

Saturday, June 25, 2016

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

Re: ALS Workorder: 1606349
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 6/18/2016. The sample was scheduled for the following analysis:

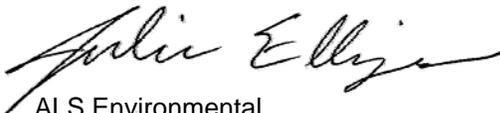
Metals

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: 1606349
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
B35FX2	1606349-1		SOIL	16-Jun-16	13:42

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PAGE 1 OF 1	
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-006	PROJECT DESIGNATION 100-HR-3 Long Term & Interim Action Monitoring - Soil	FIELD LOGBOOK NO. HMF-N-645-5	SAF NO. F16-040	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GWS-121	ACTUAL SAMPLE DEPTH 103.9' - 106.4'	OFFSITE PROPERTY NO. 6741	COA 300115	BILL OF LADING/AIR BILL NO. 776551933410	

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SF=Sediment T=Tissue V=Vegetation WI=Wipe X=Other	PRELIMINARY ANALYSIS None	PRESERVATION 6 Months	HOLDING TIME G/P	TYPE OF CONTAINER 1	NO. OF CONTAINER(S) 250mL	VOLUME 6020 METALS ICPMS: COMMON {Chromium};	SAMPLE ANALYSIS	SAMPLE DATE JUN 16 2016	SAMPLE TIME 1342	MATRIX* SOIL
SPECIAL HANDLING AND/OR STORAGE										

RELINQUISHED BY/REMOVED FROM B.E. Briggs	DATE/TIME JUN 16 2016 1500	SIGN/PRINT NAMES B.E. Briggs	DATE/TIME JUN 16 2016 1500	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME JUN 17 2016 1212	RECEIVED BY/STORED IN Leah Wall	DATE/TIME JUN 17 2016 1212	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME JUN 17 2016 1400	RECEIVED BY/STORED IN Leah Wall	DATE/TIME JUN 17 2016 1400	
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME 6-18-16 0900	RECEIVED BY/STORED IN Scott Malby	DATE/TIME 6-18-16 0900	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION CHPRC	RECEIVED BY B.E. Briggs	TITLE	DATE/TIME	
FINAL SAMPLE DISPOSITION 1-DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME	



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC

Workorder No: 1606349

Project Manager: JME

Initials: SDM Date: 6-18-16

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 of sediment: ___ dusting ___ moderate ___ heavy	Amount <input checked="" type="radio"/> N/A	YES	NO
16. Were the samples shipped on ice?		YES	<input checked="" type="radio"/> NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4	RAD ONLY	YES	<input checked="" type="radio"/> NO
Cooler #: <u>1</u>			
Temperature (°C): <u>Arb → 20.4°</u>			
No. of custody seals on cooler: <u>2</u>			
DOT Survey/Acceptance Information	External µR/hr reading: <u>10</u>		
	Background µR/hr reading: <u>11</u>		
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> 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: [Signature] 6/18/16

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

6/25/2016
ALS1606349

1606349

1606349

ORIGIN ID: PSCA (509) 528-9426
LESLEY WALL
CH2M
6287 LATIHA ST.
6289 LATIHA ST.
RICHLAND, WA 99354
UNITED STATES US

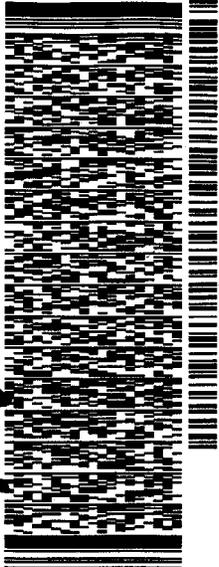
SHIP DATE: 17 JUN 16
ACT WGT: 21.00 LB
CAD: 107068057MNET3730
BILL THIRD PARTY

TO JULIE ELLINGSON
ALS GLOBAL
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511
REF: PTR#6741
DEPT.

10
-2

540.0230BD/727F



11010102260117

TRK# 7765 5193 5410
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT
DSR

X0 FTCA

80524
CO-US DEN



Am69 20.4%

After printing this label:

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Metals Case Narrative

CH2M HILL Plateau Remediation Company

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

Work Order Number: 1606349

1. This report consists of 1 soil sample.
2. The sample was received intact at ambient temperature by ALS on 06/18/16.
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.

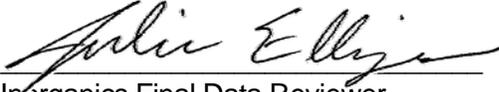
9. It is a standard practice that samples for ICP-MS are analyzed at a dilution. The 10X factor can be considered an artifact of the prep and does not indicate a secondary dilution and is therefore not flagged as a dilution.

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
Inorganics Primary Data Reviewer

6/25/16
Date



Julie Elliza
Inorganics Final Data Reviewer

6/25/16
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.

6/25/2016
ALS1606349

Total ICPMS Metals

Method SW6020A

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1606349

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 100-HR-3 Long Term & Interim Action Monitoring - Soil F16-040

Field ID: B35FX2
Lab ID: 1606349-1

Sample Matrix: SOIL
% Moisture: 7.3
Date Collected: 16-Jun-16
Date Extracted: 21-Jun-16
Date Analyzed: 21-Jun-16
Prep Method: SW3050 Rev B

Prep Batch: IP160621-3
QC Batch ID: IP160621-3-3
Run ID: IM160621-11A8
Cleanup: NONE
Basis: Dry Weight
File Name: 135SMPL_

Analyst: Brent A. Stanfield
Sample Aliquot: 1.081 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

Analysis ReqCode: 6010_METALS_I

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-47-3	CHROMIUM	10	9100	1000	82		

Data Package ID: IM1606349-1

Date Printed: Saturday, June 25, 2016

ALS Environmental -- FC

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6/25/2016
ALS1606349

ICPMS Metals

Method SW6020A

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1606349

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: IM160621-11A8

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: IM1606349-1

Date Printed: Saturday, June 25, 2016

ALS Environmental -- FC

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6/25/2016
ALS1606349

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1606349

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: IM160621-11A8

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: IM1606349-1