



July 1, 2015

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

Re: ALS Workorder: 1504558  
Project Name: CERCLA, APRIL 2015  
Project Number: S15-004

Dear Ms. Waters-Husted:

One water sample was received from CH2M HILL Plateau Remediation Company, on 4/29/2015. The sample was scheduled for the following analyses:

Total Organic Carbon

The results for this analysis are contained in the enclosed reports.

This report was originally submitted on 5/19/2015. It is being re-submitted to evaluate the results down to the MDL..

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
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

**Problem and Discrepancy Report**

**ALS**

**SDG ALS1504558**

**06/10/15**

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**The data package has the following issues:**

Please re-evaluate the TOC results for non-detects at the MDL instead of the PQL. Please report the corrected hardcopy and electronic results.

**Resolution:**            *Provide correction.*

**Lab Response:** Result have been re-evaluated and re-reported to the MDL.

**Please report and re-submit the hard copy and electronic data package.**

**SAMPLE ISSUE RESOLUTION**

**SIR NUM** SDR15-297  
**REV NUM** 0  
**DATE INITIATED** 5/5/2015

**SAMPLE EVENT INFORMATION**

**SAF NUM(S)** W15-004, S15-004  
**OPERABLE UNIT(S)** NONE  
**PROJECT(S)** SURV15, RCRA15  
**SAMPLE EVENT TITLE(S)** SURV15, RCRA15  
**LABORATORY** ALS Environmental Ft. Collins

**SAMPLING INFORMATION**

**NUMBER OF SAMPLES** 5  
**SAMPLE NUMBERS** B313X7, B313X8, B313X9, B313Y0, B313Y7  
**SAMPLE MATRIX** WATER  
**COLLECTION DATE** 4/24/2015; 4/23/2015  
**SDG NUM** ALS1504558; ALS1504559

**ISSUE BACKGROUND**

**CLASS** Commercial Shipping Issue  
**TYPE** Other Shipping Issue (Specify)  
**DESCRIPTION** SAMPLES WERE RECEIVED AT 10.2 DEGREES CELSIUS. SAMPLES WERE SHIPPED ON 4/27/2015 BUT WERE NOT RECEIVED UNTIL 4/29/2015.

**DISPOSITION**

**DESCRIPTION** Proposed Disposition: Perform analysis and document the temperature excursion in the narrative.  
**JUSTIFICATION** Final Disposition: Accept proposed disposition.

SUBMITTED BY: Julie Ellingson DATE: 05/01/2015  
ACCEPTED BY: Karen Waters-Husted DATE: 05/05/2015

# ALS Environmental -- FC

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1504558

**Client Name:** CH2M HILL Plateau Remediation Company

**Client Project Name:** CERCLA, APRIL 2015

**Client Project Number:** S15-004

**Client PO Number:** BOA 54854

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B313Y7	1504558-1		WATER	24-Apr-15	9:50

July 01, 2015

ALS1504558\_R1

Rev. 1

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S15-004-359  
Page 1 of 2

1504558

Collector: D.L. Woelke/CHPRC Telephone No. 509-376-4650  
 SAF No. S15-004 Purchase Order/Charge Code 300071  
 Project Title: CERCLA, APRIL 2015 Sampling Origin: Hanford Site  
 Shipped To (Lab): ALS Environmental Ft. Collins Logbook No. HNF-N-506 7D/leg  
 Protocol: SURV Method of Shipment: Commercial Carrier  
 Priority: 30 Days Bill of Lading/Air Bill No. 7734 6037 0635  
 Offsite Property No. 5593

**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

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B313Y7	N	APR 24 2015	0950	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By	Print	Sign	Received By	Sign	Date/Time	Matrix *
D.L. Woelke/CHPRC			CHRIS FULTON/CHPRC		APR 24 2015 1145	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
CHRIS FULTON/CHPRC			SSU-1		APR 24 2015	
SSU# 1			B.E. Briggs/CHPRC		APR 27 2015 0830	
B.E. Briggs/CHPRC			FEDEX		APR 27 2015 1430	
FINAL SAMPLE DISPOSITION			Received By	Erin Peterson	4/29/15 0935	





ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC

Workorder No: 1504558

Project Manager: JME

Initials: ECP Date: 4/29/15

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	<input type="radio"/> NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	<input type="radio"/> 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	<input type="radio"/> NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	<input type="radio"/> NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO
9. Are all aqueous non-preserved samples pH 4-9?	<input checked="" type="radio"/> N/A	<input type="radio"/> YES	<input type="radio"/> NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	<input type="radio"/> 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	<input type="radio"/> YES	<input type="radio"/> NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ dusting ___ moderate ___ heavy	N/A	<input type="radio"/> YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4		<input type="radio"/> YES	<input checked="" type="radio"/> NO
Cooler #: <u>1</u>			
Temperature (°C): <u>10.2°</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>12</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 / <input type="radio"/> NO / <input type="radio"/> NA (If no, see Form 008.)			

DOT Survey Acceptance Information

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

~~\* COC says page 1 of 2 but only 1 page was received. JME 5/1/15~~

If applicable, was the client contacted? YES / NO /  NA Contact: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager Signature / Date: JME 5/1/15

12  
-2

From: (509) 373-7400  
Barbara Briggs  
CH2M  
6267 Latah St  
Richland, WA 99354

Origin ID: PSCA



Ship Date: 27APR15  
ActWgt: 12.0 LB  
CAD: 10706805 U/NET3610

1504558

Delivery Address Bar Code



SHIP TO: (970) 498-1511

BILL THIRD PARTY

Julie Ellingson  
ALS Global  
225 Commerce Drive

FORT COLLINS, CO 80524

Ref # GWS-032 (5593)  
Invoice #  
PO #  
Dept #

TUE - 28 APR 10:30A  
PRIORITY OVERNIGHT

TRK# 7734 6037 0635  
0281

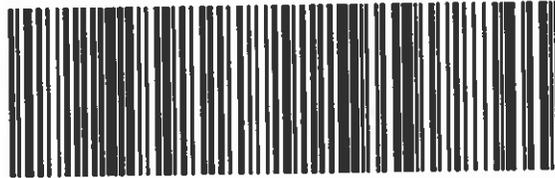
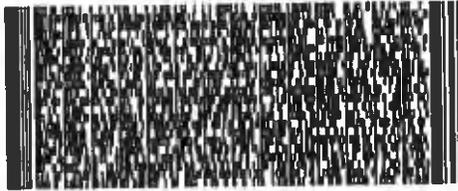
DSR

80524

CO-US

DEN

XH FTCA 10.2<sup>0</sup>



537 J11ZSE/EE4B

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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- 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.

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# Organic Carbon Case Narrative

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## CH2M HILL Plateau Remediation Company

CERCLA, APRIL 2015 -- S15-004

Work Order Number: 1504558

1. This report consists of one water sample.
2. The sample was received intact at 10.2° Celsius by ALS on 04/29/15.
3. The sample had been correctly preserved for the requested analysis.
4. The sample was prepared for analysis based on SW-846, 3<sup>rd</sup> Edition procedures.
5. The sample was analyzed following SW-846, 3<sup>rd</sup> Edition procedures for the current revision of the following SOP and method:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
TOC (Total Organic Carbon)	9060	670

6. All standards and solutions were used within their recommended shelf life.
7. The sample was prepared and analyzed within the established hold time for TOC analysis.

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

8. General quality control procedures.
  - n A preparation (method) blank, laboratory control sample (LCS), and laboratory control sample duplicate (LCSD) were prepared and analyzed with the samples in this preparation batch.
  - n The method blank associated with this batch was below the reporting limit for the requested analyte.
  - n All laboratory control sample criteria were met.



- n All initial and continuing calibration verifications were within the acceptance criteria for the requested analyte.

9. Matrix specific quality control procedures.

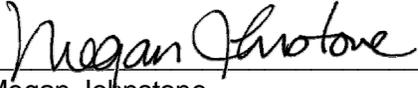
Sample 1504558-1 was designated as the quality control sample for this analysis.

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.

- n A matrix spike (MS) and matrix spike duplicate (MSD) were prepared and analyzed with this batch. All guidance criteria for precision and accuracy 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.

  
\_\_\_\_\_  
Megan Johnstone  
Organics Primary Data Reviewer

7/1/15  
Date

  
\_\_\_\_\_  
Audie Ellinger  
Organics Final Data Reviewer

7/1/15  
Date



### 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.
  - 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.
  - C - The analyte was detected in both the sample and the associated QC blank, and the sample concentration was  $\leq 5X$  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.

# Organic Carbon

Method SW9060

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1504558

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: CERCLA, APRIL 2015 S15-004

Lab ID: MO150506-2MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 06-May-15

Date Analyzed: 06-May-15

Prep Batch: MO150506-2

QCBatchID: MO150506-2-1

Run ID: MO150506-1A2

Cleanup: NONE

Basis: N/A

File Name: 05061017

Sample Aliquot: 40 ml

Final Volume: 40 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
10-35-5	TOTAL ORGANIC CARBON	1	0.3	1	0.3	U	

Data Package ID: MO1504558-1

# Organic Carbon

Method SW9060

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1504558

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: CERCLA, APRIL 2015 S15-004

<b>Field ID:</b> B313Y7	<b>Sample Matrix:</b> WATER	<b>Prep Batch:</b> MO150506-2	<b>Analyst:</b> Steven D. White
<b>Lab ID:</b> 1504558-1	<b>% Moisture:</b> N/A	<b>QCBatchID:</b> MO150506-2-1	<b>Sample Aliquot:</b> 40 ml
<b>Analysis ReqCode:</b> 9060_TOC:COM	<b>Date Collected:</b> 24-Apr-15	<b>Run ID:</b> MO150506-1A2	<b>Final Volume:</b> 40 ml
	<b>Date Extracted:</b> 06-May-15	<b>Cleanup:</b> NONE	<b>Result Units:</b> MG/L
	<b>Date Analyzed:</b> 06-May-15	<b>Basis:</b> As Received	<b>Clean DF:</b> 1
	<b>Prep Method:</b> NONE	<b>File Name:</b> 05061017	

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
10-35-5	TOTAL ORGANIC CARBON	1	1.5	1	0.3		

Data Package ID: MO1504558-1

# Organic Carbon

## Method SW9060

### Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1504558

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: CERCLA, APRIL 2015 S15-004

Lab ID: MO150506-2LCS	<b>Sample Matrix:</b> WATER % Moisture: N/A <b>Date Collected:</b> N/A <b>Date Extracted:</b> 05/06/2015 <b>Date Analyzed:</b> 05/06/2015 <b>Prep Method:</b> NONE	<b>Prep Batch:</b> MO150506-2 <b>QCBatchID:</b> MO150506-2-1 <b>Run ID:</b> MO150506-1A2 <b>Cleanup:</b> NONE <b>Basis:</b> N/A <b>File Name:</b> 05061017	<b>Sample Aliquot:</b> 40 ml <b>Final Volume:</b> 40 ml <b>Result Units:</b> MG/L <b>Clean DF:</b> 1
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CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-35-5	TOTAL ORGANIC CARBON	15	15.5	1		103	85 - 115%

Lab ID: MO150506-2LCSD	<b>Sample Matrix:</b> WATER % Moisture: N/A <b>Date Collected:</b> N/A <b>Date Extracted:</b> 05/06/2015 <b>Date Analyzed:</b> 05/06/2015 <b>Prep Method:</b> NONE	<b>Prep Batch:</b> MO150506-2 <b>QCBatchID:</b> MO150506-2-1 <b>Run ID:</b> MO150506-1A2 <b>Cleanup:</b> NONE <b>Basis:</b> N/A <b>File Name:</b> 05061017	<b>Sample Aliquot:</b> 40 ml <b>Final Volume:</b> 40 ml <b>Result Units:</b> MG/L <b>Clean DF:</b> 1
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CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
10-35-5	TOTAL ORGANIC CARBON	15	15.5	1		103	20	0

Data Package ID: MO1504558-1

# Organic Carbon

Method SW9060

## Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1504558

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: CERCLA, APRIL 2015 S15-004

Field ID: B313Y7 LabID: 1504558-1MS	Sample Matrix: WATER % Moisture: N/A Date Collected: 24-Apr-15 Date Extracted: 06-May-15 Date Analyzed: 06-May-15 Prep Method: NONE	Prep Batch: MO150506-2 QCBatchID: MO150506-2-1 Run ID: MO150506-1A2 Cleanup: NONE Basis: As Received	Sample Aliquot: 40 ml Final Volume: 40 ml Result Units: MG/L File Name: 05061017
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CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
10-35-5	TOTAL ORGANIC CARBON	1.5		11.6		1	10	100	80 - 120%

Field ID: B313Y7 LabID: 1504558-1MSD	Sample Matrix: WATER % Moisture: N/A Date Collected: 24-Apr-15 Date Extracted: 06-May-15 Date Analyzed: 06-May-15 Prep Method: NONE	Prep Batch: MO150506-2 QCBatchID: MO150506-2-1 Run ID: MO150506-1A2 Cleanup: NONE Basis: As Received	Sample Aliquot: 40 ml Final Volume: 40 ml Result Units: MG/L File Name: 05061017
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CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
10-35-5	TOTAL ORGANIC CARBON	11.5		10	99	1	20	1

Data Package ID: MO1504558-1