Ft. Collins, Colorado

LIMS Version: 6.888



Thursday, January 03, 2019

Karen Waters-Husted
CH2M HILL Plateau Remediation Company
825 Jadwin Avenue
Richland, WA 99352

Re: ALS Workorder: 1812290
Project Name: SURV, DECEMBER 2018
Project Number: S19-012

Dear Ms. Waters-Husted:

Four water samples were received from CH2M HILL Plateau Remediation Company, on 12/19/2018. The samples were scheduled for the following analyses:

| |
|---|
| Metals |
| Strontium-90 |

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. OBrien
Project Manager

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 signatures on this report.

# ALS -- Fort Collins

## Sample Number(s) Cross-Reference Table

**OrderNum:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**Client Project Name:** SURV, DECEMBER 2018
**Client Project Number:** S19-012
**Client PO Number:** BOA 54854

| Client Sample Number | Lab Sample Number | COC Number | Matrix | Date Collected | Time Collected |
|---|---|---|---|---|---|
| B3M9T4 | 1812290-1 | | WATER | 18-Dec-18 | 7:20 |
| B3M9T5 | 1812290-2 | | WATER | 18-Dec-18 | 9:31 |
| B3M9X6 | 1812290-3 | | WATER | 18-Dec-18 | 10:40 |
| B3M9Y3 | 1812290-4 | | WATER | 18-Dec-18 | 10:40 |

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 1812290 | C.O.C. # S19-012-014 Page 1 of 1 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Kathy Turner /CHPRC | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 |
| **SAF No.:** | S19-012 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | SURV, DECEMBER 2018 | **Logbook No.:** | HNF-N-506 104/54 | **Ice Chest No.:** | GWS-603 |
| **Shipped To (Lab):** | ALS Environmental Ft. Collins | **Method of Shipment:** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 7740 1111 6618 |
| **Protocol:** | CERCLA | **Priority:** | 15 Days **PRIORITY** | **Offsite Property No.:** | 10422 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3M9T4 (1) | N | | DEC 18 2018 | 0720 | 2x1-L G/P | SRISO_SEP_PRECIP_GPC: COMMON | 6 Months | HNO3 to pH <2 |

ALS1812290
1/3/2019

| Relinquished By: | Received By: |
|---|---|
| Kathy Turner /CHPRC — Print First and Last Name; Signature; DEC 18 2018 0951 — Date/Time | Jeff Lucas /CHPRC — Print First and Last Name; Signature; DEC 18 2018 0951 — Date/Time |
| Jeff Lucas /CHPRC — Print First and Last Name; Signature; DEC 18 2018 ~~2023~~ 1400 — Date/Time | FEDEX — Print First and Last Name; Signature; Date/Time |
| FEDEX — Print First and Last Name; Signature; Date/Time | KELI-JEAN SMITH — Print First and Last Name; Signature; 12-19-18 1250 — Date/Time |
| Print First and Last Name; Signature; Date/Time | Print First and Last Name; Signature; Date/Time |

Matrix *

| | |
|---|---|
| S = Soil | DS = Drum Solids |
| SE = Sediment | DL = Drum Liquids |
| 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: |
|---|---|---|---|



REV.0

Printed On 10/29/2018 FSR ID = FSR71447 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 1812290 | C.O.C. # S19-012-015 Page 1 of 1 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Collector:** | Kathy Turner /CHPRC | **Contact/Requester:** | Karen Waters-Husted | **Telephone No.:** | 509-376-4650 |
| **SAF No.:** | S19-012 | **Sampling Origin:** | Hanford Site | **Purchase Order/Charge Code:** | 300071 |
| **Project Title:** | SURV, DECEMBER 2018 | **Logbook No.:** | HNF-N-506 ~~10~~ 4/54 | **Ice Chest No.:** | GWS1003 |
| **Shipped To (Lab):** | ALS Environmental Ft. Collins | **Method of Shipment:** | Commercial Carrier | **Bill of Lading/Air Bill No.:** | 7740 1111 6618 |
| **Protocol:** | CERCLA | **Priority:** | 15 Days PRIORITY | **Offsite Property No.:** | 10422 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3M9T5 (2) | N | W | DEC 18 2018 | 0931 | 2x1-L G/P | SRISO_SEP_PRECIP_GPC: COMMON | 6 Months | HNO3 to pH <2 |

ALS1812290
1/3/2019

| Relinquished By: | Received By: |
|---|---|
| Kathy Turner /CHPRC — Kathy Turner — DEC 18 2018 0951 (Print First and Last Name / Signature / Date/Time) | Jeff Lucas /CHPRC — DEC 18 2018 0951 (Print First and Last Name / Signature / Date/Time) |
| Jeff Lucas /CHPRC — DEC 18 2018 1400 (Print First and Last Name / Signature / Date/Time) | FEDEX (Print First and Last Name / Signature / Date/Time) |
| FEDEX (Print First and Last Name / Signature / Date/Time) | KELI-JEAN SMITH — 12-19-18 1250 (Print First and Last Name / Signature / Date/Time) |
| (Print First and Last Name / Signature / Date/Time) | (Print First and Last Name / Signature / Date/Time) |

Matrix *

| | |
|---|---|
| S = Soil | DS = Drum Solids |
| SE = Sediment | DL = Drum Liquids |
| 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: |
|---|---|---|---|

REV.0



Printed On 10/29/2018 FSR ID = FSR71448 A-6004-842 (REV 3)

| CH2MHill Plateau Remediation Company | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | C.O.C. # S19-012-016 Page 1 of 1 |
|---|---|---|

22\ 1812290

| | | |
|---|---|---|
| **Collector:** Kathy Turner /CHPRC | **Contact/Requester:** Karen Waters-Husted | **Telephone No.:** 509-376-4650 |
| **SAF No.:** S19-012 | **Sampling Origin:** Hanford Site | **Purchase Order/Charge Code:** 300071 |
| **Project Title:** SURV, DECEMBER 2018 | **Logbook No.:** HNF-N-506 104/54 | **Ice Chest No.:** GWS-603 |
| **Shipped To (Lab):** ALS Environmental Ft. Collins | **Method of Shipment:** Commercial Carrier | **Bill of Lading/Air Bill No.:** 7740 1111 ~~6187~~ 6648 |
| **Protocol:** CERCLA | **Priority:** 15 Days **PRIORITY** | **Offsite Property No.:** 10422 |

**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 |
|---|---|---|---|---|---|---|---|---|
| B3M9X6 (3) | N | W | DEC 18 2018 | 1040 | 1x500-mL G/P | 6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 06 | 6 Months | HNO3 to pH <2 |
| B3M9Y3 (4) | Y | W | DEC 18 2018 | 1040 | 1x500-mL G/P | 6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 06 | 6 Months | HNO3 to pH <2 |

ALS1812290
1/3/2019

| Relinquished By: | Signature | Date/Time | Received By: | Signature | Date/Time |
|---|---|---|---|---|---|
| Kathy Turner /CHPRC | Kathy Turner | DEC 18 2018 / 210 | Jeff Lucas /CHPRC | | DEC 18 2018 / 210 |
| Relinquished By: Jeff Lucas /CHPRC | | DEC 18 2018 1400 | Received By: FEDEX | | |
| Relinquished By: FEDEX | | | Received By: KELI-JEAN SMITH | | 12-19-18 1250 |
| Relinquished By: | | | Received By: | | |

Matrix *
S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solids, DL = Drum Liquids, 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: |
|---|---|---|---|

REV.0



Printed On 10/29/2018 FSR ID = FSR71449 A-6004-842 (REV 3)

**ALS Environmental - Fort Collins**
**CONDITION OF SAMPLE UPON RECEIPT FORM**

Client: CHPRC Workorder No: 1812290
Project Manager: KMO Initials: Kg Date: 12/19/18

| | | | | |
|---|---|---|---|---|
| 1. | Are airbills / shipping documents present and/or removable? | DROP OFF | YES | NO |
| 2. | Are custody seals on **shipping** containers intact? | NONE | YES | NO |
| 3. | Are custody seals on **sample** containers intact? | NONE | YES | NO |
| 4. | Is there a COC (chain-of-custody) present? | | YES | NO |
| 5. | Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.) | | YES | NO |
| 6. | Are short-hold samples present? | | YES | NO |
| 7. | Are all samples within holding times for the requested analyses? | | YES | NO |
| 8. | Were all sample containers received intact? (not broken or leaking) | | YES | NO |
| 9. | Is there sufficient sample for the requested analyses? | | YES | NO |
| 10. | Are all samples in the proper containers for the requested analyses? | | YES | NO |
| 11. | Are all aqueous samples preserved correctly, if required? (excluding volatiles) | N/A | YES | NO |
| 12. | Are all aqueous non-preserved samples pH 4-9? | N/A | YES | NO |
| 13. | Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea) | N/A | YES | NO |
| 14. | Were the samples shipped on ice? | | YES | NO |
| 15. | Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #1 #3 #4 | RAD ONLY | YES | NO |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cooler #: | 1 | | | | | | | |
| Temperature (°C): | AMB | | | | | | | |
| No. of custody seals on cooler: | 2 | | | | | | | |
| DOT Survey/ Acceptance Information — External µR/hr reading: | 11 | | | | | | | |
| DOT Survey/ Acceptance Information — Background µR/hr reading: | 10 | | | | | | | |

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

**Additional Information:** **Please provide details here for any NO responses to gray-shaded boxes above, or any other issues noted:**

All client bottle ID's vs ALS lab ID's double-checked by: KG

If applicable, was the client contacted? **YES / NO / NA** Contact: _____ Date/Time: _____

**Project Manager Signature / Date:** 12/19/18

Form 201r26.xls
(06/29/2018)

*IR Gun #1, VWR SN 170560549
*IR Gun #3, VWR SN 170647571
*IR Gun #4, Oakton, SN 2372220101-0002

1812290

ORIGIN ID:PSCA (509) 373-3580
JANELLE ZUNKER
CH2M
6269 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 18DEC18
ACTWGT: 22.00 LB
CAD: 107068051/INET4040

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
INV:
PO:
REF: 10422
DEPT:

11-2

552J2/E4AF/DCA5

J182118081591cv

WED - 19 DEC 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US DEN

TRK# 0201 7740 1111 6618

XH FTCA

**After printing this label**:
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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

# Metals

## Case Narrative

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## CH2M HILL Plateau Remediation Company

SURV, DECEMBER 2018 -- S19-012

Work Order Number: 1812290

1. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

   For analysis by Trace ICP and ICP-MS, the samples were digested following method 3005A and the current revision of SOP 806.

2. Analysis by ICP-MS followed method 6020A and the current revision of SOP 827.

   Analysis by Trace ICP followed method 6010D and the current revision of SOP 834.

3. All standards and solutions are NIST traceable and were used within their recommended shelf life.

4. The samples were prepared and analyzed within the established hold time.

All in house quality control procedures were followed, as described below.

5. General quality control procedures.

   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in this digestion batch.
   - The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes. Sample results have been compared to the blank results and are flagged as appropriate. Sodium, molybdenum, phosphorus and tin were detected above the MDL.
   - All laboratory control sample criteria were met.
   - All initial and continuing calibration blanks were below the reporting limit for the requested analytes.

- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples and high standard read-backs associated with Method 6010D were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.

6. Matrix specific quality control procedures.

   Sample 1812219-1 was designated as the quality control sample for each analysis. Results for the shared quality control samples are included at the client's request.

   Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

   - A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
   - A serial dilution was analyzed with each ICP batch. All acceptance criteria were met with the following exception:

| Analyte | Sample ID |
|---|---|
| Potassium | 1812219-1L |

   The native sample result is flagged for serial dilution failure.

7. It is a standard practice that samples for ICP-MS are analyzed at a dilution. The 10X factor can be considered an artifact of the prep and does not indicate a secondary dilution and is therefore not flagged as a dilution.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Megan Johnstone — 1/3/19
Megan Johnstone — Date
Inorganics Primary Data Reviewer

1/03/19
Inorganics Final Data Reviewer — Date

## Inorganic Data Reporting Qualifiers

The following qualifiers are used as needed by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- A “B” is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL). If the analyte was analyzed for but not detected a “U” is entered. For samples, negative values are reported as non-detects (“U” flagged). For blanks, if the absolute value of the negative value is above the MDL and below the reporting limit, then the result is “B” flagged.

- QC qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

  M - Duplicate injection precision was not met.

  N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

  Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

  * - Duplicate analysis (relative percent difference) not within control limits.

  S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

  C - The analyte was detected in both the sample and the associated QC blank, and the sample concentration was <=20X the blank concentration.

  D - Analyte was reported at a secondary dilution factor, typically DF>1 (i.e., the primary preparation required dilution to either bring the analyte within the calibration range or to minimize interference). Required for organics/wetchem if the sample was diluted.

# Total Recoverable ICP Metals

## Method SW6010D

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** B3M9X6
**Lab ID:** 1812290-3

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 18-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 26-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-3
**Run ID:** IT181226-1A5
**Cleanup:** NONE
**Basis:** As Received
**File Name:** 181226A.

**Analyst:** Steve Workman
**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | Dilution Factor | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 7440-42-8 | BORON | 1 | 100 | | 50 | 36 |
| 7440-70-2 | CALCIUM | 1 | 33000 | | 1000 | 210 |
| 7439-89-6 | IRON | 1 | 30 | U | 50 | 30 |
| 7439-95-4 | MAGNESIUM | 1 | 7000 | | 750 | 89 |
| 7723-14-0 | PHOSPHORUS | 1 | 60 | BC | 200 | 5.3 |
| 7440-09-7 | POTASSIUM | 1 | 5600 | | 1000 | 130 |
| 7440-23-5 | SODIUM | 1 | 80000 | | 500 | 38 |
| 7440-62-2 | VANADIUM | 1 | 17 | | 10 | 0.43 |

**Data Package ID:** *it1812290-1*

# Dissolved ICP Metals

## Method SW6010D

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** B3M9Y3
**Lab ID:** 1812290-4

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 18-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 26-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-3
**Run ID:** IT181226-1A5
**Cleanup:** NONE
**Basis:** As Received
**File Name:** 181226A.

**Analyst:** Steve Workman
**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | Dilution Factor | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 7440-42-8 | BORON | 1 | 110 | | 50 | 36 |
| 7440-70-2 | CALCIUM | 1 | 33000 | | 1000 | 210 |
| 7439-89-6 | IRON | 1 | 30 | U | 50 | 30 |
| 7439-95-4 | MAGNESIUM | 1 | 7100 | | 750 | 89 |
| 7723-14-0 | PHOSPHORUS | 1 | 63 | BC | 200 | 5.3 |
| 7440-09-7 | POTASSIUM | 1 | 5700 | | 1000 | 130 |
| 7440-23-5 | SODIUM | 1 | 80000 | | 500 | 38 |
| 7440-62-2 | VANADIUM | 1 | 16 | | 10 | 0.43 |

**Data Package ID:** *it1812290-1*

# Total Recoverable ICPMS Metals

## Method SW6020A

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** B3M9X6
**Lab ID:** 1812290-3

**Analysis ReqCode:** 6020_METALS_I

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 18-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 28-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-1
**Run ID:** IM181228-10A8
**Cleanup:** NONE
**Basis:** As Received
**File Name:** 037SMPL_

**Analyst:** Nicole C. Chirban
**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | Dilution Factor | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 7429-90-5 | ALUMINUM | 10 | 10 | U | 100 | 10 |
| 7440-36-0 | ANTIMONY | 10 | 0.24 | B | 1 | 0.12 |
| 7440-38-2 | ARSENIC | 10 | 6.1 | | 2 | 0.39 |
| 7440-39-3 | BARIUM | 10 | 48 | | 5 | 0.56 |
| 7440-41-7 | BERYLLIUM | 10 | 0.054 | U | 0.5 | 0.054 |
| 7440-43-9 | CADMIUM | 10 | 0.083 | U | 2 | 0.083 |
| 7440-47-3 | CHROMIUM | 10 | 6.4 | B | 10 | 0.46 |
| 7440-48-4 | COBALT | 10 | 0.11 | U | 5 | 0.11 |
| 7440-50-8 | COPPER | 10 | 0.32 | U | 8 | 0.32 |
| 7439-92-1 | LEAD | 10 | 0.22 | B | 2 | 0.079 |
| 7439-96-5 | MANGANESE | 10 | 0.54 | B | 5 | 0.36 |
| 7439-98-7 | MOLYBDENUM | 10 | 4.1 | | 2 | 0.079 |
| 7440-02-0 | NICKEL | 10 | 0.92 | U | 20 | 0.92 |
| 7782-49-2 | SELENIUM | 10 | 1.7 | B | 10 | 0.65 |
| 7440-22-4 | SILVER | 10 | 0.029 | U | 0.5 | 0.029 |
| 7440-24-6 | STRONTIUM | 10 | 190 | | 5 | 0.32 |
| 7440-28-0 | THALLIUM | 10 | 0.0041 | U | 0.1 | 0.0041 |
| 7440-29-1 | THORIUM | 10 | 0.016 | U | 0.2 | 0.016 |
| 7440-31-5 | TIN | 10 | 0.42 | BC | 10 | 0.12 |
| 7440-61-1 | URANIUM | 10 | 2.8 | | 0.1 | 0.0049 |
| 7440-66-6 | ZINC | 10 | 1.4 | U | 100 | 1.4 |

**Data Package ID:** *IM1812290-1*

# Dissolved ICPMS Metals

## Method SW6020A

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** B3M9Y3
**Lab ID:** 1812290-4

**Analysis ReqCode:** 6020_METALS_I

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 18-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 28-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-1
**Run ID:** IM181228-10A8
**Cleanup:** NONE
**Basis:** As Received
**File Name:** 038SMPL_

**Analyst:** Nicole C. Chirban
**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | Dilution Factor | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 7429-90-5 | ALUMINUM | 10 | 10 | U | 100 | 10 |
| 7440-36-0 | ANTIMONY | 10 | 0.27 | B | 1 | 0.12 |
| 7440-38-2 | ARSENIC | 10 | 5.6 | | 2 | 0.39 |
| 7440-39-3 | BARIUM | 10 | 50 | | 5 | 0.56 |
| 7440-41-7 | BERYLLIUM | 10 | 0.054 | U | 0.5 | 0.054 |
| 7440-43-9 | CADMIUM | 10 | 0.083 | U | 2 | 0.083 |
| 7440-47-3 | CHROMIUM | 10 | 6.2 | B | 10 | 0.46 |
| 7440-48-4 | COBALT | 10 | 0.11 | U | 5 | 0.11 |
| 7440-50-8 | COPPER | 10 | 0.32 | U | 8 | 0.32 |
| 7439-92-1 | LEAD | 10 | 0.18 | B | 2 | 0.079 |
| 7439-96-5 | MANGANESE | 10 | 0.36 | U | 5 | 0.36 |
| 7439-98-7 | MOLYBDENUM | 10 | 4.1 | | 2 | 0.079 |
| 7440-02-0 | NICKEL | 10 | 0.92 | U | 20 | 0.92 |
| 7782-49-2 | SELENIUM | 10 | 1.6 | B | 10 | 0.65 |
| 7440-22-4 | SILVER | 10 | 0.029 | U | 0.5 | 0.029 |
| 7440-24-6 | STRONTIUM | 10 | 190 | | 5 | 0.32 |
| 7440-28-0 | THALLIUM | 10 | 0.0041 | U | 0.1 | 0.0041 |
| 7440-29-1 | THORIUM | 10 | 0.016 | U | 0.2 | 0.016 |
| 7440-31-5 | TIN | 10 | 0.47 | BC | 10 | 0.12 |
| 7440-61-1 | URANIUM | 10 | 2.8 | | 0.1 | 0.0049 |
| 7440-66-6 | ZINC | 10 | 1.4 | U | 100 | 1.4 |

**Data Package ID:** *IM1812290-1*

# ICP Metals

## Method SW6010D
## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** IP181224-2MB

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 26-Dec-18

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-3
**Run ID:** IT181226-1A5
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 181226A.

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | DF | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 7440-42-8 | BORON | 1 | 36 | U | 50 | 36 |
| 7440-70-2 | CALCIUM | 1 | 210 | U | 1000 | 210 |
| 7439-89-6 | IRON | 1 | 30 | U | 50 | 30 |
| 7439-95-4 | MAGNESIUM | 1 | 89 | U | 750 | 89 |
| 7723-14-0 | PHOSPHORUS | 1 | 29 | B | 200 | 5.3 |
| 7440-09-7 | POTASSIUM | 1 | 130 | U | 1000 | 130 |
| 7440-23-5 | SODIUM | 1 | 87 | B | 500 | 38 |
| 7440-62-2 | VANADIUM | 1 | 0.43 | U | 10 | 0.43 |

**Data Package ID:** *it1812290-1*

# ICP Metals

## Method SW6010D

## Laboratory Control Sample

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** IP181224-2LCS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 12/24/2018
**Date Analyzed:** 12/26/2018
**Prep Method:** SW3005A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-3
**Run ID:** IT181226-1A5
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 181226A.

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | Spike Added | LCS Result | Reporting Limit | Result Qualifier | LCS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 7440-42-8 | BORON | 1000 | 976 | 50 | | 98 | 80 - 120% |
| 7440-70-2 | CALCIUM | 40000 | 38600 | 1000 | | 97 | 80 - 120% |
| 7439-89-6 | IRON | 1000 | 951 | 50 | | 95 | 80 - 120% |
| 7439-95-4 | MAGNESIUM | 40000 | 39400 | 750 | | 98 | 80 - 120% |
| 7723-14-0 | PHOSPHORUS | 10000 | 9800 | 200 | | 98 | 80 - 120% |
| 7440-09-7 | POTASSIUM | 40000 | 40400 | 1000 | | 101 | 80 - 120% |
| 7440-23-5 | SODIUM | 40000 | 38600 | 500 | | 97 | 80 - 120% |
| 7440-62-2 | VANADIUM | 500 | 494 | 10 | | 99 | 80 - 120% |

**Data Package ID:** *it1812290-1*

# ICP Metals

## Method SW6010D

## Matrix Spike And Matrix Spike Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** SHARED QC
**LabID:** 1812219-1MS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 26-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-3
**Run ID:** IT181226-1A5
**Cleanup:** NONE
**Basis:** As Received

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**File Name:** 181226A.

| CASNO | Target Analyte | Sample Result | Samp Qual | MS Result | MS Qual | Reporting Limit | Spike Added | MS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| 7440-42-8 | BORON | 36 | U | 953 | | 50 | 1000 | 95 | 80 - 120% |
| 7440-70-2 | CALCIUM | 210 | U | 38200 | | 1000 | 40000 | 96 | 80 - 120% |
| 7439-89-6 | IRON | 30 | U | 937 | | 50 | 1000 | 94 | 80 - 120% |
| 7439-95-4 | MAGNESIUM | 89 | U | 38800 | | 750 | 40000 | 97 | 80 - 120% |
| 7723-14-0 | PHOSPHORUS | 5.3 | U | 9700 | | 200 | 10000 | 97 | 80 - 120% |
| 7440-09-7 | POTASSIUM | 130 | U | 39100 | | 1000 | 40000 | 98 | 80 - 120% |
| 7440-23-5 | SODIUM | 100 | BC | 37500 | | 500 | 40000 | 94 | 80 - 120% |
| 7440-62-2 | VANADIUM | 0.43 | U | 487 | | 10 | 500 | 97 | 80 - 120% |

**Field ID:** SHARED QC
**LabID:** 1812219-1MSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 26-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-3
**Run ID:** IT181226-1A5
**Cleanup:** NONE
**Basis:** As Received

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**File Name:** 181226A.

| CASNO | Target Analyte | MSD Result | MSD Qual | Spike Added | MSD % Rec. | Reporting Limit | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| 7440-42-8 | BORON | 959 | | 1000 | 96 | 50 | 20 | 1 |
| 7440-70-2 | CALCIUM | 38300 | | 40000 | 96 | 1000 | 20 | 0 |
| 7439-89-6 | IRON | 942 | | 1000 | 94 | 50 | 20 | 0 |
| 7439-95-4 | MAGNESIUM | 39000 | | 40000 | 97 | 750 | 20 | 0 |
| 7723-14-0 | PHOSPHORUS | 9660 | | 10000 | 97 | 200 | 20 | 0 |
| 7440-09-7 | POTASSIUM | 39500 | | 40000 | 99 | 1000 | 20 | 1 |
| 7440-23-5 | SODIUM | 37900 | | 40000 | 94 | 500 | 20 | 1 |
| 7440-62-2 | VANADIUM | 489 | | 500 | 98 | 10 | 20 | 0 |

**Data Package ID:** *it1812290-1*

# Prep Batch ID: IP181224-2

**Start Date:** 12/24/18
**Start Time:** 10:15
**Prep Analyst:** Jill M. Latelle

**End Date:** 12/24/18
**End Time:** 18:00

**Concentration Method:** NONE
**Extract Method:** SW3005A
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** jml
**Date Created:** 12/24/18
**Time Created:** 10:15
**Validated By:** jml
**Date Validated:** 12/24/18
**Time Validated:** 10:51

**Comments:**

**QC Batch ID:** IP181224-2-3

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| IP181224-2 | MB | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| IP181224-2 | LCS | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-1 | MS | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-1 | MSD | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-1 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-2 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-3 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-4 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812290-3 | SMP | B3M9X6 | WATER | 12/18/2018 | 50 | 50 | NONE | 1 | 1812290 |
| 1812290-4 | SMP | B3M9Y3 | WATER | 12/18/2018 | 50 | 50 | NONE | 1 | 1812290 |

**QC Types**

| | | | |
|---|---|---|---|
| CAR | Carrier reference sample | DUP | Laboratory Duplicate |
| LCS | Laboratory Control Sample | LCSD | Laboratory Control Sample Duplicat |
| MB | Method Blank | MS | Laboratory Matrix Spike |
| MSD | Laboratory Matrix Spike Duplicate | REP | Sample replicate |
| RVS | Reporting Level Verification Standar | SMP | Field Sample |
| SYS | Sample Yield Spike | | |

# ICPMS Metals

## Method SW6020A
## Method Blank

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** IP181224-2MB

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 28-Dec-18

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-1
**Run ID:** IM181228-10A8
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 010SMPL_

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | DF | Result | Result Qualifier | Reporting Limit | MDL |
|---|---|---|---|---|---|---|
| 7429-90-5 | ALUMINUM | 10 | 10 | U | 100 | 10 |
| 7440-36-0 | ANTIMONY | 10 | 0.12 | U | 1 | 0.12 |
| 7440-38-2 | ARSENIC | 10 | 0.39 | U | 2 | 0.39 |
| 7440-39-3 | BARIUM | 10 | 0.56 | U | 5 | 0.56 |
| 7440-41-7 | BERYLLIUM | 10 | 0.054 | U | 0.5 | 0.054 |
| 7440-43-9 | CADMIUM | 10 | 0.083 | U | 2 | 0.083 |
| 7440-47-3 | CHROMIUM | 10 | 0.46 | U | 10 | 0.46 |
| 7440-48-4 | COBALT | 10 | 0.11 | U | 5 | 0.11 |
| 7440-50-8 | COPPER | 10 | 0.32 | U | 8 | 0.32 |
| 7439-92-1 | LEAD | 10 | 0.079 | U | 2 | 0.079 |
| 7439-96-5 | MANGANESE | 10 | 0.36 | U | 5 | 0.36 |
| 7439-98-7 | MOLYBDENUM | 10 | 0.08 | B | 2 | 0.079 |
| 7440-02-0 | NICKEL | 10 | 0.92 | U | 20 | 0.92 |
| 7782-49-2 | SELENIUM | 10 | 0.65 | U | 10 | 0.65 |
| 7440-22-4 | SILVER | 10 | 0.029 | U | 0.5 | 0.029 |
| 7440-24-6 | STRONTIUM | 10 | 0.32 | U | 5 | 0.32 |
| 7440-28-0 | THALLIUM | 10 | 0.0041 | U | 0.1 | 0.0041 |
| 7440-29-1 | THORIUM | 10 | 0.016 | U | 0.2 | 0.016 |
| 7440-31-5 | TIN | 10 | 0.82 | B | 10 | 0.12 |
| 7440-61-1 | URANIUM | 10 | 0.0049 | U | 0.1 | 0.0049 |
| 7440-66-6 | ZINC | 10 | 1.4 | U | 100 | 1.4 |

**Data Package ID:** *IM1812290-1*

# ICPMS Metals

## Method SW6020A

## Laboratory Control Sample

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** IM181224-2LCS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** N/A
**Date Extracted:** 12/24/2018
**Date Analyzed:** 12/28/2018
**Prep Method:** SW3005A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-1
**Run ID:** IM181228-10A8
**Cleanup:** NONE
**Basis:** N/A
**File Name:** 011SMPL_

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**Clean DF:** 1

| CASNO | Target Analyte | Spike Added | LCS Result | Reporting Limit | Result Qualifier | LCS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | ALUMINUM | 5000 | 4990 | 100 | | 100 | 80 - 120% |
| 7440-36-0 | ANTIMONY | 30 | 28.8 | 1 | | 96 | 80 - 120% |
| 7440-38-2 | ARSENIC | 100 | 107 | 2 | | 107 | 80 - 120% |
| 7440-39-3 | BARIUM | 100 | 105 | 5 | | 105 | 80 - 120% |
| 7440-41-7 | BERYLLIUM | 50 | 50 | 0.5 | | 100 | 80 - 120% |
| 7440-43-9 | CADMIUM | 30 | 30 | 2 | | 100 | 80 - 120% |
| 7440-47-3 | CHROMIUM | 500 | 548 | 10 | | 110 | 80 - 120% |
| 7440-48-4 | COBALT | 100 | 103 | 5 | | 103 | 80 - 120% |
| 7440-50-8 | COPPER | 1000 | 1140 | 8 | | 114 | 80 - 120% |
| 7439-92-1 | LEAD | 50 | 49.8 | 2 | | 100 | 80 - 120% |
| 7439-96-5 | MANGANESE | 100 | 104 | 5 | | 104 | 80 - 120% |
| 7439-98-7 | MOLYBDENUM | 100 | 104 | 2 | | 104 | 80 - 120% |
| 7440-02-0 | NICKEL | 500 | 521 | 20 | | 104 | 80 - 120% |
| 7782-49-2 | SELENIUM | 100 | 106 | 10 | | 106 | 80 - 120% |
| 7440-22-4 | SILVER | 10 | 11.2 | 0.5 | | 112 | 80 - 120% |
| 7440-24-6 | STRONTIUM | 100 | 97.4 | 5 | | 97 | 80 - 120% |
| 7440-28-0 | THALLIUM | 2 | 1.93 | 0.1 | | 96 | 80 - 120% |
| 7440-29-1 | THORIUM | 10 | 10.3 | 0.2 | | 103 | 80 - 120% |
| 7440-31-5 | TIN | 500 | 523 | 10 | | 105 | 80 - 120% |
| 7440-61-1 | URANIUM | 10 | 9.57 | 0.1 | | 96 | 80 - 120% |
| 7440-66-6 | ZINC | 2000 | 2160 | 100 | | 108 | 80 - 120% |

**Data Package ID:** *IM1812290-1*

# ICPMS Metals

## Method SW6020A

## Matrix Spike And Matrix Spike Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** SHARED QC
**LabID:** 1812219-1MS

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 28-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-1
**Run ID:** IM181228-10A8
**Cleanup:** NONE
**Basis:** As Received

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**File Name:** 024SMPL_

| CASNO | Target Analyte | Sample Result | Samp Qual | MS Result | MS Qual | Reporting Limit | Spike Added | MS % Rec. | Control Limits |
|---|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | ALUMINUM | 10 | U | 4950 | | 100 | 5000 | 99 | 75 - 125% |
| 7440-36-0 | ANTIMONY | 0.12 | U | 29.7 | | 1 | 30 | 99 | 75 - 125% |
| 7440-38-2 | ARSENIC | 0.39 | U | 105 | | 2 | 100 | 105 | 75 - 125% |
| 7440-39-3 | BARIUM | 0.56 | U | 107 | | 5 | 100 | 107 | 75 - 125% |
| 7440-41-7 | BERYLLIUM | 0.054 | U | 51.3 | | 0.5 | 50 | 103 | 75 - 125% |
| 7440-43-9 | CADMIUM | 0.083 | U | 29.4 | | 2 | 30 | 98 | 75 - 125% |
| 7440-47-3 | CHROMIUM | 0.55 | B | 556 | | 10 | 500 | 111 | 75 - 125% |
| 7440-48-4 | COBALT | 0.11 | U | 100 | | 5 | 100 | 100 | 75 - 125% |
| 7440-50-8 | COPPER | 0.32 | U | 1060 | | 8 | 1000 | 106 | 75 - 125% |
| 7439-92-1 | LEAD | 0.14 | B | 49.8 | | 2 | 50 | 99 | 75 - 125% |
| 7439-96-5 | MANGANESE | 0.36 | U | 104 | | 5 | 100 | 104 | 75 - 125% |
| 7439-98-7 | MOLYBDENUM | 0.079 | U | 106 | | 2 | 100 | 106 | 75 - 125% |
| 7440-02-0 | NICKEL | 0.92 | U | 509 | | 20 | 500 | 102 | 75 - 125% |
| 7782-49-2 | SELENIUM | 0.65 | U | 103 | | 10 | 100 | 103 | 75 - 125% |
| 7440-22-4 | SILVER | 0.04 | B | 11.1 | | 0.5 | 10 | 110 | 75 - 125% |
| 7440-24-6 | STRONTIUM | 0.32 | U | 97.8 | | 5 | 100 | 98 | 75 - 125% |
| 7440-28-0 | THALLIUM | 0.0041 | U | 1.92 | | 0.1 | 2 | 96 | 75 - 125% |
| 7440-29-1 | THORIUM | 0.016 | U | 10.3 | | 0.2 | 10 | 103 | 75 - 125% |
| 7440-31-5 | TIN | 0.75 | BC | 529 | | 10 | 500 | 106 | 75 - 125% |
| 7440-61-1 | URANIUM | 0.0049 | U | 10.2 | | 0.1 | 10 | 102 | 75 - 125% |
| 7440-66-6 | ZINC | 1.4 | U | 2050 | | 100 | 2000 | 103 | 75 - 125% |

**Data Package ID:** *IM1812290-1*

# ICPMS Metals

## Method SW6020A

## Matrix Spike And Matrix Spike Duplicate

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** SHARED QC
**LabID:** 1812219-1MSD

**Sample Matrix:** WATER
**% Moisture:** N/A
**Date Collected:** 13-Dec-18
**Date Extracted:** 24-Dec-18
**Date Analyzed:** 28-Dec-18
**Prep Method:** SW3005 Rev A

**Prep Batch:** IP181224-2
**QCBatchID:** IP181224-2-1
**Run ID:** IM181228-10A8
**Cleanup:** NONE
**Basis:** As Received

**Sample Aliquot:** 50 ml
**Final Volume:** 50 ml
**Result Units:** UG/L
**File Name:** 025SMPL_

| CASNO | Target Analyte | MSD Result | MSD Qual | Spike Added | MSD % Rec. | Reporting Limit | RPD Limit | RPD |
|---|---|---|---|---|---|---|---|---|
| 7429-90-5 | ALUMINUM | 5050 | | 5000 | 101 | 100 | 20 | 2 |
| 7440-36-0 | ANTIMONY | 29.5 | | 30 | 98 | 1 | 20 | 1 |
| 7440-38-2 | ARSENIC | 105 | | 100 | 105 | 2 | 20 | 1 |
| 7440-39-3 | BARIUM | 109 | | 100 | 109 | 5 | 20 | 1 |
| 7440-41-7 | BERYLLIUM | 52 | | 50 | 104 | 0.5 | 20 | 1 |
| 7440-43-9 | CADMIUM | 29.6 | | 30 | 99 | 2 | 20 | 1 |
| 7440-47-3 | CHROMIUM | 571 | | 500 | 114 | 10 | 20 | 3 |
| 7440-48-4 | COBALT | 102 | | 100 | 102 | 5 | 20 | 2 |
| 7440-50-8 | COPPER | 1100 | | 1000 | 110 | 8 | 20 | 3 |
| 7439-92-1 | LEAD | 50.6 | | 50 | 101 | 2 | 20 | 2 |
| 7439-96-5 | MANGANESE | 105 | | 100 | 105 | 5 | 20 | 1 |
| 7439-98-7 | MOLYBDENUM | 109 | | 100 | 109 | 2 | 20 | 3 |
| 7440-02-0 | NICKEL | 516 | | 500 | 103 | 20 | 20 | 1 |
| 7782-49-2 | SELENIUM | 102 | | 100 | 102 | 10 | 20 | 0 |
| 7440-22-4 | SILVER | 11.2 | | 10 | 112 | 0.5 | 20 | 2 |
| 7440-24-6 | STRONTIUM | 98.2 | | 100 | 98 | 5 | 20 | 0 |
| 7440-28-0 | THALLIUM | 2 | | 2 | 100 | 0.1 | 20 | 4 |
| 7440-29-1 | THORIUM | 10.6 | | 10 | 106 | 0.2 | 20 | 3 |
| 7440-31-5 | TIN | 529 | | 500 | 106 | 10 | 20 | 0 |
| 7440-61-1 | URANIUM | 10.2 | | 10 | 102 | 0.1 | 20 | 0 |
| 7440-66-6 | ZINC | 2120 | | 2000 | 106 | 100 | 20 | 3 |

**Data Package ID:** *IM1812290-1*

# Prep Batch ID: IP181224-2

**Start Date:** 12/24/18
**Start Time:** 10:15
**Prep Analyst:** Jill M. Latelle

**End Date:** 12/24/18
**End Time:** 18:00

**Concentration Method:** NONE
**Extract Method:** SW3005A
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** jml
**Date Created:** 12/24/18
**Time Created:** 10:15
**Validated By:** jml
**Date Validated:** 12/24/18
**Time Validated:** 10:51

**Comments:**

**QC Batch ID:** IP181224-2-1

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| IP181224-2 | MB | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| IM181224-2 | LCS | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-1 | MS | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-1 | MSD | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812217-1 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812217 |
| 1812217-2 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812217 |
| 1812217-4 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812217 |
| 1812217-5 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812217 |
| 1812219-1 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-2 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-3 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812219-4 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812219 |
| 1812258-1 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812258 |
| 1812258-2 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812258 |
| 1812261-1 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812261 |
| 1812261-2 | SMP | XXXXXX | WATER | XXXXXX | 50 | 50 | NONE | 1 | 1812261 |
| 1812290-3 | SMP | B3M9X6 | WATER | 12/18/2018 | 50 | 50 | NONE | 1 | 1812290 |
| 1812290-4 | SMP | B3M9Y3 | WATER | 12/18/2018 | 50 | 50 | NONE | 1 | 1812290 |

**QC Types**

| | | | |
|---|---|---|---|
| CAR | Carrier reference sample | DUP | Laboratory Duplicate |
| LCS | Laboratory Control Sample | LCSD | Laboratory Control Sample Duplicat |
| MB | Method Blank | MS | Laboratory Matrix Spike |
| MSD | Laboratory Matrix Spike Duplicate | REP | Sample replicate |
| RVS | Reporting Level Verification Standar | SMP | Field Sample |
| SYS | Sample Yield Spike | | |

# Strontium-90

## Case Narrative

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## CH2M HILL Plateau Remediation Company

SURV, DECEMBER 2018 – S19-012

Work Order Number: 1812290

1. The samples were prepared according to the current revision of SOP 707.

2. The samples were analyzed for the presence of $^{90}Sr$ according to the current revision of SOP 724. The analyses were completed on 12/31/2018.

3. Total radio-strontium is reported as $^{90}Sr$. The presence of other radioisotopes of strontium may cause positive bias in the measured strontium concentration.

4. The analysis results for the samples are reported in units of pCi/L. The samples were not filtered prior to analysis.

5. Sample volume was insufficient to allow preparation of a duplicate. A laboratory control sample duplicate (LCSD) was prepared in lieu of a client sample duplicate.

6. In accordance with project specific instructions, the evaluation threshold for Relative Percent Difference (RPD) has been set at 20%. RPD is defined as:

$$RPD = \frac{/S - D/}{(S + D)/2} * 100$$

   Where: S = sample activity result and D = duplicate activity result.

7. No anomalous situations were encountered during the preparation and analysis of these samples. All quality control criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Pik Yee Yuen — 1/3/19

Pik Yee Yuen
Radiochemistry Primary Data Reviewer

Date

1/03/19

Radiochemistry Final Data Reviewer

Date

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Method Blank Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** SR181226-1MB

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 26-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes

**Final Aliquot:** 994 ml
**Result Units:** pCi/l
**File Name:** SRC1231A

| CASNO | Target Nuclide | Result +/- 2 s TPU | MDC | Requested MDC | DL | Lab Qualifier |
|---|---|---|---|---|---|---|
| 10098-97-2 | Sr-90 | -8.60E-02 +/- 2.39E-01 | 5.70E-01 | 1.00E+00 | NA | U |

## Chemical Yield Summary

| Carrier/Tracer | Amount Added | Result | Units | Yield | Control Limits | Flag |
|---|---|---|---|---|---|---|
| STRONTIUM | 9.170E+02 | 8.63E+02 | ug | 94.1 | 40 - 110 % | |

**Comments:**

**Qualifiers/Flags:**
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.

Abbreviations:
TPU - Total Propagated Uncertainty
MDC - Sample specific Minimum Detectable Concentration
BDL - Below Detection Limit

M - Requested MDC not met.
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.
DL - Decision Level

**Data Package ID:** *SR1812290-1*

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Laboratory Control Sample(s)

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** SR181226-1LCS

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 26-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes

**Final Aliquot:** 994 ml
**Result Units:** pCi/l
**File Name:** SRC1231A

| CASNO | Target Nuclide | Results +/- 2s TPU | MDC | Spike Added | % Rec | Control Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|
| 10098-97-2 | Sr-90 | 1.08E+01 +/- 2.62E+00 | 5.59E-01 | 1.060E+01 | 102 | 75 - 125 | |

## Chemical Yield Summary

| Carrier/Tracer | Amount Added | Result | Units | Yield | Control Limits | Flag |
|---|---|---|---|---|---|---|
| STRONTIUM | 9.170E+02 | 8.37E+02 | ug | 91.3 | 40 - 110 % | |

**Comments:**

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty
MDC - Minimum Detectable Concentration

**Data Package ID:** *SR1812290-1*

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Laboratory Control Sample(s)

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Lab ID:** SR181226-1LCSD

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 26-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes

**Final Aliquot:** 994 ml
**Result Units:** pCi/l
**File Name:** SRC1231A

| CASNO | Target Nuclide | Results +/- 2s TPU | MDC | Spike Added | % Rec | Control Limits | Lab Qualifier |
|---|---|---|---|---|---|---|---|
| 10098-97-2 | Sr-90 | 1.28E+01 +/- 3.10E+00 | 5.64E-01 | 1.060E+01 | 121 | 75 - 125 | |

## Chemical Yield Summary

| Carrier/Tracer | Amount Added | Result | Units | Yield | Control Limits | Flag |
|---|---|---|---|---|---|---|
| STRONTIUM | 9.350E+02 | 8.98E+02 | ug | 96.1 | 40 - 110 % | |

**Comments:**

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.
Y2 - Chemical Yield outside default limits.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS Recovery within control limits.
M - The requested MDC was not met.
M3 - The requested MDC was not met, but thereported activity is greater than the reported MDC.

Abbreviations:

TPU - Total Propagated Uncertainty
MDC - Minimum Detectable Concentration

**Data Package ID:** *SR1812290-1*

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Duplicate Sample Results (DER)

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:**
**Lab ID:** SR181226-1LCSD

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 26-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes

**Final Aliquot:** 994 ml
**Prep Basis:** Unfiltered
**Moisture(%):** NA
**Result Units:** pCi/l
**File Name:** SRC1231A

| CASNO | Analyte | Sample | | | | Duplicate | | | | DER | DER Lim |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Result +/- | 2 s TPU | MDC | Flags | Result +/- | 2 s TPU | MDC | Flags | | |
| 10098-97-2 | Sr-90 | 1.08E+01 | +/- 2.62E+00 | 5.59E-01 | | 1.28E+01 | +/- 3.10E+00 | 5.64E-01 | | 1.02 | 3 |

### Comments:

**Duplicate Qualifiers/Flags:**

U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.

D - DER is greater than Control Limit of 3
LT - Result is less than Request MDC, greater than sample specific MDC
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits

Abbreviations:

TPU - Total Propagated Uncertainty
DER - Duplicate Error Ratio
BDL - Below Detection Limit
NR - Not Reported

**Data Package ID:** *SR1812290-1*

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Duplicate Sample Results (RPD)

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:**
**Lab ID:** SR181226-1LCSD

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 26-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes

**Final Aliquot:** 994 ml
**Prep Basis:** Unfiltered
**Moisture(%):** NA
**Result Units:** pCi/l
**File Name:** SRC1231A

| CASNO | Analyte | Sample | | | | Duplicate | | | | RPD | RPD Lim |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Result +/- | 2 s TPU | MDC | Flags | Result +/- | 2 s TPU | MDC | Flags | | |
| 10098-97-2 | Sr-90 | 1.08E+01 | +/- 2.62E+00 | 5.59E-01 | | 1.28E+01 | +/- 3.10E+00 | 5.64E-01 | | 17.00 | 20 |

### Comments:

**Qualifiers/Flags:**

+ - Duplicate RPD not within limits.
U - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
M - Requested MDC not met.
M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC

Abbreviations:

TPU - Total Propagated Uncertainty
BDL - Below Detection Limit
NR - Not Reported

**Data Package ID:** *SR1812290-1*

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** B3M9T4
**Lab ID:** 1812290-1

**Analysis ReqCode:** SRISO_SEP_PR

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 18-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes
**Report Basis:** Unfiltered

**Final Aliquot:** 994 ml
**Prep Basis:** Unfiltered
**Moisture(%):** NA
**Result Units:** pCi/l
**File Name:** SRC1231

| CASNO | Target Nuclide | Result +/- 2 s TPU | MDC | Requested MDC | DL | Lab Qualifier |
|---|---|---|---|---|---|---|
| 10098-97-2 | Sr-90 | -8.79E-02 +/- 2.32E-01 | 5.56E-01 | 1E+00 | NA | U |

## Chemical Yield Summary

| Carrier/Tracer | Amount Added | Result | Units | Yield | Control Limits | Flag |
|---|---|---|---|---|---|---|
| STRONTIUM | 9.170E+02 | 8.47E+02 | ug | 92.4 | 40 - 110 % | |

**Comments:**

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Sample specific Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

**Data Package ID:** *SR1812290-1*

# Strontium-90 by GFPC

## PAI 724 Rev 13

## Sample Results

**Lab Name:** ALS -- Fort Collins
**Work Order Number:** 1812290
**Client Name:** CH2M HILL Plateau Remediation Company
**ClientProject ID:** SURV, DECEMBER 2018 S19-012

**Field ID:** B3M9T5
**Lab ID:** 1812290-2

**Analysis ReqCode:** SRISO_SEP_PR

**Sample Matrix:** WATER
**Prep SOP:** PAI 707 Rev 15
**Date Collected:** 18-Dec-18
**Date Prepared:** 26-Dec-18
**Date Analyzed:** 31-Dec-18

**Prep Batch:** SR181226-1
**QCBatchID:** SR181226-1-2
**Run ID:** SR181226-1A
**Count Time:** 90 minutes
**Report Basis:** Unfiltered

**Final Aliquot:** 994 ml
**Prep Basis:** Unfiltered
**Moisture(%):** NA
**Result Units:** pCi/l
**File Name:** SRC1231

| CASNO | Target Nuclide | Result +/- 2 s TPU | MDC | Requested MDC | DL | Lab Qualifier |
|---|---|---|---|---|---|---|
| 10098-97-2 | Sr-90 | 2.47E-02 +/- 2.59E-01 | 6.00E-01 | 1E+00 | NA | U |

## Chemical Yield Summary

| Carrier/Tracer | Amount Added | Result | Units | Yield | Control Limits | Flag |
|---|---|---|---|---|---|---|
| STRONTIUM | 1.070E+03 | 9.69E+02 | ug | 90.9 | 40 - 110 % | |

**Comments:**

**Qualifiers/Flags:**

U - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative Yield is assumed.

Y2 - Chemical Yield outside default limits.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

M - The requested MDC was not met.

Abbreviations:

TPU - Total Propagated Uncertainty

MDC - Sample specific Minimum Detectable Concentration

BDL - Below Detection Limit

DL - Decision Level

**Data Package ID:** *SR1812290-1*

# Prep Batch ID: SR181226-1

**Start Date:** 12/26/18
**Start Time:** 7:58
**Prep Analyst:** Reilly G. Stockton

**End Date:** 12/26/18
**End Time:** 7:58

**Concentration Method:** NONE
**Extract Method:** PAI 70715
**Initial Volume Units:** ml
**Final Volume Units:** ml

**Batch Created By:** rgs
**Date Created:** 12/26/18
**Time Created:** 7:58
**Validated By:** rgs
**Date Validated:** 12/28/18
**Time Validated:** 9:37

**Comments:**

**QC Batch ID:** SR181226-1-2

| Lab ID | QC Type | Field ID | Matrix | Date Collected | Initial Wt/Vol | Final Wt/Vol | Cleanup Method | Cleanup DF | Order Number |
|---|---|---|---|---|---|---|---|---|---|
| SR181226-1 | CAR | XXXXXX | WATER | XXXXXX | 1000 | 1000 | NONE | 1 | 1812260 |
| SR181226-1 | MB | XXXXXX | WATER | XXXXXX | 1000 | 994.01 | NONE | 1 | 1812260 |
| SR181226-1 | LCS | XXXXXX | WATER | XXXXXX | 1000 | 994.01 | NONE | 1 | 1812260 |
| SR181226-1 | LCSD | XXXXXX | WATER | XXXXXX | 1000 | 994.01 | NONE | 1 | 1812260 |
| 1812260-1 | SMP | XXXXXX | WATER | XXXXXX | 1000 | 994.01 | NONE | 1 | 1812260 |
| 1812290-1 | SMP | B3M9T4 | WATER | 12/18/2018 | 1000 | 994.01 | NONE | 1 | 1812290 |
| 1812290-2 | SMP | B3M9T5 | WATER | 12/18/2018 | 1000 | 994.01 | NONE | 1 | 1812290 |
| 1812339-1 | SMP | XXXXXX | WATER | XXXXXX | 1000 | 994.01 | NONE | 1 | 1812339 |

**QC Types**

| | | | |
|---|---|---|---|
| CAR | Carrier reference sample | DUP | Laboratory Duplicate |
| LCS | Laboratory Control Sample | LCSD | Laboratory Control Sample Duplicat |
| MB | Method Blank | MS | Laboratory Matrix Spike |
| MSD | Laboratory Matrix Spike Duplicate | REP | Sample replicate |
| RVS | Reporting Level Verification Standar | SMP | Field Sample |
| SYS | Sample Yield Spike | | |