



Wednesday, July 20, 2016

Dave Todak
CH2M HILL Plateau Remediation Company
2420 Stevens Center
Richland, WA 99352

Re: ALS Workorder: 1606561
Project Name: 100-KR-4 Long Term & Interim Action Monitoring - Soil
Project Number: F16-037

Dear Mr. Todak:

Three soil samples were received from CH2M HILL Plateau Remediation Company, on 6/30/2016. 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,

A handwritten signature in black ink, appearing to read 'Julie Ellingson', written over a white background.

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: 1606561

Client Name: CH2M HILL Plateau Remediation Company

Client Project Name: 100-KR-4 Long Term & Interim Action Monitoring - Soil

Client Project Number: F16-037

Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35LB6	1606561-1		SOIL	28-Jun-16	13:00
B35LB7	1606561-2		SOIL	28-Jun-16	13:10
B35LB8	1606561-3		SOIL	28-Jun-16	14:23

CH2MHill Plateau Remediation Company		1606561		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-037-018	PAGE 1 OF 1
COLLECTOR	Ed Kauer CHPRC	COMPANY CONTACT	LYNCH, SA	TELEPHONE NO.	373-5586	PROJECT COORDINATOR	TODAK, D
SAMPLING LOCATION	C9595 SAMPLE I-003	PROJECT DESIGNATION	100-KR-4 Long Term & Interim Action Monitoring - Soil	SAF NO.	F16-037	PRICE CODE	8C
ICE CHEST NO.	6WS-452	FIELD LOGBOOK NO.	HNF-N-645 1 - pg 22	ACTUAL SAMPLE DEPTH	10	AIR QUALITY	<input type="checkbox"/> 15 Days / 15 Days
SHIPPED TO	ALS Environmental Ft. Collins	OFFSITE PROPERTY NO.	6783	COA	300085	METHOD OF SHIPMENT	FEDERAL EXPRESS
BILL OF LADING/AIR BILL NO.		7766 3495 6289					

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME
A=Air DL=Drum L=Liquid DS=Drum S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/1ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA	None	6 Months	G/P	1	250mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	JUN 28 2016	1310
SPECIAL HANDLING AND/OR STORAGE									
SAMPLE NO.	MATRIX*								
B35LB7 2	SOIL								

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM CHPRC		SSU #1	JUN 28 2016	Janelle Zunker	JUN 29 2016 0925
RELINQUISHED BY/REMOVED FROM SSU #1		Janelle Zunker	JUN 29 2016 0925	FEDEX	JUN 29 2016 0925
RELINQUISHED BY/REMOVED FROM Janelle Zunker		REBECCA MOOLA	6/30/16 0955		
RELINQUISHED BY/REMOVED FROM Fedex					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
LABORATORY RECEIVED BY					
SECTION					
FINAL SAMPLE DISPOSITION					
DISPOSAL METHOD					

SPECIAL INSTRUCTIONS
(1) 6020_METALS_ICPMS: COMMON {Chromium, Copper, Lead, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Antimony, Manganese, Vanadium, Zinc}; 7471_MERCURY_CV: COMMON (SOLIDS);

CH2M Hill Plateau Remediation Company 1606561		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F16-037-019	PAGE 1 OF 1
COLLECTOR Ed Kauer CHPRC	COMPANY CONTACT LYNCH, SA	TELEPHONE NO. 373-5586	PROJECT COORDINATOR TODAK, D	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION C9595 SAMPLE I-004	PROJECT DESIGNATION 100-KR-4 Long Term & Interim Action Monitoring - Soil	SAF NO. F16-037	COA 300085	AIR QUALITY	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. 6WS-452	FIELD LOGBOOK NO. HNF-N-645 4-422	ACTUAL SAMPLE DEPTH 25'	COA 300085		ORIGINAL
SHIPPED TO ALS Environmental Ft. Collins	OFFSITE PROPERTY NO. 6783		BILL OF LADING/AIR BILL NO. 7766 3495 6289		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. NA	None	6 Months	G/P	1	250mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	JUN 28 2016	1423
B35LB8	3								

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM CHPRC	RECEIVED BY/STORED IN SSU #1	(1) 6020_METALS_ICPMS: COMMON {Chromium, Copper, Lead, Selenium}; 6020_METALS_ICPMS: COMMON (Add-on) {Antimony, Manganese, Vanadium, Zinc}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM SSU #1	RECEIVED BY/STORED IN Janelle Zunker CHPRC	
RELINQUISHED BY/REMOVED FROM CHPRC	RECEIVED BY/STORED IN FEDEX	
RELINQUISHED BY/REMOVED FROM Fedex	RECEIVED BY/STORED IN Janelle Zunker / Rebecca Neola	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC

Workorder No: 1606561

Project Manager: JE

Initials: DM Date: 6/30/16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<input checked="" type="radio"/> N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	<input checked="" type="radio"/> N/A	YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> 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	<input checked="" type="radio"/> N/A	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ dusting ___ moderate ___ heavy	<input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4	RAD ONLY	<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>4.4°C</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>12</u>			
Background µR/hr reading: <u>10</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / <input type="radio"/> 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: [Signature] 7-1-16

ORIGIN ID: PSCA (509) 373-3580
JANELLE ZUNKER
CH2M
6289 LATAH ST.
RICHLAND, WA 99354
UNITED STATES US

SHIP DATE: 29 JUN 16
ACTWTG: 20.00 LB
CAD: 10706605/INNET/3730
BILL THIRD PARTY

1606561

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524

(970) 490-1511

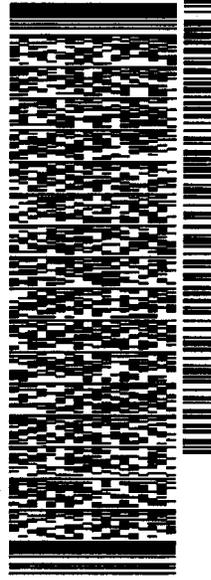
REF: 6783

PO:

DEPT:

4.490c 12
-2

540J16CBD/727F



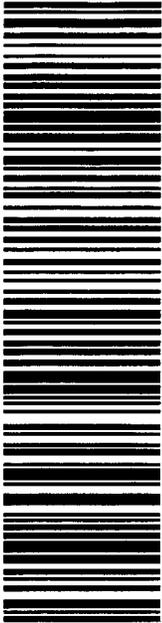
110101002001uv

TRK# 7766 3495 6289
0201

THU - 30 JUN 10:30A
PRIORITY OVERNIGHT
DSR

XH FTCA

80524
co-us DEN



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 Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Metals Case Narrative

CH2M HILL Plateau Remediation Company

100-KR-4 Long Term & Interim Action Monitoring - Soil – F16-037

Work Order Number: 1606561

1. This report consists of 3 soil samples.
2. The samples were received cool and intact by ALS on 06/30/16.
3. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

For analysis by ICP-MS, the samples were digested following method 3050B and the current revision of SOP 806.

For analysis by Cold Vapor AA (CVAA), the samples were digested following method 7471A and the current revision of SOP 812.

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

Analysis by CVAA followed method 7471A and the current revision of SOP 812.

5. All standards and solutions are NIST traceable and were used within their recommended shelf life.
6. The samples were prepared and analyzed within the established hold times.

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

7. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.
 - The preparation (method) blank associated with each digestion batch was below the reporting limit for the requested analytes. Lead 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 associated with Method 6020A were analyzed.

8. Matrix specific quality control procedures.

Sample 1606561-1 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 with the following exception:

<u>Analyte</u>	<u>Sample ID</u>
Antimony	1606561-1MS/MSD

The native sample result is flagged for matrix spike failure and an analytical post spike was performed. The result of the spike was acceptable indicating that the matrix was not significantly affecting quantitation of this analyte.

- Matrix spike recoveries could not be evaluated for the following analytes:

<u>Analyte</u>	<u>Sample ID</u>
Manganese	1606561-1
Vanadium	1606561-1

The concentrations of these analytes in the native sample were greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

- A serial dilution was analyzed with the ICPMS batch. All acceptance criteria were met.

9. It is a standard practice that samples for ICP-MS are analyzed at 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
Jill Latelle
Inorganics Primary Data Reviewer

7/15/16
Date

April E. Ellis
Inorganics Final Data Reviewer

7/20/16
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 $\leq 20X$ 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.

7/21/2016
ALS1606561

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Field ID:	B35LB6
Lab ID:	1606561-1

Sample Matrix: SOIL
% Moisture: 4.7
Date Collected: 28-Jun-16
Date Extracted: 05-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3050 Rev B

Prep Batch: IP160705-1
QCBatchID: IP160705-1-3
Run ID: IM160713-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 021SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.051 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	12	100	12	B	N
7440-47-3	CHROMIUM	10	2400	1000	82		
7440-50-8	COPPER	10	19000	1000	110		
7439-92-1	LEAD	10	1800	200	21		
7439-96-5	MANGANESE	10	340000	200	26		
7782-49-2	SELENIUM	10	930	1000	66	B	
7440-62-2	VANADIUM	10	86000	500	58		
7440-66-6	ZINC	10	54000	10000	700		

Data Package ID: *im1606561-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Field ID:	B35LB7
Lab ID:	1606561-2

Sample Matrix: SOIL

% Moisture: 5.4

Date Collected: 28-Jun-16

Date Extracted: 05-Jul-16

Date Analyzed: 13-Jul-16

Prep Method: SW3050 Rev B

Prep Batch: IP160705-1

QCBatchID: IP160705-1-3

Run ID: IM160713-10A4

Cleanup: NONE

Basis: Dry Weight

File Name: 027SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 1.014 g

Final Volume: 100 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	25	100	12	B	N
7440-47-3	CHROMIUM	10	3900	1000	85		
7440-50-8	COPPER	10	19000	1000	110		
7439-92-1	LEAD	10	2000	210	22		
7439-96-5	MANGANESE	10	350000	210	27		
7782-49-2	SELENIUM	10	940	1000	69	B	
7440-62-2	VANADIUM	10	80000	520	60		
7440-66-6	ZINC	10	51000	10000	730		

Data Package ID: *im1606561-1*

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Field ID:	B35LB8
Lab ID:	1606561-3

Sample Matrix: SOIL
% Moisture: 3.7
Date Collected: 28-Jun-16
Date Extracted: 05-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3050 Rev B

Prep Batch: IP160705-1
QCBatchID: IP160705-1-3
Run ID: IM160713-10A4
Cleanup: NONE
Basis: Dry Weight
File Name: 028SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	19	100	12	B	N
7440-47-3	CHROMIUM	10	4600	1000	83		
7440-50-8	COPPER	10	52000	1000	110		
7439-92-1	LEAD	10	1600	200	21		
7439-96-5	MANGANESE	10	240000	200	26		
7782-49-2	SELENIUM	10	710	1000	68	B	
7440-62-2	VANADIUM	10	43000	510	59		
7440-66-6	ZINC	10	36000	10000	710		

Data Package ID: *im1606561-1*

Total MERCURY

Method SW7471A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: CH2M HILL Plateau Remediation Company
Client Project ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037
Work Order Number: 1606561 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Analyst: Nathan A. Quatier **Result Units:** UG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B35LB6	1606561-1	6/28/2016	7/12/2016	07/12/2016	4.658	1	4.8	32	3.4	B	0.658 g
B35LB7	1606561-2	6/28/2016	7/12/2016	07/12/2016	5.37	1	3.7	34	3.7	U	0.615 g
B35LB8	1606561-3	6/28/2016	7/12/2016	07/12/2016	3.73	1	3.6	34	3.6	U	0.617 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *HG1606561-1*

7/21/2016
ALS1606561

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Lab ID: IP160705-1MB

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05-Jul-16

Date Analyzed: 11-Jul-16

Prep Batch: IP160705-1

QCBatchID: IP160705-1-3

Run ID: IM160711-11A9

Cleanup: NONE

Basis: N/A

File Name: 105SMPL_

Sample Aliquot: 1 g

Final Volume: 100 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-47-3	CHROMIUM	10	82	1000	82	U	
7440-50-8	COPPER	10	110	1000	110	U	
7439-92-1	LEAD	10	25	200	21	B	
7439-96-5	MANGANESE	10	26	200	26	U	
7782-49-2	SELENIUM	10	66	1000	66	U	
7440-62-2	VANADIUM	10	58	500	58	U	
7440-66-6	ZINC	10	700	10000	700	U	

Data Package ID: im1606561-1

7/21/2016
ALS1606561

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Lab ID: IP160705-1MB

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 05-Jul-16

Date Analyzed: 13-Jul-16

Prep Batch: IP160705-1

QCBatchID: IP160705-1-3

Run ID: IM160713-10A4

Cleanup: NONE

Basis: N/A

File Name: 017SMPL_

Sample Aliquot: 1 g

Final Volume: 100 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	12	100	12	U	

Data Package ID: *im1606561-1*

Date Printed: Friday, July 15, 2016

ALS Environmental -- FC

Page 2 of 2

LIMS Version: 6.820

7/21/2016
ALS1606561

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Lab ID: IM160705-1LCS

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/05/2016

Date Analyzed: 07/13/2016

Prep Method: SW3050B

Prep Batch: IP160705-1

QC Batch ID: IP160705-1-3

Run ID: IM160713-10A4

Cleanup: NONE

Basis: N/A

File Name: 018SMPL_

Sample Aliquot: 1 g

Final Volume: 100 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-36-0	ANTIMONY	3000	2950	100		98	80 - 120%
7440-47-3	CHROMIUM	50000	50700	1000		101	80 - 120%
7440-50-8	COPPER	100000	107000	1000		107	80 - 120%
7439-92-1	LEAD	5000	5350	200		107	80 - 120%
7439-96-5	MANGANESE	10000	11600	200		116	80 - 120%
7782-49-2	SELENIUM	10000	11000	1000		110	80 - 120%
7440-62-2	VANADIUM	10000	11200	500		112	80 - 120%
7440-66-6	ZINC	200000	210000	10000		105	80 - 120%

Data Package ID: im1606561-1

Date Printed: Friday, July 15, 2016

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.820

7/21/2016
ALS1606561

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-0

Field ID: B35LB6
LabID: 1606561-1MS

Sample Matrix: SOIL
% Moisture: 4.7
Date Collected: 28-Jun-16
Date Extracted: 05-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3050 Rev B

Prep Batch: IP160705-1
QCBatchID: IP160705-1-3
Run ID: IM160713-10A4
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.042 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 024SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-36-0	ANTIMONY	12	B	2010	N	101	3020	66	75 - 125%
7440-47-3	CHROMIUM	2400		58400		1010	50300	111	75 - 125%
7440-50-8	COPPER	19000		132000		1010	101000	112	75 - 125%
7439-92-1	LEAD	1800		7520		201	5030	113	75 - 125%
7439-96-5	MANGANESE	340000		359000		201	10100	178	75 - 125%
7782-49-2	SELENIUM	930	B	10800		1010	10100	98	75 - 125%
7440-62-2	VANADIUM	86000		99100		503	10100	128	75 - 125%
7440-66-6	ZINC	54000		272000		10100	201000	108	75 - 125%

Field ID: B35LB6
LabID: 1606561-1MSD

Sample Matrix: SOIL
% Moisture: 4.7
Date Collected: 28-Jun-16
Date Extracted: 05-Jul-16
Date Analyzed: 13-Jul-16
Prep Method: SW3050 Rev B

Prep Batch: IP160705-1
QCBatchID: IP160705-1-3
Run ID: IM160713-10A4
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.048 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 025SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-36-0	ANTIMONY	2030	N	3000	67	100	20	1
7440-47-3	CHROMIUM	55300		50000	106	1000	20	5
7440-50-8	COPPER	129000		100000	110	1000	20	2
7439-92-1	LEAD	7360		5000	111	200	20	2
7439-96-5	MANGANESE	372000		10000	313	200	20	4
7782-49-2	SELENIUM	11000		10000	100	1000	20	1
7440-62-2	VANADIUM	98500		10000	123	500	20	1
7440-66-6	ZINC	267000		200000	106	10000	20	2

Data Package ID: *im1606561-1*

7/21/2016
ALS1606561

ICPMS Metals

Method SW6020

Analytical Spike Sample Recovery

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Field ID: B35LB6
LabID: 1606561-1A

Run ID: IM160713-10A4
Date Analyzed: 7/13/2016
Result Units: ug/l

Target Analyte	Sample Result	Samp Qual	PS Result	PS Qual	Spike Added	PS % Rec.	Control Limits
ANTIMONY	0.0120	B	3.07		3	102	75 - 125%

Data Package ID: *im1606561-1*

7/21/2016
ALS1606561

Mercury

Method SW7471A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Lab ID: HG160712-1MB

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12-Jul-16

Date Analyzed: 12-Jul-16

Prep Batch: HG160712-1

QCBatchID: HG160712-1-1

Run ID: HG160712-1A2

Cleanup: NONE

Basis: N/A

File Name: HG160712-1

Sample Aliquot: 0.6 g

Final Volume: 100 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	3.6	33	3.6	U	

Data Package ID: HG1606561-1

Date Printed: Friday, July 15, 2016

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.820

7/21/2016
ALS1606561

Mercury

Method SW7471A Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606561

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-037

Lab ID: HG160712-1LCS

Sample Matrix: SOIL

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/12/2016

Date Analyzed: 07/12/2016

Prep Method: METHOD

Prep Batch: HG160712-1

QCBatchID: HG160712-1-1

Run ID: HG160712-1A2

Cleanup: NONE

Basis: N/A

File Name: HG160712-1

Sample Aliquot: 0.6 g

Final Volume: 100 ml

Result Units: UG/KG

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	167	168	33.3		101	80 - 120%

Data Package ID: HG1606561-1

7/21/2016
ALS1606561

Mercury

Method SW7471A Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1606561
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-KR-4 Long Term & Interim Action Monitoring - Soil F16-0

Field ID: B35LB6
LabID: 1606561-1MS

Sample Matrix: SOIL
% Moisture: 4.7
Date Collected: 28-Jun-16
Date Extracted: 12-Jul-16
Date Analyzed: 12-Jul-16
Prep Method: METHOD

Prep Batch: HG160712-1
QCBatchID: HG160712-1-1
Run ID: HG160712-1A2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.662 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: HG160712-1

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	4.8	B	311		31.7	317	97	80 - 120%

Field ID: B35LB6
LabID: 1606561-1MSD

Sample Matrix: SOIL
% Moisture: 4.7
Date Collected: 28-Jun-16
Date Extracted: 12-Jul-16
Date Analyzed: 12-Jul-16
Prep Method: METHOD

Prep Batch: HG160712-1
QCBatchID: HG160712-1-1
Run ID: HG160712-1A2
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.659 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: HG160712-1

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	326		318	101	31.8	20	5

Data Package ID: HG1606561-1