Ft. Collins, Colorado | LIMS Version: 6.824 | Page 1 of 1

Wednesday, August 17, 2016

Karen Waters-Husted
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1607573
Project Name: 100-KR-4, JULY 2016
Project Number: I16-026

Dear Ms. Waters-Husted:

Two water samples were received from CH2M HILL Plateau Remediation Company, on 7/29/2016. 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
Julie Ellingson
Project Manager

ADDRESS 225 Commerce Drive, Fort Collins, Colorado, USA 80524 | PHONE +1 970 490 1511 | FAX +1 970 490 1522
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ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1607573
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: 100-KR-4, JULY 2016
Client Project Number: I16-026
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35W54	1607573-1		WATER	28-Jul-16	9:18
B35W51	1607573-2		WATER	28-Jul-16	9:18

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I16-026-004

Collector	Juan Aguilar /CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	I16-026	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	100-KR-4, JULY 2016	Logbook No.	HNF-N-506 86166	Ice Chest No.	GWS 476
Shipped To (Lab)	ALS Environmental Ft. Collins	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7768680179
Protocol	CERCLA	Priority:	30 Days **PRIORITY**	Offsite Property No.	6880

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** 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 **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Special Handling:N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35W54 (1)	Y	W	JUL 28 2016	0918	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B35W51 (2)	N	W	JUL 28 2016	0918	1x500-mL G/P	6010_METALS_ICP: GW 04; 6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

1607573

8/17/2016
ALS1607573

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC		JUL 28 2016	1021	Troy Bacon CHPRC	Troy L. Bacon	JUL 28 2016	1021
Relinquished By	Troy Bacon CHPRC	Troy L. Bacon	JUL 28 2016 1400	Received By	FEDEX		Date/Time
Relinquished By		Fedex	7-29-16 0945	Received By	Scott Mulky	7-29-16	0945
Relinquished By			Date/Time	Received By			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

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ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1607573

Project Manager: JME Initials: SDM Date: 7-29-16

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:	10							
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: 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: 7/30/16

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

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

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ORIGIN ID:PSCA (509) 373-3547
CHRIS FULTON
CH2M
6267 LATAH ST
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 28JUL16
ACTWGT: 8.00 LB
CAD: 1010605/INET3790

BILL THIRD PARTY

TO JULIE ELLINGSON
225 COMMERCE DRIVE
FORT COLLINS CO 80524
(970) 490-1511
REF: PTR46880
INV:
PO:
DEPT:

544J1/5C8D/14E8

10
-2
Amb

FRI - 29 JUL 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US DEN

TRK# 0201 7768 6808 0179

XH FTCA

1607573

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.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
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.

ALSI607573
8/17/2016

Metals

Case Narrative

CH2M HILL Plateau Remediation Company

100-KR-4, JULY 2016 – I16-026

Work Order Number: 1607573

1. This report consists of 2 water samples for total recoverable or dissolved metals.

2. The samples were received intact at ambient temperature by ALS on 07/29/16.

3. The sample for dissolved metals had been filtered prior to receipt. Both 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. Lead, potassium, strontium, sodium, thallium,

and tin were detected above the MDL. Sample results have been compared to the blank results.

- 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 readbacks 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 1607573-1 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 with the following exception:

Analyte	Sample ID
Barium	1607573-1L

   The native sample result is flagged for serial dilution failure.

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.

Jill Latelle — 8/12/16
Jill Latelle — Date
Inorganics Primary Data Reviewer

Julie Ellis — 8/17/16
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.

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W54
Lab ID: 1607573-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 05-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-1
Run ID: IT160805-1A4
Cleanup: NONE
Basis: As Received
File Name: 160805A.

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	28	30	6.4	B	
7440-70-2	CALCIUM	1	55000	1000	23		
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	9700	750	21		
7440-09-7	POTASSIUM	1	3300	1000	170	C	
7440-23-5	SODIUM	1	7700	500	26		
7440-62-2	VANADIUM	1	3.1	10	0.93	B	

Data Package ID: *it1607573-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W51
Lab ID: 1607573-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 05-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-1
Run ID: IT160805-1A4
Cleanup: NONE
Basis: As Received
File Name: 160805A.

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	19	30	6.4	B	
7440-70-2	CALCIUM	1	55000	1000	23		
7439-89-6	IRON	1	360	50	16		
7439-95-4	MAGNESIUM	1	9700	750	21		
7440-09-7	POTASSIUM	1	3200	1000	170	C	
7440-23-5	SODIUM	1	7800	500	26		
7440-62-2	VANADIUM	1	3.3	10	0.93	B	

Data Package ID: *it1607573-1*

Dissolved ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W54
Lab ID: 1607573-1

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 08-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-2
Run ID: IM160808-10A4
Cleanup: NONE
Basis: As Received
File Name: 052SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	65	100	14	B	
7440-36-0	ANTIMONY	10	0.19	1	0.084	B	
7440-38-2	ARSENIC	10	1.4	2	0.18	B	
7440-39-3	BARIUM	10	29	5	0.23		E
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	U	
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	1.1	10	1.1	U	
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.53	2	0.16	BC	
7439-96-5	MANGANESE	10	1.6	5	0.3	B	
7439-98-7	MOLYBDENUM	10	2.3	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	250	5	0.31		
7440-28-0	THALLIUM	10	0.04	0.1	0.014	BC	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	3.1	10	1.3	BC	
7440-61-1	URANIUM	10	2.6	0.1	0.027		
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *iM1607573-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W51
Lab ID: 1607573-2

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 08-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-2
Run ID: IM160808-10A4
Cleanup: NONE
Basis: As Received
File Name: 057SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	49	100	14	B	
7440-36-0	ANTIMONY	10	0.15	1	0.084	B	
7440-38-2	ARSENIC	10	2	2	0.18	B	
7440-39-3	BARIUM	10	25	5	0.23		
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	U	
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	1.1	10	1.1	U	
7440-48-4	COBALT	10	0.15	5	0.07	B	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	0.34	2	0.16	BC	
7439-96-5	MANGANESE	10	10	5	0.3		
7439-98-7	MOLYBDENUM	10	2.2	2	0.41		
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.86	10	0.66	B	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	250	5	0.31		
7440-28-0	THALLIUM	10	0.04	0.1	0.014	BC	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	3.1	10	1.3	BC	
7440-61-1	URANIUM	10	2.6	0.1	0.027		
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *iM1607573-1*

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Lab ID: IP160804-4MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04-Aug-16
Date Analyzed: 05-Aug-16

Prep Batch: IP160804-4
QCBatchID: IP160804-4-1
Run ID: IT160805-1A4
Cleanup: NONE
Basis: N/A
File Name: 160805A.

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

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-42-8	BORON	1	6.4	30	6.4	U	
7440-70-2	CALCIUM	1	23	1000	23	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	21	750	21	U	
7440-09-7	POTASSIUM	1	240	1000	170	B	
7440-23-5	SODIUM	1	77	500	26	B	
7440-62-2	VANADIUM	1	0.93	10	0.93	U	

Data Package ID: *it1607573-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Lab ID: IP160804-4LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/04/2016
Date Analyzed: 08/05/2016
Prep Method: SW3005A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-1
Run ID: IT160805-1A4
Cleanup: NONE
Basis: N/A
File Name: 160805A.

Sample Aliquot: 50 g
Final Volume: 50 g
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	984	30		98	80 - 120%
7440-70-2	CALCIUM	40000	40100	1000		100	80 - 120%
7439-89-6	IRON	1000	945	50		94	80 - 120%
7439-95-4	MAGNESIUM	40000	39300	750		98	80 - 120%
7440-09-7	POTASSIUM	40000	39500	1000		99	80 - 120%
7440-23-5	SODIUM	40000	38500	500		96	80 - 120%
7440-62-2	VANADIUM	500	483	10		97	80 - 120%

Data Package ID: *it1607573-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W54
LabID: 1607573-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 05-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-1
Run ID: IT160805-1A4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: UG/L
File Name: 160805A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-42-8	BORON	28	B	989		30	1000	96	80 - 120%
7440-70-2	CALCIUM	55000		95500		1000	40000	100	80 - 120%
7439-89-6	IRON	16	U	944		50	1000	94	80 - 120%
7439-95-4	MAGNESIUM	9700		48900		750	40000	98	80 - 120%
7440-09-7	POTASSIUM	3300	C	44400		1000	40000	103	80 - 120%
7440-23-5	SODIUM	7700		47800		500	40000	100	80 - 120%
7440-62-2	VANADIUM	3.1	B	482		10	500	96	80 - 120%

Field ID: B35W54
LabID: 1607573-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 05-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-1
Run ID: IT160805-1A4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: UG/L
File Name: 160805A.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-42-8	BORON	991		1000	96	30	20	0
7440-70-2	CALCIUM	96900		40000	104	1000	20	1
7439-89-6	IRON	938		1000	94	50	20	1
7439-95-4	MAGNESIUM	49400		40000	99	750	20	1
7440-09-7	POTASSIUM	44500		40000	103	1000	20	0
7440-23-5	SODIUM	48100		40000	101	500	20	1
7440-62-2	VANADIUM	483		500	96	10	20	0

Data Package ID: *it1607573-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Lab ID: IP160804-4MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04-Aug-16
Date Analyzed: 08-Aug-16

Prep Batch: IP160804-4
QCBatchID: IP160804-4-2
Run ID: IM160808-10A4
Cleanup: NONE
Basis: N/A
File Name: 050SMPL_

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

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	14	100	14	U	
7440-36-0	ANTIMONY	10	0.084	1	0.084	U	
7440-38-2	ARSENIC	10	0.18	2	0.18	U	
7440-39-3	BARIUM	10	0.23	5	0.23	U	
7440-41-7	BERYLLIUM	10	0.27	0.5	0.27	U	
7440-43-9	CADMIUM	10	0.099	2	0.099	U	
7440-47-3	CHROMIUM	10	1.1	10	1.1	U	
7440-48-4	COBALT	10	0.07	5	0.07	U	
7440-50-8	COPPER	10	1.1	8	1.1	U	
7439-92-1	LEAD	10	1	2	0.16	B	
7439-96-5	MANGANESE	10	0.3	5	0.3	U	
7439-98-7	MOLYBDENUM	10	0.41	2	0.41	U	
7440-02-0	NICKEL	10	4.2	20	4.2	U	
7782-49-2	SELENIUM	10	0.66	10	0.66	U	
7440-22-4	SILVER	10	0.039	0.5	0.039	U	
7440-24-6	STRONTIUM	10	0.37	5	0.31	B	
7440-28-0	THALLIUM	10	0.03	0.1	0.014	B	
7440-29-1	THORIUM	10	0.032	0.2	0.032	U	
7440-31-5	TIN	10	1.4	10	1.3	B	
7440-61-1	URANIUM	10	0.027	0.1	0.027	U	
7440-66-6	ZINC	10	9.1	100	9.1	U	

Data Package ID: *iM1607573-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Lab ID: IM160804-4LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/04/2016
Date Analyzed: 08/08/2016
Prep Method: SW3005A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-2
Run ID: IM160808-10A4
Cleanup: NONE
Basis: N/A
File Name: 051SMPL_

Sample Aliquot: 50 g
Final Volume: 50 g
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	4890	100		98	80 - 120%
7440-36-0	ANTIMONY	30	29.3	1		98	80 - 120%
7440-38-2	ARSENIC	100	103	2		103	80 - 120%
7440-39-3	BARIUM	100	106	5		106	80 - 120%
7440-41-7	BERYLLIUM	50	48.1	0.5		96	80 - 120%
7440-43-9	CADMIUM	30	31.1	2		104	80 - 120%
7440-47-3	CHROMIUM	500	496	10		99	80 - 120%
7440-48-4	COBALT	100	102	5		102	80 - 120%
7440-50-8	COPPER	1000	1050	8		105	80 - 120%
7439-92-1	LEAD	50	51.1	2		102	80 - 120%
7439-96-5	MANGANESE	100	101	5		101	80 - 120%
7439-98-7	MOLYBDENUM	100	98.4	2		98	80 - 120%
7440-02-0	NICKEL	500	504	20		101	80 - 120%
7782-49-2	SELENIUM	100	102	10		102	80 - 120%
7440-22-4	SILVER	10	10.5	0.5		105	80 - 120%
7440-24-6	STRONTIUM	100	102	5		102	80 - 120%
7440-28-0	THALLIUM	2	2.03	0.1		101	80 - 120%
7440-29-1	THORIUM	10	10.2	0.2		102	80 - 120%
7440-31-5	TIN	500	511	10		102	80 - 120%
7440-61-1	URANIUM	10	9.89	0.1		99	80 - 120%
7440-66-6	ZINC	2000	2020	100		101	80 - 120%

Data Package ID: *iM1607573-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W54
LabID: 1607573-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 08-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-2
Run ID: IM160808-10A4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: UG/L
File Name: 055SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	65	B	4600		100	5000	91	75 - 125%
7440-36-0	ANTIMONY	0.19	B	29.6		1	30	98	75 - 125%
7440-38-2	ARSENIC	1.4	B	99.2		2	100	98	75 - 125%
7440-39-3	BARIUM	29		122		5	100	93	75 - 125%
7440-41-7	BERYLLIUM	0.27	U	49.1		0.5	50	98	75 - 125%
7440-43-9	CADMIUM	0.099	U	29.4		2	30	98	75 - 125%
7440-47-3	CHROMIUM	1.1	U	477		10	500	95	75 - 125%
7440-48-4	COBALT	0.07	U	97.4		5	100	97	75 - 125%
7440-50-8	COPPER	1.1	U	1070		8	1000	107	75 - 125%
7439-92-1	LEAD	0.53	BC	55.5		2	50	110	75 - 125%
7439-96-5	MANGANESE	1.6	B	99.2		5	100	98	75 - 125%
7439-98-7	MOLYBDENUM	2.3		97.6		2	100	95	75 - 125%
7440-02-0	NICKEL	4.2	U	479		20	500	96	75 - 125%
7782-49-2	SELENIUM	0.66	U	98.3		10	100	98	75 - 125%
7440-22-4	SILVER	0.039	U	10.2		0.5	10	102	75 - 125%
7440-24-6	STRONTIUM	250		337		5	100	83	75 - 125%
7440-28-0	THALLIUM	0.04	BC	1.98		0.1	2	97	75 - 125%
7440-29-1	THORIUM	0.032	U	9.85		0.2	10	99	75 - 125%
7440-31-5	TIN	3.1	BC	521		10	500	104	75 - 125%
7440-61-1	URANIUM	2.6		12.4		0.1	10	99	75 - 125%
7440-66-6	ZINC	9.1	U	2050		100	2000	103	75 - 125%

Data Package ID: *iM1607573-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607573
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, JULY 2016 I16-026

Field ID: B35W54
LabID: 1607573-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Jul-16
Date Extracted: 04-Aug-16
Date Analyzed: 08-Aug-16
Prep Method: SW3005 Rev A

Prep Batch: IP160804-4
QCBatchID: IP160804-4-2
Run ID: IM160808-10A4
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: UG/L
File Name: 056SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	4650		5000	92	100	20	1
7440-36-0	ANTIMONY	29.1		30	96	1	20	2
7440-38-2	ARSENIC	100		100	99	2	20	1
7440-39-3	BARIUM	119		100	89	5	20	3
7440-41-7	BERYLLIUM	48.1		50	96	0.5	20	2
7440-43-9	CADMIUM	29.3		30	98	2	20	0
7440-47-3	CHROMIUM	482		500	96	10	20	1
7440-48-4	COBALT	98.4		100	98	5	20	1
7440-50-8	COPPER	1080		1000	108	8	20	1
7439-92-1	LEAD	57.2		50	113	2	20	3
7439-96-5	MANGANESE	98.8		100	97	5	20	0
7439-98-7	MOLYBDENUM	98.9		100	97	2	20	1
7440-02-0	NICKEL	482		500	96	20	20	1
7782-49-2	SELENIUM	97.3		100	97	10	20	1
7440-22-4	SILVER	10.4		10	104	0.5	20	1
7440-24-6	STRONTIUM	344		100	90	5	20	2
7440-28-0	THALLIUM	1.9		2	93	0.1	20	4
7440-29-1	THORIUM	9.7		10	97	0.2	20	2
7440-31-5	TIN	509		500	101	10	20	2
7440-61-1	URANIUM	12.4		10	98	0.1	20	0
7440-66-6	ZINC	2070		2000	104	100	20	1

Data Package ID: *iM1607573-1*