ALS Environmental

Saturday, June 25, 2016

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

Re: ALS Workorder: 1606325
Project Name: 100-HR-3 Long Term & Interim Action Monitoring - Soil
Project Number: F16-040

Dear Mr. Todak:

One soil sample was received from CH2M HILL Plateau Remediation Company, on 6/17/2016. The sample was 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 -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1606325
Client Name: CH2M HILL Plateau Remediation Company
Client Project Name: 100-HR-3 Long Term & Interim Action Monitoring - Soil
Client Project Number: F16-040
Client PO Number: BOA 54854

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B35FW9	1606325-1		SOIL	16-Jun-16	8:30

CH2MHill Plateau Remediation Company

1606325

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F16-040-017

COLLECTOR B.E. Briggs CHPRC

COMPANY CONTACT TODAK, D

TELEPHONE NO. 376-6427

PROJECT COORDINATOR TODAK, D

PRICE CODE 8C

DATA TURNAROUND 15 Days / 15 Days

SAMPLING LOCATION C9542, I-004

PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Soil

SAF NO. F16-040

AIR QUALITY ☐

ICE CHEST NO. GWS-468

FIELD LOGBOOK NO. HNF-N-645-5

ACTUAL SAMPLE DEPTH 98.0' - 100.5'

COA 300115

METHOD OF SHIPMENT FEDERAL EXPRESS

ORIGINAL

SHIPPED TO ALS Environmental Ft. Collins

OFFSITE PROPERTY NO. 6740

BILL OF LADING/AIR BILL NO. 776541820538

MATRIX*
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

POSSIBLE SAMPLE HAZARDS/ REMARKS
*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. N/A

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	250mL
SAMPLE ANALYSIS	6020_METALS_ICPMS: COMMON {Chromium};

LINER "A"

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B35FW9 (1)	SOIL	JUN 16 2016	0830	✓

8/2/2016
ALS160325

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B.E. Briggs CHPRC B.E. Briggs	JUN 16 2016 0947	Troy Bacon CHPRC Troy L. Bacon	JUN 16 2016 0947
Troy Bacon CHPRC Troy L. Bacon	JUN 16 2016 1400	FEDEX	
Fedex		Jhn Mn / Rebecca Nicole	6/17/16 1020

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

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LABORATORY SECTION RECEIVED BY

FINAL SAMPLE DISPOSITION DISPOSAL METHOD

TITLE DATE/TIME

DISPOSED BY DATE/TIME

PRINTED ON 6/15/2016

FSR ID = FSR32090

TRVL NUM = TRVL-16-133

A-6003-618 (REV 2)

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC Workorder No: 1606325

Project Manager: JE Initials: RM Date: 6/17/16

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 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:	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: 6/17/16

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

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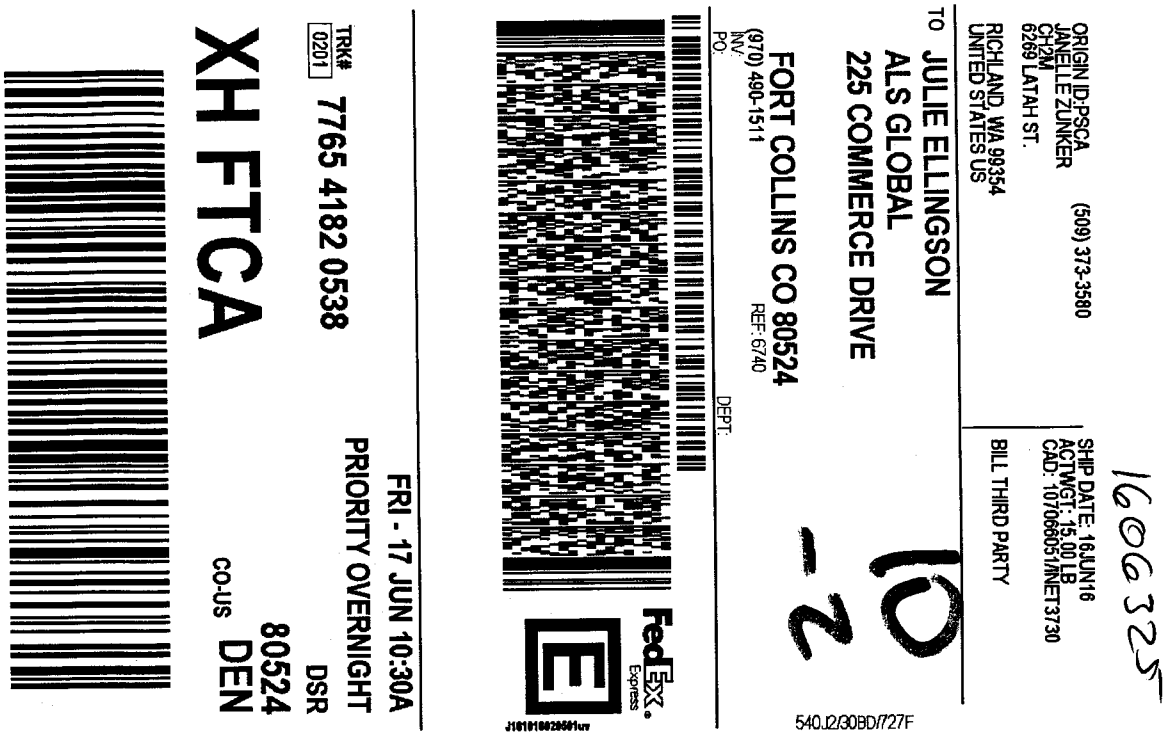

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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.

8/2/2016

Metals
Case Narrative

CH2M HILL Plateau Remediation Company

100-HR-3 Long Term & Interim Action Monitoring – Soil – F16-040

Work Order Number: 1606325

1. This report consists of 1 soil sample.

2. The sample was received intact at ambient temperature by ALS on 06/17/16.

3. The sample was prepared and analyzed based on SW-846, 3rd Edition procedures.

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

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

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

6. The sample was prepared and analyzed within the established hold time.

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 sample in this digestion batch.
   - The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analyte. 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 analyte.
   - All initial and continuing calibration verifications were within the acceptance criteria for the requested analyte.

- The interference check samples associated with Method 6020A were analyzed.

8. Matrix specific quality control procedures.

   Sample 1606326-2 was designated as the quality control sample for this analysis. Due to conflicting projects, matrix QC results were not included in this report.

9. 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 — 6/25/16
Jill Latelle — Date
Inorganics Primary Data Reviewer

6/25/16
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 ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1606325
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-HR-3 Long Term & Interim Action Monitoring - Soil F16-040

Field ID: B35FW9
Lab ID: 1606325-1

Analysis ReqCode: 6010_METALS_I

Sample Matrix: SOIL
% Moisture: 7.8
Date Collected: 16-Jun-16
Date Extracted: 21-Jun-16
Date Analyzed: 21-Jun-16
Prep Method: SW3050 Rev B

Prep Batch: IP160621-3
QCBatchID: IP160621-3-3
Run ID: IM160621-11A6
Cleanup: NONE
Basis: Dry Weight
File Name: 123SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.032 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
7440-47-3	CHROMIUM	10	2500	1100	86		

Data Package ID: *IM1606325-1*

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1606325
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-HR-3 Long Term & Interim Action Monitoring - Soil F16-040

Lab ID: IP160621-3MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 21-Jun-16
Date Analyzed: 21-Jun-16

Prep Batch: IP160621-3
QCBatchID: IP160621-3-3
Run ID: IM160621-11A6
Cleanup: NONE
Basis: N/A
File Name: 099SMPL_

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	

Data Package ID: *IM1606325-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1606325
Client Name: CH2M HILL Plateau Remediation Company
ClientProject ID: 100-HR-3 Long Term & Interim Action Monitoring - Soil F16-040

Lab ID: IM160621-3LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 06/21/2016
Date Analyzed: 06/21/2016
Prep Method: SW3050B

Prep Batch: IP160621-3
QCBatchID: IP160621-3-3
Run ID: IM160621-11A6
Cleanup: NONE
Basis: N/A
File Name: 101SMPL_

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
7440-47-3	CHROMIUM	50000	54000	1000		108	80 - 120%

Data Package ID: *IM1606325-1*