Ft. Collins, Colorado

LIMS Version: 6.859

Saturday, February 24, 2018

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

Re: ALS Workorder: 1802228
Project Name: Sitewide Surv, February 2018
Project Number: S18-002

Dear Ms. Waters-Husted:

Six water samples were received from CH2M HILL Plateau Remediation Company, on 2/14/2018. The samples were scheduled for the following analysis:

Metals

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 theis data package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, an 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: 1802228
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: Sitewide Surv, February 2018
Client Project Number: S18-002
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B3H4J4	1802228-1		WATER	12-Feb-18	10:20
B3H4J8	1802228-2		WATER	12-Feb-18	10:20
B3H4K1	1802228-3		WATER	12-Feb-18	11:42
B3H4K0	1802228-4		WATER	12-Feb-18	11:42
B3H517	1802228-5		WATER	12-Feb-18	12:50
B3H513	1802228-6		WATER	12-Feb-18	12:50

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C.# S18-002-014
	18D 2228 12 102	Page 1 of ~~1~~ 2

Collector:	Daniel Klug CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650 RW. 2/13/18
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071 RW. 2/13/18
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 96/84	**Ice Chest No.:**	6105-~~1762~~ 716
Shipped To (Lab):	ALS Environmental Ft. Collins	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7714 6823 2710
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	9046

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
B3H4J4	N	W	FEB 12 2018	1020	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B3H4J8	Y	W	FEB 12 2018	1020	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

Relinquished By:	Signature	Date/Time	Received By:	Signature	Date/Time
Daniel Klug CHPRC	D. Klug	FEB 12 2018 1120	Troy Bacon CHPRC	Troy L. Bacon	FEB 12 2018 1120
Troy Bacon CHPRC	Troy L. Bacon	FEB 12 2018 1240	SSU-1		FEB 12 2018 1240
SSU-1		FEB 13 2018 0715	Lesly Wall /CHPRC	Lesly Wall	FEB 13 2018 0715
Lesly Wall /CHPRC	Lesly Wall	FEB 13 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:

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REV.0

1802228

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 518-002-014

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	FED Ex				CTrimble	C Trimble	2-14-18 0945
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

A-6003-962 (03/05)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 1802228	C.O.C. # S18-002-015 Page 1 of 1

Collector:	Daniel Klug CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506 96/84	**Ice Chest No.:**	GWS-716
Shipped To (Lab):	ALS Environmental Ft. Collins	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	771482332710
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	9046

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
B3H4K1	Y	W	FEB 12 2018	1142	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3H4K0	N	W	FEB 12 2018	1142	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

Relinquished By:	Print First and Last Name	Signature	Date/Time	Received By:	Print First and Last Name	Signature	Date/Time
Daniel Klug CHPRC	D. Klug		FEB 12 2018 1325	SSU-1			FEB 12 2018 1325
SSU-1			FEB 13 2018 0715	Lesly Wall /CHPRC		Lesly Wall	FEB 13 2018 0715
Lesly Wall /CHPRC		Lesly Wall	FEB 13 2018 1400	FEDEX			
FED EX				C. Trimble		C Trimble	2-14-18/0946

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 2/1/2018 FSR ID = FSR57461 A-6004-842 (REV 3)

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 1802228	C.O.C. # S18-002-012 Page 1 of 1

Collector:	Daniel Klug CHPRC	**Contact/Requester:**	Karen Waters-Husted	**Telephone No.:**	509-376-4650
SAF No.:	S18-002	**Sampling Origin:**	Hanford Site	**Purchase Order/Charge Code:**	300071
Project Title:	Sitewide Surv, February 2018	**Logbook No.:**	HNF-N-506-96/94	**Ice Chest No.:**	GWS-716
Shipped To (Lab):	ALS Environmental Ft. Collins	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.:**	7714 6823 2710
Protocol	SURV	**Priority:**	30 Days	**Offsite Property No.:**	9046

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
B3H517	Y	W	FEB 12 2018	1250	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3H513	N	W	FEB 12 2018	1250	1x500-mL G/P	6020_METALS_ICPMS: Uranium (1); 6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

Relinquished By:	Print First and Last Name	Signature	Date/Time	Received By:	Print First and Last Name	Signature	Date/Time
Daniel Klug CHPRC	D. Klug		FEB 12 2018 1325	SSU-1			FEB 12 2018 1325
SSU-1			FEB 13 2018 0715	Lesly Wall /CHPRC	Lesly Wall		FEB 13 2018 0715
Lesly Wall /CHPRC	Lesly Wall		FEB 13 2018 1400	FEDEX			
FED EX				C Trimble	C Trimble		2-14-18 0940

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 2/1/2018 FSR ID = FSR57459 A-6004-842 (REV 3)

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ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1802228

Project Manager: Kmo Initials: CDT Date: 2-14-18

1. Does this project require any special handling in addition to standard ALS procedures?		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 or other representative documents?		YES	NO
5. Are the COC and bottle labels complete and legible?		YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	YES	NO
10. Is there sufficient sample for the requested analyses?		YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		YES	NO
12. Are all samples within holding times for the requested analyses?		YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	N/A	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	NO
16. Were the samples shipped on ice?		YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #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							
Background µR/hr reading:	11							

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

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

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

Project Manager Signature / Date: Kathleen M. Oh 2/14/18

Form 201r24.xls (06/04/2012)

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

ORIGIN ID:PSCA (509) 528-9426
LESLY WALL
CH2M
6267 LATAH ST.
6269 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 13FEB18
ACTWGT: 12.00 LB
CAD: 10706605/INET3980

BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
INV:
PO:
REF: PTR# 9046/COOLER# GWS-716
DEPT

552J1/122D/DCA5

180228

J181118012691uw

WED - 14 FEB 10:30A
PRIORITY OVERNIGHT
DSR
80524
DEN
CO-US

TRK# 0201 7714 6823 2710

XH FTCA

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Metals

Case Narrative

CH2M HILL Plateau Remediation Company

Sitewide Surv, February 2018 – S18-002

Work Order Number: 1802228

1. This section consists of 6 water samples for total recoverable and dissolved metals.

2. The samples were received intact at ambient temperature by ALS on 02/14/18.

3. The samples for dissolved metals had been filtered prior to receipt. All samples had a pH less than 2 upon receipt.

4. 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.

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

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

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

7. The samples were prepared and analyzed within the established hold times.

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

8. 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. Iron, manganese, nickel and vanadium 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 with the exceptions of CCB4 and 5 for sodium. None of the samples associated with this order number were bracketed by these CCBs.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes with the exception of CCV4 for sodium. None of the samples associated with this order number were bracketed by this CCV.
- The interference check samples and high standard read-backs associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.

9. Matrix specific quality control procedures.

   Sample 1802228-1 was designated as the quality control sample for each analysis.

   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.

10. 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.

Emily Lyons — 2/23/18
Emily Lyons — Date
Inorganics Primary Data Reviewer

2/24/18
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 SW6010B

Sample Results

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J4
Lab ID: 1802228-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 19-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-4
Run ID: IP180219-2A4
Cleanup: NONE
Basis: As Received
File Name:

Analyst: Amanda J. Lynn
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	15	B	30	6.6
7440-70-2	CALCIUM	1	100000		1000	120
7439-89-6	IRON	1	77	C	50	17
7439-95-4	MAGNESIUM	1	18000		750	97
7440-09-7	POTASSIUM	1	6800		1000	150
7440-23-5	SODIUM	1	36000		500	110
7440-62-2	VANADIUM	1	5.9	BC	10	0.98

Data Package ID: *IP1802228-1*

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J8
Lab ID: 1802228-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 19-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-4
Run ID: IP180219-2A4
Cleanup: NONE
Basis: As Received
File Name:

Analyst: Amanda J. Lynn
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	6.6	U	30	6.6
7440-70-2	CALCIUM	1	100000		1000	120
7439-89-6	IRON	1	29	BC	50	17
7439-95-4	MAGNESIUM	1	19000		750	97
7440-09-7	POTASSIUM	1	6900		1000	150
7440-23-5	SODIUM	1	36000		500	110
7440-62-2	VANADIUM	1	5.5	BC	10	0.98

Data Package ID: *IP1802228-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J4
Lab ID: 1802228-1

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-1
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received
File Name: 091SMPL_

Analyst: Brent A. Stanfield
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	24	B	100	8.7
7440-36-0	ANTIMONY	10	0.11	B	1	0.049
7440-38-2	ARSENIC	10	1.9	B	2	1.6
7440-39-3	BARIUM	10	59		5	1.6
7440-41-7	BERYLLIUM	10	0.081	U	0.5	0.081
7440-43-9	CADMIUM	10	0.062	U	2	0.062
7440-47-3	CHROMIUM	10	27		10	0.82
7440-48-4	COBALT	10	0.16	U	5	0.16
7440-50-8	COPPER	10	1.6	U	8	1.6
7439-92-1	LEAD	10	0.096	U	2	0.096
7439-96-5	MANGANESE	10	0.99	BC	5	0.32
7439-98-7	MOLYBDENUM	10	1.8	B	2	0.15
7440-02-0	NICKEL	10	1.9	BC	20	0.81
7782-49-2	SELENIUM	10	1.6	B	10	0.18
7440-22-4	SILVER	10	0.04	B	0.5	0.023
7440-24-6	STRONTIUM	10	480		5	0.12
7440-28-0	THALLIUM	10	0.015	U	0.1	0.015
7440-29-1	THORIUM	10	0.05	B	0.2	0.014
7440-31-5	TIN	10	0.73	U	10	0.73
7440-61-1	URANIUM	10	32		0.1	0.022
7440-66-6	ZINC	10	3.5	U	100	3.5

Data Package ID: *IM1802228-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J8
Lab ID: 1802228-2

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-1
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received
File Name: 098SMPL_

Analyst: Brent A. Stanfield
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	8.7	U	100	8.7
7440-36-0	ANTIMONY	10	0.13	B	1	0.049
7440-38-2	ARSENIC	10	1.9	B	2	1.6
7440-39-3	BARIUM	10	63		5	1.6
7440-41-7	BERYLLIUM	10	0.081	U	0.5	0.081
7440-43-9	CADMIUM	10	0.062	U	2	0.062
7440-47-3	CHROMIUM	10	26		10	0.82
7440-48-4	COBALT	10	0.16	U	5	0.16
7440-50-8	COPPER	10	1.6	U	8	1.6
7439-92-1	LEAD	10	0.096	U	2	0.096
7439-96-5	MANGANESE	10	0.32	U	5	0.32
7439-98-7	MOLYBDENUM	10	1.9	B	2	0.15
7440-02-0	NICKEL	10	2	BC	20	0.81
7782-49-2	SELENIUM	10	1.9	B	10	0.18
7440-22-4	SILVER	10	0.023	U	0.5	0.023
7440-24-6	STRONTIUM	10	500		5	0.12
7440-28-0	THALLIUM	10	0.015	U	0.1	0.015
7440-29-1	THORIUM	10	0.014	U	0.2	0.014
7440-31-5	TIN	10	0.73	U	10	0.73
7440-61-1	URANIUM	10	32		0.1	0.022
7440-66-6	ZINC	10	3.5	U	100	3.5

Data Package ID: *IM1802228-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4K1
Lab ID: 1802228-3

Analysis ReqCode: **6020_METALS_I**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-7
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received
File Name: 099SMPL_

Analyst: Brent A. Stanfield
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
7440-47-3	CHROMIUM	10	3.6	B	10	0.82
7440-61-1	URANIUM	10	2.6		0.1	0.022

Data Package ID: *IM1802228-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4K0
Lab ID: 1802228-4

Analysis ReqCode: **6020_METALS_I**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-7
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received
File Name: 100SMPL_

Analyst: Brent A. Stanfield
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
7440-47-3	CHROMIUM	10	6.4	B	10	0.82
7440-61-1	URANIUM	10	2.7		0.1	0.022

Data Package ID: *IM1802228-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H517
Lab ID: 1802228-5

Analysis ReqCode: **6020_METALS_I**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-7
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received
File Name: 101SMPL_

Analyst: Brent A. Stanfield
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
7440-47-3	CHROMIUM	10	4.4	B	10	0.82
7440-61-1	URANIUM	10	9.1		0.1	0.022

Data Package ID: *IM1802228-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H513
Lab ID: 1802228-6

Analysis ReqCode: **6020_METALS_I**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-7
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received
File Name: 102SMPL_

Analyst: Brent A. Stanfield
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
7440-47-3	CHROMIUM	10	5	B	10	0.82
7440-61-1	URANIUM	10	9.4		0.1	0.022

Data Package ID: *IM1802228-1*

ICP Metals

Method SW6010B

Method Blank

Lab Name: **ALS -- Fort Collins**
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Lab ID: IP180216-10MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 16-Feb-18
Date Analyzed: 19-Feb-18

Prep Batch: IP180216-10
QCBatchID: IP180216-10-4
Run ID: IP180219-2A4
Cleanup: NONE
Basis: N/A
File Name:

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	6.6	U	30	6.6
7440-70-2	CALCIUM	1	120	U	1000	120
7439-89-6	IRON	1	20	B	50	17
7439-95-4	MAGNESIUM	1	97	U	750	97
7440-09-7	POTASSIUM	1	150	U	1000	150
7440-23-5	SODIUM	1	110	U	500	110
7440-62-2	VANADIUM	1	1.4	B	10	0.98

Data Package ID: *IP1802228-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Lab ID: IP180216-10LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/16/2018
Date Analyzed: 02/19/2018
Prep Method: SW3005A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-4
Run ID: IP180219-2A4
Cleanup: NONE
Basis: N/A
File Name:

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	992	30		99	80 - 120%
7440-70-2	CALCIUM	40000	40200	1000		100	80 - 120%
7439-89-6	IRON	1000	1050	50		105	80 - 120%
7439-95-4	MAGNESIUM	40000	39800	750		100	80 - 120%
7440-09-7	POTASSIUM	40000	40900	1000		102	80 - 120%
7440-23-5	SODIUM	40000	41800	500		105	80 - 120%
7440-62-2	VANADIUM	500	506	10		101	80 - 120%

Data Package ID: *IP1802228-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J4
LabID: 1802228-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 19-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-4
Run ID: IP180219-2A4
Cleanup: NONE
Basis: As Received

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

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-42-8	BORON	15	B	1020		30	1000	100	80 - 120%
7440-70-2	CALCIUM	100000		140000		1000	40000	96	80 - 120%
7439-89-6	IRON	77	C	1090		50	1000	101	80 - 120%
7439-95-4	MAGNESIUM	18000		58300		750	40000	100	80 - 120%
7440-09-7	POTASSIUM	6800		48200		1000	40000	104	80 - 120%
7440-23-5	SODIUM	36000		78300		500	40000	105	80 - 120%
7440-62-2	VANADIUM	5.9	BC	524		10	500	104	80 - 120%

Field ID: B3H4J4
LabID: 1802228-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 19-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-4
Run ID: IP180219-2A4
Cleanup: NONE
Basis: As Received

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

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-42-8	BORON	990		1000	97	30	20	3
7440-70-2	CALCIUM	138000		40000	91	1000	20	1
7439-89-6	IRON	1080		1000	101	50	20	1
7439-95-4	MAGNESIUM	57900		40000	98	750	20	1
7440-09-7	POTASSIUM	47700		40000	102	1000	20	1
7440-23-5	SODIUM	76800		40000	101	500	20	2
7440-62-2	VANADIUM	516		500	102	10	20	2

Data Package ID: *IP1802228-1*

Prep Batch ID: IP180216-10

Start Date: 02/16/18
Start Time: 9:59
Prep Analyst: Amanda J. Lynn

End Date: 02/16/18
End Time: 18:00

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

Batch Created By: ajl2
Date Created: 02/16/18
Time Created: 10:00
Validated By: ajl2
Date Validated: 02/16/18
Time Validated: 10:59

Comments:

QC Batch ID: IP180216-10-4

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP180216-10	MB	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1802228
IP180216-10	LCS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1802228
1802228-1	MS	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	MSD	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	DUP	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	SMP	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-2	SMP	B3H4J8	WATER	2/12/2018	50	50	NONE	1	1802228

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: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Lab ID: IP180216-10MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18

Prep Batch: IP180216-10
QCBatchID: IP180216-10-1
Run ID: IM180220-10A3
Cleanup: NONE
Basis: N/A
File Name: 083SMPL_

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	8.7	U	100	8.7
7440-36-0	ANTIMONY	10	0.049	U	1	0.049
7440-38-2	ARSENIC	10	1.6	U	2	1.6
7440-39-3	BARIUM	10	1.6	U	5	1.6
7440-41-7	BERYLLIUM	10	0.081	U	0.5	0.081
7440-43-9	CADMIUM	10	0.062	U	2	0.062
7440-47-3	CHROMIUM	10	0.82	U	10	0.82
7440-48-4	COBALT	10	0.16	U	5	0.16
7440-50-8	COPPER	10	1.6	U	8	1.6
7439-92-1	LEAD	10	0.096	U	2	0.096
7439-96-5	MANGANESE	10	0.65	B	5	0.32
7439-98-7	MOLYBDENUM	10	0.15	U	2	0.15
7440-02-0	NICKEL	10	6	B	20	0.81
7782-49-2	SELENIUM	10	0.18	U	10	0.18
7440-22-4	SILVER	10	0.023	U	0.5	0.023
7440-24-6	STRONTIUM	10	0.12	U	5	0.12
7440-28-0	THALLIUM	10	0.015	U	0.1	0.015
7440-29-1	THORIUM	10	0.014	U	0.2	0.014
7440-31-5	TIN	10	0.73	U	10	0.73
7440-61-1	URANIUM	10	0.022	U	0.1	0.022
7440-66-6	ZINC	10	3.5	U	100	3.5

Data Package ID: *IM1802228-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Lab ID: IM180216-10LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/16/2018
Date Analyzed: 02/20/2018
Prep Method: SW3005A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-1
Run ID: IM180220-10A3
Cleanup: NONE
Basis: N/A
File Name: 084SMPL_

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	4940	100		99	80 - 120%
7440-36-0	ANTIMONY	30	30.4	1		101	80 - 120%
7440-38-2	ARSENIC	100	106	2		106	80 - 120%
7440-39-3	BARIUM	100	98.2	5		98	80 - 120%
7440-41-7	BERYLLIUM	50	56.4	0.5		113	80 - 120%
7440-43-9	CADMIUM	30	34.4	2		115	80 - 120%
7440-47-3	CHROMIUM	500	527	10		105	80 - 120%
7440-48-4	COBALT	100	104	5		104	80 - 120%
7440-50-8	COPPER	1000	1010	8		101	80 - 120%
7439-92-1	LEAD	50	54.2	2		108	80 - 120%
7439-96-5	MANGANESE	100	104	5		104	80 - 120%
7439-98-7	MOLYBDENUM	100	103	2		103	80 - 120%
7440-02-0	NICKEL	500	490	20		98	80 - 120%
7782-49-2	SELENIUM	100	105	10		105	80 - 120%
7440-22-4	SILVER	10	9.08	0.5		91	80 - 120%
7440-24-6	STRONTIUM	100	101	5		101	80 - 120%
7440-28-0	THALLIUM	2	2.16	0.1		108	80 - 120%
7440-29-1	THORIUM	10	10.8	0.2		108	80 - 120%
7440-31-5	TIN	500	518	10		104	80 - 120%
7440-61-1	URANIUM	10	10.1	0.1		101	80 - 120%
7440-66-6	ZINC	2000	2100	100		105	80 - 120%

Data Package ID: *IM1802228-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J4
LabID: 1802228-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-1
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 096SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	24	B	4900		100	5000	98	75 - 125%
7440-36-0	ANTIMONY	0.11	B	30.4		1	30	101	75 - 125%
7440-38-2	ARSENIC	1.9	B	105		2	100	103	75 - 125%
7440-39-3	BARIUM	59		156		5	100	98	75 - 125%
7440-41-7	BERYLLIUM	0.081	U	55.4		0.5	50	111	75 - 125%
7440-43-9	CADMIUM	0.062	U	33		2	30	110	75 - 125%
7440-47-3	CHROMIUM	27		548		10	500	104	75 - 125%
7440-48-4	COBALT	0.16	U	101		5	100	101	75 - 125%
7440-50-8	COPPER	1.6	U	992		8	1000	99	75 - 125%
7439-92-1	LEAD	0.096	U	53.8		2	50	108	75 - 125%
7439-96-5	MANGANESE	0.99	BC	104		5	100	103	75 - 125%
7439-98-7	MOLYBDENUM	1.8	B	105		2	100	103	75 - 125%
7440-02-0	NICKEL	1.9	BC	479		20	500	95	75 - 125%
7782-49-2	SELENIUM	1.6	B	105		10	100	103	75 - 125%
7440-22-4	SILVER	0.04	B	8.61		0.5	10	86	75 - 125%
7440-24-6	STRONTIUM	480		576		5	100	95	75 - 125%
7440-28-0	THALLIUM	0.015	U	2.14		0.1	2	107	75 - 125%
7440-29-1	THORIUM	0.05	B	10.8		0.2	10	107	75 - 125%
7440-31-5	TIN	0.73	U	517		10	500	103	75 - 125%
7440-61-1	URANIUM	32		41.4		0.1	10	99	75 - 125%
7440-66-6	ZINC	3.5	U	2060		100	2000	103	75 - 125%

Data Package ID: *IM1802228-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1802228
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: Sitewide Surv, February 2018 S18-002

Field ID: B3H4J4
LabID: 1802228-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 12-Feb-18
Date Extracted: 16-Feb-18
Date Analyzed: 20-Feb-18
Prep Method: SW3005 Rev A

Prep Batch: IP180216-10
QCBatchID: IP180216-10-1
Run ID: IM180220-10A3
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 097SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	4970		5000	99	100	20	1
7440-36-0	ANTIMONY	30.1		30	100	1	20	1
7440-38-2	ARSENIC	107		100	105	2	20	2
7440-39-3	BARIUM	156		100	97	5	20	0
7440-41-7	BERYLLIUM	55.9		50	112	0.5	20	1
7440-43-9	CADMIUM	33.5		30	112	2	20	1
7440-47-3	CHROMIUM	544		500	103	10	20	1
7440-48-4	COBALT	102		100	102	5	20	1
7440-50-8	COPPER	995		1000	100	8	20	0
7439-92-1	LEAD	53.9		50	108	2	20	0
7439-96-5	MANGANESE	103		100	102	5	20	0
7439-98-7	MOLYBDENUM	105		100	103	2	20	0
7440-02-0	NICKEL	488		500	97	20	20	2
7782-49-2	SELENIUM	105		100	103	10	20	0
7440-22-4	SILVER	8.86		10	88	0.5	20	3
7440-24-6	STRONTIUM	584		100	103	5	20	1
7440-28-0	THALLIUM	2.21		2	111	0.1	20	3
7440-29-1	THORIUM	10.9		10	109	0.2	20	1
7440-31-5	TIN	532		500	106	10	20	3
7440-61-1	URANIUM	41.7		10	102	0.1	20	1
7440-66-6	ZINC	2070		2000	104	100	20	1

Data Package ID: *IM1802228-1*

Prep Batch ID: IP180216-10

Start Date: 02/16/18
Start Time: 9:59
Prep Analyst: Amanda J. Lynn

End Date: 02/16/18
End Time: 18:00

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

Batch Created By: ajl2
Date Created: 02/16/18
Time Created: 10:00
Validated By: ajl2
Date Validated: 02/16/18
Time Validated: 10:59

Comments:

QC Batch ID: IP180216-10-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP180216-10	MB	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1802228
IM180216-10	LCS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1802228
1802228-1	MS	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	MSD	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	DUP	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	SMP	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-2	SMP	B3H4J8	WATER	2/12/2018	50	50	NONE	1	1802228

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		

Prep Batch ID: IP180216-10

Start Date: 02/16/18
Start Time: 9:59
Prep Analyst: Amanda J. Lynn

End Date: 02/16/18
End Time: 18:00

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

Batch Created By: ajl2
Date Created: 02/16/18
Time Created: 10:00
Validated By: ajl2
Date Validated: 02/16/18
Time Validated: 10:59

Comments:

QC Batch ID: IP180216-10-7

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP180216-10	MB	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1802228
IM180216-10	LCS	XXXXXX	WATER	XXXXXX	50	50	NONE	1	1802228
1802228-1	MS	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	MSD	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	DUP	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-1	SMP	B3H4J4	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-3	SMP	B3H4K1	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-4	SMP	B3H4K0	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-5	SMP	B3H517	WATER	2/12/2018	50	50	NONE	1	1802228
1802228-6	SMP	B3H513	WATER	2/12/2018	50	50	NONE	1	1802228

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		