



June 30, 2015

ALS1506324

Ft. Collins, Colorado

LIMS Version: 6.770

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Tuesday, June 30, 2015

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

Re: ALS Workorder: 1506324  
Project Name: 200ZP1, JUNE 2015  
Project Number: I15-029

Dear Ms. Waters-Husted:

Two water samples were received from CH2M HILL Plateau Remediation Company, on 6/17/2015. The samples were scheduled for the following analysis:

Total Organic Carbon

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 – 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

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**OrderNum:** 1506324

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

**Client Project Name:** 200ZP1, JUNE 2015

**Client Project Number:** I15-029

**Client PO Number:** BOA 54854

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B31897	1506324-1		WATER	15-Jun-15	8:00
B31898	1506324-2		WATER	15-Jun-15	8:00

**CH2M Hill Plateau Remediation Company**

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

C.O.C. # **I15-029-001**

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Collector **J.C. Fulton/CHPRC** Contact/Requester **Karen Waters-Husted** Telephone No. **509-376-4650**

SAF No. **I15-029** Sampling Origin **Hanford Site** Purchase Order/Charge Code **300071**

Project Title **200ZPI, JUNE 2015** Logbook No. **HNF-N-506 75/39** Ice Chest No. **6005-448**

Shipped To (Lab) **ALS Environmental Ft. Collins** Method of Shipment **Commercial Carrier** Bill of Lading/Air Bill No. **773842201369**

Protocol **CERCLA** Priority: **30 Days** **PRIORITY** Offsite Property No. **5727**

**POSSIBLE SAMPLE HAZARDS/REMARKS** SPECIAL INSTRUCTIONS **HOLD TIME** Total Activity Exemption: Yes  No

\*\* 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 **N/A**

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B31897 (1)	N	6-15-15	0800	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
J.C. Fulton/CHPRC			JUN 15 2015 1120	K.C. Patterson/CHPRC			JUN 15 2015 1200	SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air
K.C. Patterson/CHPRC			JUN 15 2015 1300	SSU-1			JUN 15 2015 1300	DL - Drum Solids T - Tissue WI - Wipe L - Liquid V - Vegetation X - Other
SSU-1			JUN 16 2015 0800	L.D. Wall/CHPRC			JUN 16 2015 0800	
L.D. Wall/CHPRC			JUN 16 2015 1400	Received By			JUN 16 2015 0800	

Disposal Method (e.g., Return to customer, per lab procedure, used in process) **FEDEX**

Disposed By



**CH2MHill Plateau Remediation Company**  
**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**  
 1506324  
 C.O.C. # **I15-029-002**  
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Collector: **J.C. Fulton/CHPRC** Telephone No. **509-376-4650**  
 SAF No. **I15-029** Purchase Order/Charge Code **300071**  
 Project Title: **200ZP1, JUNE 2015** Ice Chest No. **6005-448**  
 Shipped To (Lab): **ALS Environmental Ft. Collins** Bill of Lading/Air Bill No. **7173842201309**  
 Protocol: **CERCLA** Offsite Property No. **5127**

**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: **30 Days** Total Activity Exemption: Yes  No   
 N/A

Sample No.	Filler *	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B31898	N	6-15-15	1251	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
J.C. Fulton/CHPRC			JUN 15 2015 1422	SSU-1			JUN 15 2015 1422	S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, T - Tissue, WI - Wipe, L - Liquid, V - Vegetation, X - Other
SSU-1			JUN 16 2015 0820	L.D. Wall/CHPRC			JUN 16 2015 0820	
L.D. Wall/CHPRC			JUN 16 2015 1400	FEDEX			JUN 16 2015 1400	
FINAL SAMPLE POSITION				Enn Peterson ALS			6/17/15 0935	



ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CHPRC  
Project Manager: JME

Workorder No: 1506324  
Initials: ECP Date: 6/17/15

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	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)	N/A	<input checked="" type="radio"/> 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	N/A	YES	<input checked="" type="radio"/> 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>2.8°</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>10</u>			
Background µR/hr reading: <u>12</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] 6/17/15

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-2

From: (509) 528-9426  
Lesly Wall  
CH2M  
6267 Latah St.  
6269 Latah St.  
Richland, WA 99354

Origin ID: PSCA



Ship Date: 16JUN15  
ActWgt: 17.0 LB  
CAD: 107068051/NET3610

1506324

Delivery Address Bar Code



SHIP TO: (970) 490-1511  
Julie Ellingson  
ALS Global  
225 Commerce Drive

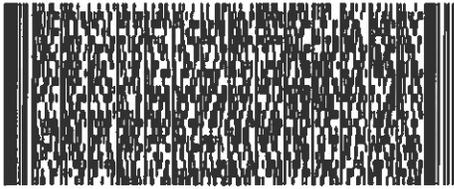
BILL THRD PARTY

Ref # ptr# 5727  
Invoice #  
PO #  
Dept #

FORT COLLINS, CO 80524

WED - 17 JUN 10:30A  
PRIORITY OVERNIGHT

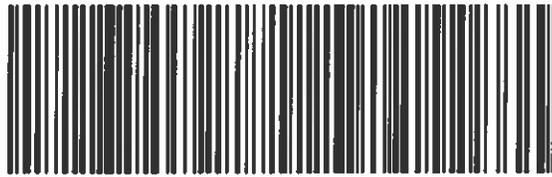
TRK# 7738 4220 1369  
0201



XH FTCA

2.8°

DSR  
80524  
CO-US  
DEN



537JHBADE/EE#8

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## Organic Carbon Case Narrative

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### CH2M HILL Plateau Remediation Company

200ZP1, JUNE 2015 -- I15-029

Work Order Number: 1506324

1. This report consists of 2 water samples.
2. The samples were received cool and intact by ALS on 06/17/15.
3. The samples had been correctly preserved for the requested analysis.
4. The samples were prepared for analysis based on SW-846, 3<sup>rd</sup> Edition procedures.
5. The samples were 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 samples were 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 1506324-2 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 sample duplicate was prepared and analyzed with this batch. All guidance criteria for precision 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  
Megan Johnstone  
Organics Primary Data Reviewer

6/29/15  
Date

Alicia Ellis  
Organics Final Data Reviewer

6/30/15  
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.

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# Organic Carbon

Method SW9060

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1506324

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200ZP1, JUNE 2015 I15-029

Lab ID: MO150621-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 21-Jun-15

Date Analyzed: 21-Jun-15

Prep Batch: MO150621-1

QCBatchID: MO150621-1-2

Run ID: MO150621-2A2

Cleanup: NONE

Basis: N/A

File Name: 06211144

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: MO1506324-1

Date Printed: Monday, June 29, 2015

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# TOTAL ORGANIC CARBON

Method SW9060

## Sample Results

**Lab Name:** ALS Environmental -- FC  
**Client Name:** CH2M HILL Plateau Remediation Company  
**Client Project ID:** 200ZP1, JUNE 2015 I15-029  
**Work Order Number:** 1506324      **Final Volume:** 40 ml  
**Reporting Basis:** As Received      **Matrix:** WATER  
**Analyst:** Steven D. White      **Result Units:** MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Flag	Sample Aliquot
B31897	1506324-1	6/15/2015	6/21/2015	06/21/2015	N/A	1	0.3	1	0.3	U	40 ml
B31898	1506324-2	6/15/2015	6/21/2015	06/21/2015	N/A	1	0.3	1	0.3	U	40 ml

**Comments:**

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

**Data Package ID:** *MO1506324-1*

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# Organic Carbon

Method SW9060

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1506324

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200ZP1, JUNE 2015 I15-029

Lab ID: MO150621-1LCS	Sample Matrix: WATER	Prep Batch: MO150621-1	Sample Aliquot: 40 ml
	% Moisture: N/A	QCBatchID: MO150621-1-2	Final Volume: 40 ml
	Date Collected: N/A	Run ID: MO150621-2A2	Result Units: MG/L
	Date Extracted: 06/21/2015	Cleanup: NONE	Clean DF: 1
	Date Analyzed: 06/21/2015	Basis: N/A	
	Prep Method: NONE	File Name: 06211144	

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-35-5	TOTAL ORGANIC CARBON	15	15.9	1		106	85 - 115%

Lab ID: MO150621-1LCSD	Sample Matrix: WATER	Prep Batch: MO150621-1	Sample Aliquot: 40 ml
	% Moisture: N/A	QCBatchID: MO150621-1-2	Final Volume: 40 ml
	Date Collected: N/A	Run ID: MO150621-2A2	Result Units: MG/L
	Date Extracted: 06/21/2015	Cleanup: NONE	Clean DF: 1
	Date Analyzed: 06/21/2015	Basis: N/A	
	Prep Method: NONE	File Name: 06211144	

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
10-35-5	TOTAL ORGANIC CARBON	15	15.9	1		106	20	0

Data Package ID: MO1506324-1

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# Organic Carbon

Method SW9060

## Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1506324

Client Name: CH2M HILL Plateau Remediation Company

ClientProject ID: 200ZP1, JUNE 2015 I15-029

Field ID:	B31898
Lab ID:	1506324-2D

Sample Matrix: WATER  
% Moisture: N/A  
Date Collected: 06/15/2015  
Date Extracted: 06/21/2015  
Date Analyzed: 06/21/2015

Prep Batch: MO150621-1  
QCBatchID: MO150621-1-2  
Run ID: MO150621-2A2  
Cleanup: NONE  
Basis: As Received  
File Name: 06211144

Sample Aliquot: 40 ml  
Final Volume: 40 ml  
Result Units: MG/L  
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
10-35-5	TOTAL ORGANIC CARBON	0.3	U	0.3	U	1	1	7	20

Data Package ID: MO1506324-1