



Total Extractable Petroleum Hydrocarbons (Diesel)

Case Narrative

NMED Hazardous Waste Bureau

KAFB – BFF 3Q11

Work Order Number: 1107349

1. This report consists of 2 water samples. The samples were received cool by ALS on 07/27/2011.
2. The water samples were extracted by adding hexane to the water sample and shaking the resulting two phase solution according to SOP 603 Revision 12, which was developed at ALS. The hydrocarbons partition into the hexane layer, which is then removed for analysis.
3. The extracts were then analyzed using GC with a capillary column and a flame ionization detector (FID) according to SOP 406 Revision 15 generally based on SW-846 Method 8000B and Method 8015B. The procedures are based on this general method because SW-846 does not have a specific method for total extractable petroleum hydrocarbons (TEPH) or diesel range organics. The only true modification from this method is that TEPH is a multicomponent mixture and is quantitated by summing the entire range, rather than individual peaks. All positive results were quantitated using the responses from the initial calibration curve using the external standard technique. Also, a confirmation column is not used, because the analyte is a multicomponent mixture and the specific carbon range of the peaks detected is specified on the individual sample reporting forms.
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 and laboratory control sample duplicate recoveries and RPDs 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 SOP 939 Revision 4.

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.

Mindy Norton
Mindy Norton
Organics Primary Data Reviewer

08-24-11
Date

Joan Norton
Organics Final Data Reviewer

8/23/11
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
Data Qualifier Flags
Chromatography and Mass Spectrometry

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the data indicate the presence of a compound that meets the identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- *:** This flag indicates that a spike recovery is outside the control criteria.
- +:** This flag indicates that the relative percent difference (RPD) exceeds the control criteria.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1107349

Client Name: NMED Hazardous Waste Bureau

Client Project Name: KAFB - BFF 3Q11

Client Project Number:

Client PO Number: 10-667-00-13453

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
106045-A	1107349-1		WATER	26-Jul-11	10:27
106045-J	1107349-2		WATER	26-Jul-11	10:52
106044-A	1107349-3		WATER	26-Jul-11	12:56
106044-J	1107349-4		WATER	26-Jul-11	13:14
106045-B	1107349-5		WATER	26-Jul-11	10:29
106045-C	1107349-6		WATER	26-Jul-11	10:36
106045-D	1107349-7		WATER	26-Jul-11	10:42
106045-E	1107349-8		WATER	26-Jul-11	10:44
106045-F	1107349-9		WATER	26-Jul-11	10:47
106045-G	1107349-10		WATER	26-Jul-11	10:48
106045-H	1107349-11		WATER	26-Jul-11	10:49
106045-I	1107349-12		WATER	26-Jul-11	10:50
106044-B	1107349-13		WATER	26-Jul-11	12:58
106044-C	1107349-14		WATER	26-Jul-11	13:00
106044-D	1107349-15		WATER	26-Jul-11	13:05
106044-E	1107349-16		WATER	26-Jul-11	13:08
106044-F	1107349-17		WATER	26-Jul-11	13:10
106044-G	1107349-18		WATER	26-Jul-11	13:11
106044-H	1107349-19		WATER	26-Jul-11	13:12
106044-I	1107349-20		WATER	26-Jul-11	13:13



ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
Tel: (900) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202/8

WORKORDER # **1107349**

PAGE **1** of **2**

DISPOSAL Lab Return to Client

SAMPLER **55D** DATE **7/26/11**

SITE ID **106045 - KAPB** TURNAROUND **NORMAL**

EDD FORMAT

PURCHASE ORDER

BILL TO COMPANY **NMED**

INVOICE ATTN TO **DAVE COBRAIN**

ADDRESS **2905 ROBELO PARK DR**

CITY / STATE / ZIP **SARITA, CO 87405**

PHONE **505-476-6055**

FAX

E-MAIL

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC
1	106045 - A	W	7/26/11	10:27	3	HCl	
5	106045 - B	W		10:29	3	HCl	
6	106045 - C	W		10:36	3	HCl	
7	106045 - D	W		10:42	1	-	
8	106045 - E	W		10:44	1	H2O2	
9	106045 - F	W		10:47	1	-	
10	106045 - G	W		10:48	1	H2O2	
11	106045 - H	W		10:49	1	Dist	
12	106045 - I	W		10:50	1	H2O2	
2	106045 - J	W	7/26/11	10:52	1	H2O2	

E-MAIL **s.d.brandwein@state.nm.us**

Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

SIGNATURE **[Signature]** DATE **7/27/11** TIME **10:20**

PRINTED NAME **Lawrence Schmitz**

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

QC PACKAGE (check below)

LEVEL II (Standard QC)

LEVEL III (Std QC + forms)

LEVEL IV (Std QC + forms + raw data)

Comments: **TOT MET - TAL**

DISS MET - Fe, Mn only

6 of 1

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



ALS Laboratory Group

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

Chain-of-Custody

Form 20278

WORKORDER # **1107349**

PAGE **2** of **2**

DISPOSAL Lab or Return to Client

DATE **7/26/11** TURNAROUND **NORMAL**

SAMPLER **SFB** SITE ID **KAFB-106044**

PROJECT NAME **KAFB-BFF 3Q11**

PROJECT NO.	EDD FORMAT	PURCHASE ORDER	BILL TO COMPANY	INVOICE ATTN TO	ADDRESS	CITY/STATE/ZIP	PHONE	FAX	E-MAIL
			NMED	DAVE COBRAIN	2905 ROOVED PARK DR	SANTA FE, NM 87505	505-476-8055		
COMPANY NAME									
SEND REPORT TO									
ADDRESS									
CITY/STATE/ZIP									
PHONE									
FAX									
E-MAIL									

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC
(3)	106044 -A	W	7/26/11	12:56	3	HCl	X
(13)	106044 -B	W	7/26	12:58	3	HCl	X
(14)	106044 -C	W	7/26	13:00	3	HCl	X
(15)	106044 -D	W	7/26	13:05	1	-	X
(16)	106044 -E	W	7/26	13:08	1	H ₂ SO ₄	X
(17)	106044 -F	W	7/26	13:10	1	-	X
(18)	106044 -G	W	7/26	13:11	1	H ₂ SO ₄	X
(19)	106044 -H	W	7/26	13:12	1	H ₂ SO ₄	X
(20)	106044 -I	W	7/26	13:13	1	H ₂ SO ₄	X
(4)	106044 -J	W	7/26/11	13:14	1	H ₂ SO ₄	X

Time (zone code): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter
 or metals or anions, please detail analytes below.

RELINQUISHED BY	SIGNATURE	PRINTED NAME	DATE	TIME
RECEIVED BY	<i>[Signature]</i>	<i>[Name]</i>	<i>[Date]</i>	<i>[Time]</i>
RELINQUISHED BY	<i>[Signature]</i>	<i>[Name]</i>	<i>[Date]</i>	<i>[Time]</i>
RECEIVED BY	<i>[Signature]</i>	<i>[Name]</i>	<i>[Date]</i>	<i>[Time]</i>
RELINQUISHED BY				
RECEIVED BY				

OC PACKAGE (check below)

<input type="checkbox"/> LEVEL II (Standard QC)
<input type="checkbox"/> LEVEL III (Std QC + forms)
<input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)

Comments: **TOTAL METALS -TAL**
Diss. MET. - Fe, Mn only



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: NMED
Project Manager: LRS

Workorder No: 1107349
Initials: LAS Date: 7/27/11

1. Does this project require any special handling in addition to standard Paragon 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?	<input checked="" type="radio"/> NONE	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?	N/A	<input checked="" type="radio"/> 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.)		YES	<input checked="" 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	N/A	YES	<input checked="" type="radio"/> NO
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES	NO
16. Were samples checked for and free from the presence of residual chlorine? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES	NO
17. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: <input checked="" type="radio"/> #2 #4	RAD ONLY	<input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>			
Temperature (°C): <u>6.0</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>14</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 / NA (If no. see Form 008.)			

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

(8-1) ~~1107349-DT~~ (106045-E) for DRO arrived with a broken lid (no sample leak nor contamination) replaced with new, clean lid.

Please see page 2 for headspace

If applicable, was the client contacted? YES / NO / NA Contact: Sid B Date/Time: 7/28

Project Manager Signature / Date: [Signature] 7/28/11

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002 Form 201r22.xls (6/1/09)



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: NMED

Workorder No: 1107349

Project Manager: LRS

Initials: LAS Date: 7/27/11

Additional Information:

*14

1107349-1-2 (106045A)

-1-3

↓

-6-3 (106045-C)

-14-3 (106044-C)

} all have headspace
← pea sized

If applicable, was the client contacted? YES / NO / NA Contact: _____

Date/Time: _____

Project Manager Signature / Date: _____

[Signature] 7/28

FedEx NEW Package
Express US Airbill

FedEx Tracking Number

8762 4637 7492

1 From Date 7/26/11

Sender's Name SID BRANDWEN Phone 505.222.7504

Company ANN ED

Address 5501 SAN ANTONIO DR NE

City ALBUQUERQUE State NM ZIP 87109

2 Your Internal Billing Reference

3 To Recipient's Name ALS LAB/LANCE STEER Phone 970.470.1511

Company ALS LAB

Address 225 CONNORCE DR

Address We cannot deliver to P.O. boxes or P.O. ZIP codes. FORT COLLINS CO 80524

City FORT COLLINS State CO ZIP 80524



8762 4637 7492

Recipient's Copy

4 Express Package Service ^{* To most locations.}
NOTE: Service order has changed. Please verify priority.

Next Business Day
FedEx First Overnight
Earliest next business morning delivery to select Monday unless SAT/USDA Delivery is selected.

FedEx Priority Overnight
Next business morning. *Friday shipments will be delivered on Monday unless SAT/USDA Delivery is selected.

FedEx Standard Overnight
Next business afternoon.
Saturday Delivery NOT available.

5 Packaging *Declared value limit \$200.
FedEx Envelope* FedEx Pak* Other Box **7349**

6 Special Handling and Delivery Signature Options
SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx 2Day AM, or FedEx Express Saver.

No Signature Required Direct Signature Indirect Signature
Package may be left without handling or signature for delivery. may sign for delivery. Fee applies. For one or more packages, address may sign for delivery. For residential deliveries only, fee applies.

Does this shipment contain dangerous goods?
No Yes (US Shipper's Declaration not required.)
Dry Ice Cargo Aircraft Only

7 Payment Bill for
Sender Recipient Third Party Credit Card Cash/Check

Total Packages 1 Total Weight 5 lbs \$ Total Declared Value* Credit Card Auth. **672**

*Our liability is limited to \$500 unless you declare a higher value. See the current FedEx Service Guide for details.

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Diesel Range Organics

Method SW8015MB

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1107349

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF 3Q11

Lab ID: EX110729-2MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 29-Jul-11

Date Analyzed: 30-Jul-11

Prep Batch: EX110729-2

QCBatchID: EX110729-2-1

Run ID: HCD110729-4A

Cleanup: NONE

Basis: N/A

File Name: F3F39913

Sample Aliquot: 160 ml

Final Volume: 4 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	MDL	Result Qualifier	EPA Qualifier
68334-30-5	Diesel Range Organics	1	0.5	0.5	0.17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	1.08		1.25	87	57 - 132

Data Package ID: HCD1107349-1

Date Printed: Tuesday, August 23, 2011

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.520

Diesel Range Organics

Method SW8015MB

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1107349

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF 3Q11

Field ID:	106045-E
Lab ID:	1107349-8

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 26-Jul-11

Date Extracted: 29-Jul-11

Date Analyzed: 30-Jul-11

Prep Method: METHOD

Prep Batch: EX110729-2

QCBatchID: EX110729-2-1

Run ID: HCD110729-4A

Cleanup: NONE

Basis: As Received

File Name: F3F39916

Sample Aliquot: 160 ml

Final Volume: 4 ml

Result Units: MG/L

Clean DF: 1

Analysis ReqCode: 163

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	MDL	Result Qualifier	EPA Qualifier
68334-30-5	Diesel Range Organics	1	0.5	0.5	0.17	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	1.21		1.25	96	57 - 132

Data Package ID: HCD1107349-1

Date Printed: Tuesday, August 23, 2011

ALS Environmental -- FC

Page 1 of 2

LIMS Version: 6.520

Diesel Range Organics

Method SW8015MB

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1107349

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF 3Q11

Field ID:	106044-E
Lab ID:	1107349-16

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 26-Jul-11

Date Extracted: 29-Jul-11

Date Analyzed: 30-Jul-11

Prep Method: METHOD

Prep Batch: EX110729-2

QCBatchID: EX110729-2-1

Run ID: HCD110729-4A

Cleanup: NONE

Basis: As Received

File Name: F3F39917

Sample Aliquot: 160 ml

Final Volume: 4 ml

Result Units: MG/L

Clean DF: 1

Analysis ReqCode: 163

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	MDL	Result Qualifier	EPA Qualifier
68334-30-5	Diesel Range Organics	1	0.18	0.5	0.17	J	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	1.04		1.25	83	57 - 132

Data Package ID: HCD1107349-1

Date Printed: Tuesday, August 23, 2011

ALS Environmental -- FC

Page 2 of 2

LIMS Version: 6.520

Diesel Range Organics

Method SW8015MB

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1107349

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF 3Q11

Lab ID: EX110729-2LCS	Sample Matrix: WATER % Moisture: N/A Date Collected: N/A Date Extracted: 07/29/2011 Date Analyzed: 07/30/2011 Prep Method: METHOD	Prep Batch: EX110729-2 QCBatchID: EX110729-2-1 Run ID: HCD110729-4A Cleanup: NONE Basis: N/A File Name: F3F39914	Sample Aliquot: 160 ml Final Volume: 4 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	5	5.03	0.5		101	36 - 150%

Lab ID: EX110729-2LCSD	Sample Matrix: WATER % Moisture: N/A Date Collected: N/A Date Extracted: 07/29/2011 Date Analyzed: 07/30/2011 Prep Method: METHOD	Prep Batch: EX110729-2 QCBatchID: EX110729-2-1 Run ID: HCD110729-4A Cleanup: NONE Basis: N/A File Name: F3F39915	Sample Aliquot: 160 ml Final Volume: 4 ml Result Units: MG/L Clean DF: 1
------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
68334-30-5	Diesel Range Organics	5	6.02	0.5		120	20	18

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
84-15-1	O-TERPHENYL	1.25	99		120		57 - 132

Data Package ID: HCD1107349-1