ALS Environmental

Ft. Collins, Colorado LIMS Version: 6.763

Monday, June 01, 2015

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

Re: ALS Workorder: 1505175
Project Name: 100-KR-4, MAY 2015
Project Number: I15-024

Dear Ms. Waters-Husted:

Four water samples were received from CH2M HILL Plateau Remediation Company, on 5/8/2015. 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
ALS GROUP USA, CORP. Part of the ALS Laboratory Group An ALS Limited Company

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
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
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO000782008A
New Jersey (NJ)	CO003
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: 1505175
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: 100-KR-4, MAY 2015
Client Project Number: I15-024
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B30XH7	1505175-1		WATER	07-May-15	8:57
B30XF9	1505175-2		WATER	07-May-15	8:57
B30X69	1505175-3		WATER	07-May-15	10:45
B30X61	1505175-4		WATER	07-May-15	10:45

4 lbs 1505175

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **I15-024-004**

June 04, 2015

Collector	L.D. Wall CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I15-024	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-KR-4, MAY 2015	**Logbook No.**	HNF-N-506 74172	**Ice Chest No.**	GWS-222
Shipped To (Lab)	ALS Environmental Ft. Collins	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7735 5211 2837
Protocol	CERCLA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	5623

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
1 B30XH7	Y	W	MAY 07 2015	0857	1x500-mL G/P	6010_METALS_ICP: COMMON; 6010_METALS_ICP: GW 03	6 Months	HNO3 to pH <2
2 B30XF9	N	W	MAY 07 2015	0857	1x500-mL G/P	6010_METALS_ICP: COMMON; 6010_METALS_ICP: GW 03	6 Months	HNO3 to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
L.D. Wall CHPRC	L.D. Wall		MAY 07 2015 1025	M.A. White/CHPRC	M.A. White		MAY 07 2015 1025
M.A. White/CHPRC	M.A. White		MAY 07 2015 1400	FEDEX			
Fedex			05-08-15 1045	Scott Malkey			05-08-15 1045

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

PRINTED O 3/26/2015

A-6004-842 (REV 2)

1505175

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **I15-024-002**

Collector	S.W. King/CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I15-024	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-KR-4, MAY 2015	**Logbook No.**	HNF-N-506 70 / 80	**Ice Chest No.**	GWS-222
Shipped To (Lab)	ALS Environmental Ft. Collins	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7735 5211 2837
Protocol	CERCLA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	5623

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B30X69	Y	W	MAY 07 2015	1045	1x500-mL G/P	6010_METALS_ICP: COMMON; 6010_METALS_ICP: GW 03	6 Months	HNO3 to pH <2
B30X61	N	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: COMMON; 6010_METALS_ICP: GW 03	6 Months	HNO3 to pH <2

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
S.W. King/CHPRC		MAY 07 2015 1150	M.A. White/CHPRC		MAY 07 2015 1150
M.A. White/CHPRC		MAY 07 2015 1400	FEDEX		
fedex		05-08-15 / 0955	Scott Malley		05-08-15 / 0955

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

PRINTED O 3/26/2015

A-6004-842 (REV 2)

June 04, 2015

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ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1505175

Project Manager: JE Initials: SDM Date: 05-08-15

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 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):	4.2							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	12							
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: 5/8/15

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

12
-2
4.2 oz

From: (509) 373-7409
Barbara Briggs
CH2M
6267 Latah St

Richland, WA 99354

Origin ID: PSCA

FedEx Express

J151215022303uv

Ship Date: 07MAY15
ActWgt: 9.0 LB
CAD: 107068051/NET3610

Delivery Address Bar Code

Ref # GWS-222 (5623)
Invoice #
PO #
Dept #

SHIP TO: (970) 490-1511
BILL THIRD PARTY

Julie Ellingson
ALS Global
225 Commerce Drive

FORT COLLINS, CO 80524

TRK# 0201 7735 5211 2837

FRI - 08 MAY 10:30A
PRIORITY OVERNIGHT
DSR
80524
CO-US
DEN

XH FTCA

537J1/25E2/EE48

ALS1505175

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer
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Metals

Case Narrative

CH2M HILL Plateau Remediation Company

100-KR-4, MAY 2015 – I15-024

Work Order Number: 1505175

1. This report consists of 4 water samples for total recoverable or dissolved metals.

2. The samples were received cool and intact by ALS on 05/08/15.

3. The samples 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, 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.

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 time.

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. Chromium has results 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.

9. Matrix specific quality control procedures.

   Sample 1505175-1 was designated as the quality control sample for this 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 this batch. All acceptance criteria for accuracy were met.
   - A sample duplicate and matrix spike duplicate were digested and analyzed with this batch. All acceptance criteria for precision were met.
   - A serial dilution was analyzed with this ICP batch. All acceptance criteria were met.

10. Sample dilutions were not required for the requested analysis.

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 — 5/30/15
Jill Latelle — Date
Inorganics Primary Data Reviewer

Julie Ellis — 5/31/15
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 <=5X 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 Environmental -- FC
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Field ID: B30XH7
Lab ID: 1505175-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-May-15
Date Extracted: 15-May-15
Date Analyzed: 15-May-15
Prep Method: SW3005 Rev A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: As Received
File Name: 150515A.

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	5.4	10	5.4	U	
7440-39-3	BARIUM	1	29	20	0.96		
7440-41-7	BERYLLIUM	1	0.49	4	0.49	U	
7440-43-9	CADMIUM	1	0.75	5	0.75	U	
7440-70-2	CALCIUM	1	61000	1000	18		
7440-47-3	CHROMIUM	1	81	10	1.3		
7440-48-4	COBALT	1	1.2	10	1.2	U	
7440-50-8	COPPER	1	1.8	8	1.8	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	9400	750	22		
7439-96-5	MANGANESE	1	0.91	5	0.91	U	
7440-02-0	NICKEL	1	2.9	20	2.9	U	
7440-09-7	POTASSIUM	1	3200	1000	190		
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	7100	500	49		
7440-24-6	STRONTIUM	1	300	10	1.8		
7440-62-2	VANADIUM	1	4.8	10	1.2	B	
7440-66-6	ZINC	1	2.7	20	2.7	U	

Data Package ID: *it1505175-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Field ID: B30XF9
Lab ID: 1505175-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-May-15
Date Extracted: 15-May-15
Date Analyzed: 15-May-15
Prep Method: SW3005 Rev A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: As Received
File Name: 150515A.

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	5.4	10	5.4	U	
7440-39-3	BARIUM	1	29	20	0.96		
7440-41-7	BERYLLIUM	1	0.58	4	0.49	B	
7440-43-9	CADMIUM	1	0.75	5	0.75	U	
7440-70-2	CALCIUM	1	65000	1000	18		
7440-47-3	CHROMIUM	1	85	10	1.3		
7440-48-4	COBALT	1	1.2	10	1.2	U	
7440-50-8	COPPER	1	1.8	8	1.8	U	
7439-89-6	IRON	1	27	50	16	B	
7439-95-4	MAGNESIUM	1	9700	750	22		
7439-96-5	MANGANESE	1	0.91	5	0.91	U	
7440-02-0	NICKEL	1	2.9	20	2.9	U	
7440-09-7	POTASSIUM	1	3300	1000	190		
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	7300	500	49		
7440-24-6	STRONTIUM	1	310	10	1.8		
7440-62-2	VANADIUM	1	4.3	10	1.2	B	
7440-66-6	ZINC	1	2.7	20	2.7	U	

Data Package ID: *it1505175-1*

Dissolved ICP Metals

Method SW6010B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Field ID: B30X69
Lab ID: 1505175-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-May-15
Date Extracted: 15-May-15
Date Analyzed: 15-May-15
Prep Method: SW3005 Rev A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: As Received
File Name: 150515A.

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	5.4	10	5.4	U	
7440-39-3	BARIUM	1	31	20	0.96		
7440-41-7	BERYLLIUM	1	0.49	4	0.49	U	
7440-43-9	CADMIUM	1	0.75	5	0.75	U	
7440-70-2	CALCIUM	1	50000	1000	18		
7440-47-3	CHROMIUM	1	1.3	10	1.3	B	
7440-48-4	COBALT	1	1.2	10	1.2	U	
7440-50-8	COPPER	1	1.8	8	1.8	U	
7439-89-6	IRON	1	31	50	16	B	
7439-95-4	MAGNESIUM	1	12000	750	22		
7439-96-5	MANGANESE	1	0.91	5	0.91	U	
7440-02-0	NICKEL	1	2.9	20	2.9	U	
7440-09-7	POTASSIUM	1	5000	1000	190		
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	9600	500	49		
7440-24-6	STRONTIUM	1	240	10	1.8		
7440-62-2	VANADIUM	1	9.6	10	1.2	B	
7440-66-6	ZINC	1	2.7	20	2.7	U	

Data Package ID: *it1505175-1*

Total Recoverable ICP Metals

Method SW6010B

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Field ID: B30X61
Lab ID: 1505175-4

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-May-15
Date Extracted: 15-May-15
Date Analyzed: 15-May-15
Prep Method: SW3005 Rev A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: As Received
File Name: 150515A.

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	5.4	10	5.4	U	
7440-39-3	BARIUM	1	32	20	0.96		
7440-41-7	BERYLLIUM	1	0.52	4	0.49	B	
7440-43-9	CADMIUM	1	0.75	5	0.75	U	
7440-70-2	CALCIUM	1	51000	1000	18		
7440-47-3	CHROMIUM	1	1.6	10	1.3	B	
7440-48-4	COBALT	1	1.2	10	1.2	U	
7440-50-8	COPPER	1	1.8	8	1.8	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	12000	750	22		
7439-96-5	MANGANESE	1	0.91	5	0.91	U	
7440-02-0	NICKEL	1	2.9	20	2.9	U	
7440-09-7	POTASSIUM	1	5100	1000	190		
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	9700	500	49		
7440-24-6	STRONTIUM	1	250	10	1.8		
7440-62-2	VANADIUM	1	8.9	10	1.2	B	
7440-66-6	ZINC	1	2.7	20	2.7	U	

Data Package ID: *it1505175-1*

ALS1505175

ICP Metals

Method SW6010B

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Lab ID: IP150515-4MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 15-May-15
Date Analyzed: 15-May-15

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: N/A
File Name: 150515A.

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	5.4	10	5.4	U	
7440-39-3	BARIUM	1	0.96	20	0.96	U	
7440-41-7	BERYLLIUM	1	0.49	4	0.49	U	
7440-43-9	CADMIUM	1	0.75	5	0.75	U	
7440-70-2	CALCIUM	1	18	1000	18	U	
7440-47-3	CHROMIUM	1	-1.4	10	1.3	B	
7440-48-4	COBALT	1	1.2	10	1.2	U	
7440-50-8	COPPER	1	1.8	8	1.8	U	
7439-89-6	IRON	1	16	50	16	U	
7439-95-4	MAGNESIUM	1	22	750	22	U	
7439-96-5	MANGANESE	1	0.91	5	0.91	U	
7440-02-0	NICKEL	1	2.9	20	2.9	U	
7440-09-7	POTASSIUM	1	190	1000	190	U	
7440-22-4	SILVER	1	1.6	10	1.6	U	
7440-23-5	SODIUM	1	49	500	49	U	
7440-24-6	STRONTIUM	1	1.8	10	1.8	U	
7440-62-2	VANADIUM	1	1.2	10	1.2	U	
7440-66-6	ZINC	1	2.7	20	2.7	U	

Data Package ID: *it1505175-1*

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ALS1505175

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Lab ID: IP150515-4LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 05/15/2015
Date Analyzed: 05/15/2015
Prep Method: SW3005A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: N/A
File Name: 150515A.

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	508	20		102	80 - 120%
7440-38-2	ARSENIC	1000	1080	10		108	80 - 120%
7440-39-3	BARIUM	1000	1030	20		103	80 - 120%
7440-41-7	BERYLLIUM	50	51.9	4		104	80 - 120%
7440-43-9	CADMIUM	50	49.5	5		99	80 - 120%
7440-70-2	CALCIUM	40000	39400	1000		98	80 - 120%
7440-47-3	CHROMIUM	200	202	10		101	80 - 120%
7440-48-4	COBALT	500	523	10		105	80 - 120%
7440-50-8	COPPER	250	262	8		105	80 - 120%
7439-89-6	IRON	1000	956	50		96	80 - 120%
7439-95-4	MAGNESIUM	40000	40300	750		101	80 - 120%
7439-96-5	MANGANESE	500	518	5		104	80 - 120%
7440-02-0	NICKEL	500	519	20		104	80 - 120%
7440-09-7	POTASSIUM	40000	40800	1000		102	80 - 120%
7440-22-4	SILVER	100	101	10		101	80 - 120%
7440-23-5	SODIUM	40000	40900	500		102	80 - 120%
7440-24-6	STRONTIUM	500	515	10		103	80 - 120%
7440-62-2	VANADIUM	500	519	10		104	80 - 120%
7440-66-6	ZINC	500	503	20		101	80 - 120%

Data Package ID: *it1505175-1*

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ALS1505175

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Field ID: B30XH7
LabID: 1505175-1MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-May-15
Date Extracted: 15-May-15
Date Analyzed: 15-May-15
Prep Method: SW3005 Rev A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 150515A.

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	505		20	500	101	80 - 120%
7440-38-2	ARSENIC	5.4	U	1090		10	1000	109	80 - 120%
7440-39-3	BARIUM	29		1040		20	1000	102	80 - 120%
7440-41-7	BERYLLIUM	0.49	U	51.9		4	50	104	80 - 120%
7440-43-9	CADMIUM	0.75	U	50.4		5	50	101	80 - 120%
7440-70-2	CALCIUM	61000		105000		1000	40000	108	80 - 120%
7440-47-3	CHROMIUM	81		282		10	200	100	80 - 120%
7440-48-4	COBALT	1.2	U	518		10	500	104	80 - 120%
7440-50-8	COPPER	1.8	U	261		8	250	104	80 - 120%
7439-89-6	IRON	16	U	949		50	1000	95	80 - 120%
7439-95-4	MAGNESIUM	9400		49700		750	40000	101	80 - 120%
7439-96-5	MANGANESE	0.91	U	511		5	500	102	80 - 120%
7440-02-0	NICKEL	2.9	U	519		20	500	104	80 - 120%
7440-09-7	POTASSIUM	3200		46200		1000	40000	108	80 - 120%
7440-22-4	SILVER	1.6	U	100		10	100	100	80 - 120%
7440-23-5	SODIUM	7100		51200		500	40000	110	80 - 120%
7440-24-6	STRONTIUM	300		806		10	500	101	80 - 120%
7440-62-2	VANADIUM	4.8	B	519		10	500	103	80 - 120%
7440-66-6	ZINC	2.7	U	491		20	500	98	80 - 120%

Data Package ID: *it1505175-1*

ALS1505175

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1505175
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4, MAY 2015 I15-024

Field ID: B30XH7
LabID: 1505175-1MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 07-May-15
Date Extracted: 15-May-15
Date Analyzed: 15-May-15
Prep Method: SW3005 Rev A

Prep Batch: IP150515-4
QCBatchID: IP150515-4-1
Run ID: IT150515-2A5
Cleanup: NONE
Basis: As Received

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: UG/L
File Name: 150515A.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-36-0	ANTIMONY	505		500	101	20	20	0
7440-38-2	ARSENIC	1090		1000	109	10	20	0
7440-39-3	BARIUM	1040		1000	102	20	20	0
7440-41-7	BERYLLIUM	51.9		50	104	4	20	0
7440-43-9	CADMIUM	50.2		50	100	5	20	0
7440-70-2	CALCIUM	105000		40000	110	1000	20	1
7440-47-3	CHROMIUM	281		200	100	10	20	0
7440-48-4	COBALT	519		500	104	10	20	0
7440-50-8	COPPER	261		250	104	8	20	0
7439-89-6	IRON	975		1000	97	50	20	3
7439-95-4	MAGNESIUM	49900		40000	101	750	20	0
7439-96-5	MANGANESE	512		500	102	5	20	0
7440-02-0	NICKEL	522		500	104	20	20	1
7440-09-7	POTASSIUM	46200		40000	108	1000	20	0
7440-22-4	SILVER	100		100	100	10	20	0
7440-23-5	SODIUM	51200		40000	110	500	20	0
7440-24-6	STRONTIUM	808		500	102	10	20	0
7440-62-2	VANADIUM	521		500	103	10	20	0
7440-66-6	ZINC	490		500	98	20	20	0

Data Package ID: *it1505175-1*