



received 08/31/2015
Spill/release 442969
Document 2315427

Total Extractable Petroleum Hydrocarbons (Diesel)

Case Narrative

Colorado Oil & Gas Conservation Commission

Box Elder Creek

Work Order Number: 1508348

1. This report consists of 2 water samples. The samples were received cool and intact by ALS on 08/21/2015.
2. The water samples were extracted by adding hexane to the water sample and shaking the resulting two phase solution according to the current revision of SOP 603, which was developed at ALS. The hydrocarbons partition into the hexane layer, which is then removed for analysis.
3. The samples were analyzed following the current revision of SOP 406 generally based on SW-846 Methods 8000C and 8015D. TEPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C10 to C28.
4. All initial and continuing calibration criteria were met.
5. The method blank associated with this project was below the MDL for diesel range organics.
6. All laboratory control sample recoveries were within the acceptance criteria.
7. Per method requirements, matrix QC was performed for this analysis. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.
8. All samples were extracted and analyzed within the established holding time.
9. All surrogate recoveries were within the acceptance criteria.
10. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939.



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

8/27/15
Date

[Signature]
Organics Final Data Reviewer

8/31/15
Date



ALS
Data Qualifier Flags
Fuels

- G:** This flag indicates that a pattern resembling gasoline was detected in this sample.
- D:** This flag indicates that a pattern resembling diesel was detected in this sample.
- M:** This flag indicates that a pattern resembling motor oil was detected in this sample.
- C:** This flag indicates that a pattern resembling crude oil was detected in this sample.
- 4:** This flag indicates that a pattern resembling JP-4 was detected in this sample.
- 5:** This flag indicates that a pattern resembling JP-5 was detected in this sample.
- H:** This flag indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L:** This flag indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z:** This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
gasoline
JP-8
diesel
mineral spirits
motor oil
Stoddard solvent
bunker C

Multiple flags may be used to indicate the presence of more than one product or component.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

Client Project Name: Box Elder Creek

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Box Elder Down	1508348-1		WATER	20-Aug-15	11:48
Box Elder Up	1508348-2		WATER	20-Aug-15	14:05
Trip Blank	1508348-3		WATER	20-Aug-15	7:00



225 Commerce Drive, Fort Collins, Colorado 80524
 TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

[illegible]

For metals or anions, please detail analytes below.

COMMENTS:		QC PACKAGE (check below)		RELINQUISHED BY	SIGNATURE	PRINTED NAME	DATE	TIME
		LEVEL II (Standard QC)	LEVEL III (Std QC + forms)					
<p>For metals or anions, please detail analytes below.</p> <p>Comments: <i>50 mg of 11 group metals on receipt = dissolved</i></p> <p><i>76.7 - 111.1, 82.207-111.1</i></p> <p><i>76.8 - 111.1, 82.207-111.1</i></p> <p><i>111.1 = Pb, Cl, F, Ag, Cu, Ni, Cd</i></p>		X		RECEIVED BY	<i>[Signature]</i>	<i>Peter Contant</i>	<i>4/1/15</i>	<i>08:25</i>
				RELINQUISHED BY	<i>[Signature]</i>	<i>John D. Gallaway</i>	<i>8/11/15</i>	<i>8:05</i>
				RECEIVED BY				
				RELINQUISHED BY				
				RECEIVED BY				

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

Preservative Key:

1-HCl	2-HNO ₃	3-H ₂ SO ₄	4-NaOH	5-NaHSO ₄	7-Other	8.4 degrees C	9-5035
-------	--------------------	----------------------------------	--------	----------------------	---------	---------------	--------



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC

Workorder No: 1508348

Project Manager: AW

Initials: CDT Date: 8-21-15

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<u>NO</u>
2. Are custody seals on shipping containers intact?	NONE	<u>YES</u>	NO
3. Are Custody seals on sample containers intact?	<u>NONE</u>	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<u>YES</u>	NO
5. Are the COC and bottle labels complete and legible?		<u>YES</u>	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<u>YES</u>	NO
7. Were airbills / shipping documents present and/or removable?	<u>DROP OFF</u>	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<u>YES</u>	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<u>YES</u>	NO
10. Is there sufficient sample for the requested analyses?		<u>YES</u>	NO
11. Were all samples placed in the proper containers for the requested analyses?		<u>YES</u>	NO
12. Are all samples within holding times for the requested analyses?		<u>YES</u>	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<u>YES</u>	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	<u>NO</u>
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	<u>NO</u>
16. Were the samples shipped on ice?		<u>YES</u>	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <u>#4</u>		<u>YES</u>	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>1.6</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>NA</u>			
Background µR/hr reading: <u>NA</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / <u>NA</u> (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: Gary Date/Time: 8/21/15

Project Manager Signature / Date: Gary 8/21/15

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

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

Diesel Range Organics

Method SW8015MD

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: HC150826-100MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 26-Aug-15

Date Analyzed: 26-Aug-15

Prep Batch: HC150826-100

QCBatchID: HC150826-100-1

Run ID: HC150826-7A

Cleanup: NONE

Basis: N/A

File Name: 09132.dat

Sample Aliquot: 36 ml

Final Volume: 1.2 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
68334-30-5	Diesel Range Organics	1	0.6	0.6	0.18	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	0.86		0.833	103	63 - 126

Data Package ID: HCD1508348-1

Date Printed: Thursday, August 27, 2015

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.780

Diesel Range Organics

Method SW8015MD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID:	Box Elder Down
Lab ID:	1508348-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 26-Aug-15

Date Analyzed: 26-Aug-15

Prep Method: METHOD

Prep Batch: HC150826-100

QCBatchID: HC150826-100-1

Run ID: HC150826-7A

Cleanup: NONE

Basis: As Received

File Name: 09136.dat

Analyst: Joel F. Nolte

Sample Aliquot: 37.2 ml

Final Volume: 1.2 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
68334-30-5	Diesel Range Organics	1	0.58	0.58	0.17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	0.803		0.806	100	63 - 126

Data Package ID: HCD1508348-1

Date Printed: Thursday, August 27, 2015

ALS Environmental -- FC

LIMS Version: 6.780

Page 1 of 2

Diesel Range Organics

Method SW8015MD

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID:	Box Elder Up
Lab ID:	1508348-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 26-Aug-15

Date Analyzed: 26-Aug-15

Prep Method: METHOD

Prep Batch: HC150826-100

QCBatchID: HC150826-100-1

Run ID: HC150826-7A

Cleanup: NONE

Basis: As Received

File Name: 09137.dat

Analyst: Joel F. Nolte

Sample Aliquot: 37.3 ml

Final Volume: 1.2 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
68334-30-5	Diesel Range Organics	1	0.58	0.58	0.17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	0.806		0.804	100	63 - 126

Data Package ID: HCD1508348-1

Date Printed: Thursday, August 27, 2015

ALS Environmental -- FC

LIMS Version: 6.780

Page 2 of 2

Diesel Range Organics

Method SW8015MD

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: HC150826-100LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/26/2015

Date Analyzed: 08/26/2015

Prep Method: METHOD

Prep Batch: HC150826-100

QCBatchID: HC150826-100-1

Run ID: HC150826-7A

Cleanup: NONE

Basis: N/A

File Name: 09141.dat

Sample Aliquot: 36 ml

Final Volume: 1.2 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
68334-30-5	Diesel Range Organics	8.33	7.87	0.6		94	36 - 150%

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	0.82		0.833	98	63 - 126

Data Package ID: HCD1508348-1

Date Printed: Thursday, August 27, 2015

ALS Environmental -- FC

LIMS Version: 6.780

Page 1 of 1