 280-412543/1-A | Method Blank | Total/NA | Water | 6010D | 412543 |
| LCS 280-412543/2-A | Lab Control Sample | Total/NA | Water | 6010D | 412543 |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 6010D | 412543 |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 6010D | 412543 |

## Metals (Continued)

### Prep Batch: 413459

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-4 | B3HRK4 | Total/NA | Water | 7470A | |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 7470A | |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 7470A | |
| 280-108541-10 | B3HRJ9 | Total/NA | Water | 7470A | |
| MB 280-413459/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 280-413459/2-A | Lab Control Sample | Total/NA | Water | 7470A | |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 7470A | |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 7470A | |

### Analysis Batch: 413613

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-4 | B3HRK4 | Total/NA | Water | 7470A | 413459 |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 7470A | 413459 |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 7470A | 413459 |
| 280-108541-10 | B3HRJ9 | Total/NA | Water | 7470A | 413459 |
| MB 280-413459/1-A | Method Blank | Total/NA | Water | 7470A | 413459 |
| LCS 280-413459/2-A | Lab Control Sample | Total/NA | Water | 7470A | 413459 |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 7470A | 413459 |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 7470A | 413459 |

### Analysis Batch: 413927

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-15 | B3HT18 | Total/NA | Water | 6010D | 412543 |

## General Chemistry

### Analysis Batch: 411955

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-13 | B3HWN2 | Total/NA | Water | SM 2320B | |
| 280-108541-14 | B3HWN1 | Total/NA | Water | SM 2320B | |
| MB 280-411955/6 | Method Blank | Total/NA | Water | SM 2320B | |
| LCS 280-411955/4 | Lab Control Sample | Total/NA | Water | SM 2320B | |
| LCSD 280-411955/5 | Lab Control Sample Dup | Total/NA | Water | SM 2320B | |

### Analysis Batch: 412254

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-1 | B3HWL7 | Total/NA | Water | SM 2320B | |
| 280-108541-12 | B3HWC5 | Total/NA | Water | SM 2320B | |
| MB 280-412254/6 | Method Blank | Total/NA | Water | SM 2320B | |
| LCS 280-412254/4 | Lab Control Sample | Total/NA | Water | SM 2320B | |
| LCSD 280-412254/5 | Lab Control Sample Dup | Total/NA | Water | SM 2320B | |
| 280-108541-1 DU | B3HWL7 | Total/NA | Water | SM 2320B | |

### Analysis Batch: 413704

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-2 | B3HR42 | Total/NA | Water | 9020B | |
| 280-108541-3 | B3HR43 | Total/NA | Water | 9020B | |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 9020B | |
| 280-108541-6 | B3HR41 | Total/NA | Water | 9020B | |
| 280-108541-7 | B3HR40 | Total/NA | Water | 9020B | |

## General Chemistry (Continued)

### Analysis Batch: 413704 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-8 | B3HWL5 | Total/NA | Water | 9020B | |
| MB 280-413704/2 | Method Blank | Total/NA | Water | 9020B | |
| LCS 280-413704/4 | Lab Control Sample | Total/NA | Water | 9020B | |
| LCSD 280-413704/5 | Lab Control Sample Dup | Total/NA | Water | 9020B | |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 9020B | |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 9020B | |

### Analysis Batch: 413963

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-9 | B3HR38 | Total/NA | Water | 9020B | |
| 280-108541-11 | B3HR39 | Total/NA | Water | 9020B | |
| MB 280-413963/2 | Method Blank | Total/NA | Water | 9020B | |
| LCS 280-413963/4 | Lab Control Sample | Total/NA | Water | 9020B | |
| LCSD 280-413963/5 | Lab Control Sample Dup | Total/NA | Water | 9020B | |

### Analysis Batch: 414079

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 280-108541-2 | B3HR42 | Total/NA | Water | 9060A | |
| 280-108541-3 | B3HR43 | Total/NA | Water | 9060A | |
| 280-108541-5 | B3HWL6 | Total/NA | Water | 9060A | |
| 280-108541-6 | B3HR41 | Total/NA | Water | 9060A | |
| 280-108541-7 | B3HR40 | Total/NA | Water | 9060A | |
| 280-108541-8 | B3HWL5 | Total/NA | Water | 9060A | |
| 280-108541-9 | B3HR38 | Total/NA | Water | 9060A | |
| 280-108541-11 | B3HR39 | Total/NA | Water | 9060A | |
| MB 280-414079/46 | Method Blank | Total/NA | Water | 9060A | |
| LCS 280-414079/45 | Lab Control Sample | Total/NA | Water | 9060A | |
| 280-108541-5 MS | B3HWL6 | Total/NA | Water | 9060A | |
| 280-108541-5 MSD | B3HWL6 | Total/NA | Water | 9060A | |

# Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: W18-004 / S18-004 / X18-005

TestAmerica Job ID: 280-108541-1
SDG: DN0357

## 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) |
| 280-108541-17 | B3HV90 | 107 | 92 | 106 | 101 |
| 280-108541-17 MS | B3HV90 | 107 | 93 | 103 | 102 |
| 280-108541-17 MSD | B3HV90 | 105 | 92 | 102 | 98 |
| 280-108541-18 | B3H056 | 114 | 95 | 111 | 102 |
| LCS 280-412749/4 | Lab Control Sample | 109 | 94 | 103 | 96 |
| MB 280-412749/6 | Method Blank | 116 | 105 | 108 | 100 |

**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) |
| 280-108541-1 | B3HWL7 | 93 | 91 | 85 | 87 | 88 | 94 |
| 280-108541-1 MS | B3HWL7 | 101 | 96 | 88 | 93 | 91 | 96 |
| 280-108541-1 MSD | B3HWL7 | 108 | 101 | 95 | 99 | 97 | 100 |
| 280-108541-8 | B3HWL5 | 98 | 93 | 85 | 88 | 89 | 100 |
| LCS 280-411810/2-A | Lab Control Sample | 97 | 95 | 86 | 91 | 86 | 93 |
| MB 280-411810/1-A | Method Blank | 100 | 101 | 92 | 98 | 93 | 105 |

**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)

## Method: 8081B - Organochlorine Pesticides (GC)

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

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|---|---|---|---|
| | | DCBP1 | TCX1 |
| Lab Sample ID | Client Sample ID | (34-122) | (28-115) |
| 280-108541-1 | B3HWL7 | 93 | 75 |
| 280-108541-1 MS | B3HWL7 | 81 | 73 |
| 280-108541-1 MSD | B3HWL7 | 89 | 81 |
| LCS 280-411522/2-A | Lab Control Sample | 94 | 76 |
| MB 280-411522/1-A | Method Blank | 96 | 52 |

**Surrogate Legend**

DCBP = Decachlorobiphenyl
TCX = Tetrachloro-m-xylene