ALS Environmental

Ft. Collins, Colorado

LIMS Version: 6.820

Wednesday, July 20, 2016

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

Re: ALS Workorder: 1607157
Project Name: RCRA, JULY 2016
Project Number: W16-007

Dear Ms. Waters-Husted:

Two water samples were received from CH2M HILL Plateau Remediation Company, on 7/11/2016. 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

ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
AIHA	214884
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Louisiana (LA)	05057
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1607157
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: RCRA, JULY 2016
Client Project Number: W16-007
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35P13	1607157-1		WATER	07-Jul-16	11:50
B35P16	1607157-2		WATER	07-Jul-16	11:50

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W16-007-019**

Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W16-007	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JULY 2016	**Logbook No.**	HNF-N-506 86/45	**Ice Chest No.**	GWS-237
Shipped To (Lab)	ALS Environmental Ft. Collins	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7766 9488 4580
Protocol	RCRA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	6808

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**

N/A
Special Handling:N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35P13 (1)	N	W	7-7-16	1150	1x500-mL G/P	6010_METALS_ICP: COMMON; 6020_METALS_ICPMS: Uranium (1)	6 Months	HNO3 to pH <2
B35P16 (2)	Y	W	7-7-16	1150	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2

1607157

7/20/2016
ALS1607157

	Print	Sign	Date/Time
Relinquished By: Dan Woehle CHPRC			JUL 07 2016 1210
Received By: Lesly Wall /CHPRC			JUL 07 2016 1210
Relinquished By: Lesly Wall /CHPRC			JUL 07 2016 1400
Received By: FEDEX			
Relinquished By: Fedex			7-11-16 0915
Received By:			7-11-16 0915
Relinquished By:			
Received By:			

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

4 of 19

PRINTED ON 5/26/2016

FSR ID = FSR3326

A-6004-842 (REV 2)

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1607157

Project Manager: JME Initials: SDM Date: 7-11-16

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:	12							
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.)

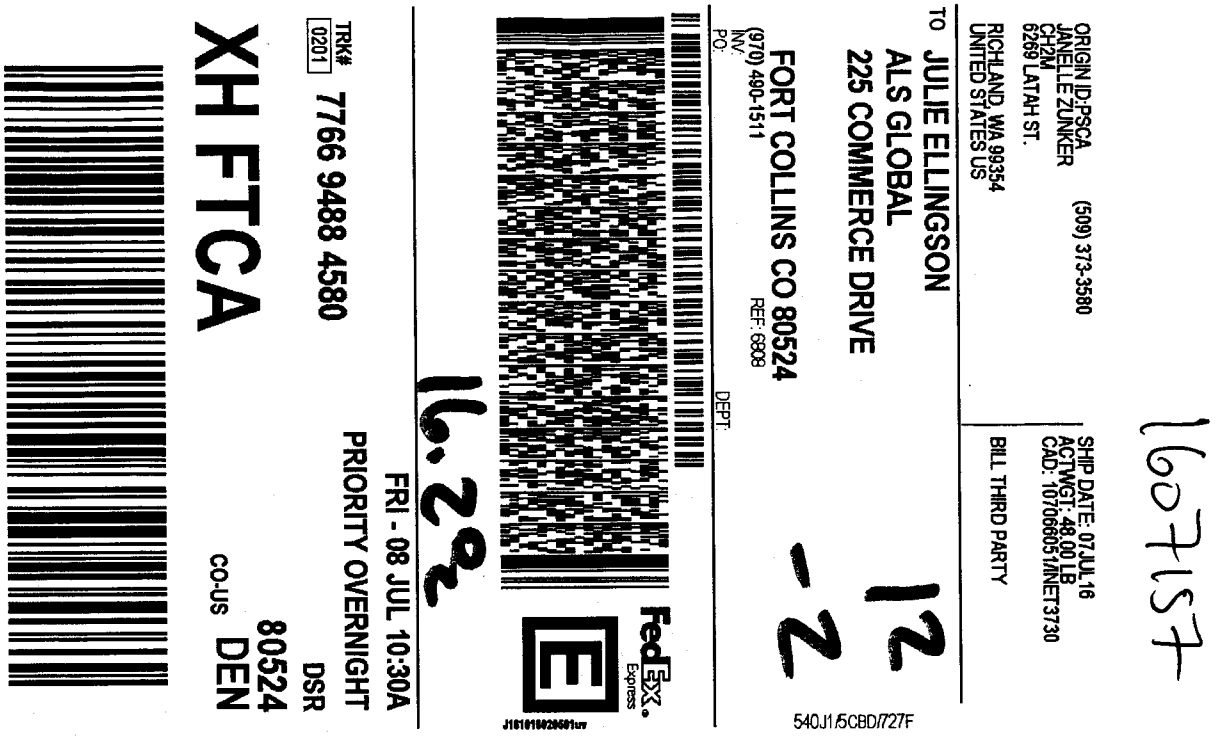
Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

4 Samples ~~recd~~ SDM received on Ice. Samples received out of temp. The air bill ~~said~~ SDM the cooler should have arrived on 7-08-16. Cooler actually says arrived on 7-11-16. noted chilling not required for this analysis

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

Project Manager Signature / Date: 7/11/16

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



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.

Metals

Case Narrative

CH2M HILL Plateau Remediation Company

RCRA, JULY 2016 – W16-007

Work Order Number: 1607157

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 07/11/16.

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. Sodium was 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 1607157-1 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.

Jill Latelle — 7/19/16
Jill Latelle — Date
Inorganics Primary Data Reviewer

7/20/16
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.

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Field ID: B35P13
Lab ID: 1607157-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-5
Run ID: IT160713-1A5
Cleanup: NONE
Basis: As Received
File Name: 160713A.

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	1	5.4	20	5.4	U	
7440-38-2	ARSENIC	1	3.9	10	3.9	U	
7440-39-3	BARIUM	1	53	20	0.99		
7440-43-9	CADMIUM	1	0.95	5	0.95	U	
7440-70-2	CALCIUM	1	38000	1000	23		
7440-47-3	CHROMIUM	1	3.2	10	1.1	B	
7440-48-4	COBALT	1	1	10	1	U	
7440-50-8	COPPER	1	1.9	8	1.9	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	8500	750	21		
7439-96-5	MANGANESE	1	0.7	5	0.7	U	
7440-02-0	NICKEL	1	9.7	20	1.6	B	
7440-09-7	POTASSIUM	1	3600	1000	170		
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	16000	500	26		
7440-62-2	VANADIUM	1	6.3	10	0.93	B	
7440-66-6	ZINC	1	3	20	3	U	

Data Package ID: *it1607157-1*

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Field ID: B35P16
Lab ID: 1607157-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-5
Run ID: IT160713-1A5
Cleanup: NONE
Basis: As Received
File Name: 160713A.

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

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	1	5.4	20	5.4	U	
7440-38-2	ARSENIC	1	3.9	10	3.9	U	
7440-39-3	BARIUM	1	53	20	0.99		
7440-43-9	CADMIUM	1	0.95	5	0.95	U	
7440-70-2	CALCIUM	1	38000	1000	23		
7440-47-3	CHROMIUM	1	2	10	1.1	B	
7440-48-4	COBALT	1	1	10	1	U	
7440-50-8	COPPER	1	1.9	8	1.9	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	8500	750	21		
7439-96-5	MANGANESE	1	0.7	5	0.7	U	
7440-02-0	NICKEL	1	11	20	1.6	B	
7440-09-7	POTASSIUM	1	3600	1000	170		
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	16000	500	26		
7440-62-2	VANADIUM	1	6	10	0.93	B	
7440-66-6	ZINC	1	3	20	3	U	

Data Package ID: *it1607157-1*

Total Recoverable ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Field ID: B35P13
Lab ID: 1607157-1

Analysis ReqCode: 6020_METALS_I

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 14-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-3
Run ID: IM160713-11A13
Cleanup: NONE
Basis: As Received
File Name: 196SMPL_

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	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-61-1	URANIUM	10	28	0.1	0.027		

Data Package ID: *im1607157-1*

ICP Metals

Method SW6010B

Method Blank

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Lab ID: IP160712-4MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Jul-16
Date Analyzed: 13-Jul-16

Prep Batch: IP160712-4
QCBatchID: IP160712-4-5
Run ID: IT160713-1A5
Cleanup: NONE
Basis: N/A
File Name: 160713A.

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

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	1	5.4	20	5.4	U	
7440-38-2	ARSENIC	1	3.9	10	3.9	U	
7440-39-3	BARIUM	1	0.99	20	0.99	U	
7440-43-9	CADMIUM	1	0.95	5	0.95	U	
7440-70-2	CALCIUM	1	23	1000	23	U	
7440-47-3	CHROMIUM	1	1.1	10	1.1	U	
7440-48-4	COBALT	1	1	10	1	U	
7440-50-8	COPPER	1	1.9	8	1.9	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	21	750	21	U	
7439-96-5	MANGANESE	1	0.7	5	0.7	U	
7440-02-0	NICKEL	1	1.6	20	1.6	U	
7440-09-7	POTASSIUM	1	170	1000	170	U	
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	77	500	26	B	
7440-62-2	VANADIUM	1	0.93	10	0.93	U	
7440-66-6	ZINC	1	3	20	3	U	

Data Package ID: *it1607157-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Lab ID: IP160712-4LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 07/12/2016
Date Analyzed: 07/13/2016
Prep Method: SW3005A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-5
Run ID: IT160713-1A5
Cleanup: NONE
Basis: N/A
File Name: 160713A.

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
7440-36-0	ANTIMONY	500	505	20		101	80 - 120%
7440-38-2	ARSENIC	1000	1030	10		103	80 - 120%
7440-39-3	BARIUM	1000	1010	20		101	80 - 120%
7440-43-9	CADMIUM	50	51	5		102	80 - 120%
7440-70-2	CALCIUM	40000	40400	1000		101	80 - 120%
7440-47-3	CHROMIUM	200	200	10		100	80 - 120%
7440-48-4	COBALT	500	489	10		98	80 - 120%
7440-50-8	COPPER	250	260	8		104	80 - 120%
7439-89-6	IRON	1000	948	50		95	80 - 120%
7439-95-4	MAGNESIUM	40000	40000	750		100	80 - 120%
7439-96-5	MANGANESE	500	490	5		98	80 - 120%
7440-02-0	NICKEL	500	501	20		100	80 - 120%
7440-09-7	POTASSIUM	40000	40600	1000		101	80 - 120%
7440-22-4	SILVER	100	99.6	10		100	80 - 120%
7440-23-5	SODIUM	40000	40000	500		100	80 - 120%
7440-62-2	VANADIUM	500	487	10		97	80 - 120%
7440-66-6	ZINC	500	512	20		102	80 - 120%

Data Package ID: *it1607157-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Field ID: B35P13
LabID: 1607157-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-5
Run ID: IT160713-1A5
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 160713A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-36-0	ANTIMONY	5.4	U	502		20	500	100	80 - 120%
7440-38-2	ARSENIC	3.9	U	1020		10	1000	102	80 - 120%
7440-39-3	BARIUM	53		1060		20	1000	101	80 - 120%
7440-43-9	CADMIUM	0.95	U	50.4		5	50	101	80 - 120%
7440-70-2	CALCIUM	38000		78200		1000	40000	102	80 - 120%
7440-47-3	CHROMIUM	3.2	B	200		10	200	99	80 - 120%
7440-48-4	COBALT	1	U	480		10	500	96	80 - 120%
7440-50-8	COPPER	1.9	U	262		8	250	105	80 - 120%
7439-89-6	IRON	16	U	964		50	1000	96	80 - 120%
7439-95-4	MAGNESIUM	8500		48500		750	40000	100	80 - 120%
7439-96-5	MANGANESE	0.7	U	485		5	500	97	80 - 120%
7440-02-0	NICKEL	9.7	B	498		20	500	98	80 - 120%
7440-09-7	POTASSIUM	3600		46400		1000	40000	107	80 - 120%
7440-22-4	SILVER	1.6	U	99.2		10	100	99	80 - 120%
7440-23-5	SODIUM	16000		58000		500	40000	105	80 - 120%
7440-62-2	VANADIUM	6.3	B	490		10	500	97	80 - 120%
7440-66-6	ZINC	3	U	498		20	500	100	80 - 120%

Data Package ID: *it1607157-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Field ID: B35P13
LabID: 1607157-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-5
Run ID: IT160713-1A5
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 160713A.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-36-0	ANTIMONY	498		500	100	20	20	1
7440-38-2	ARSENIC	1020		1000	102	10	20	1
7440-39-3	BARIUM	1060		1000	100	20	20	1
7440-43-9	CADMIUM	50.2		50	100	5	20	0
7440-70-2	CALCIUM	78600		40000	103	1000	20	0
7440-47-3	CHROMIUM	201		200	99	10	20	1
7440-48-4	COBALT	481		500	96	10	20	0
7440-50-8	COPPER	260		250	104	8	20	1
7439-89-6	IRON	954		1000	95	50	20	1
7439-95-4	MAGNESIUM	48600		40000	100	750	20	0
7439-96-5	MANGANESE	485		500	97	5	20	0
7440-02-0	NICKEL	499		500	98	20	20	0
7440-09-7	POTASSIUM	46200		40000	106	1000	20	1
7440-22-4	SILVER	99.8		100	100	10	20	1
7440-23-5	SODIUM	57600		40000	103	500	20	1
7440-62-2	VANADIUM	491		500	97	10	20	0
7440-66-6	ZINC	506		500	101	20	20	2

Data Package ID: *it1607157-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Lab ID: IP160712-4MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12-Jul-16
Date Analyzed: 14-Jul-16

Prep Batch: IP160712-4
QCBatchID: IP160712-4-3
Run ID: IM160713-11A13
Cleanup: NONE
Basis: N/A
File Name: 177SMPL_

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

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-61-1	URANIUM	10	0.027	0.1	0.027	U	

Data Package ID: *im1607157-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Lab ID: IM160712-4LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 07/12/2016
Date Analyzed: 07/14/2016
Prep Method: SW3005A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-3
Run ID: IM160713-11A13
Cleanup: NONE
Basis: N/A
File Name: 179SMPL_

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
7440-61-1	URANIUM	10	9.51	0.1		95	80 - 120%

Data Package ID: *im1607157-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607157
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: RCRA, JULY 2016 W16-007

Field ID: B35P13
LabID: 1607157-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 14-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-3
Run ID: IM160713-11A13
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 201SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-61-1	URANIUM	28		37.8		0.1	10	101	75 - 125%

Field ID: B35P13
LabID: 1607157-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-Jul-16
Date Extracted: 12-Jul-16
Date Analyzed: 14-Jul-16
Prep Method: SW3005 Rev A

Prep Batch: IP160712-4
QCBatchID: IP160712-4-3
Run ID: IM160713-11A13
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 202SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-61-1	URANIUM	37.6		10	99	0.1	20	1

Data Package ID: *im1607157-1*