Total Extractable Petroleum Hydrocarbons (Diesel)

Case Narrative

NMED Hazardous Waste Bureau

KAFB – BFF 3Q11

Work Order Number: 1108152

1. This report consists of 1 water sample. The sample was received cool and intact by ALS on 08/11/2011.

2. The water sample was 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 extract was 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. The sample was 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.

Emily Knodel for
Mindy Norton
Organics Primary Data Reviewer

09-07-11
Date

Linda J. Jeffries
Organics Final Data Reviewer

09-06-11
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: 1108152
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
106061-A	1108152-1		WATER	10-Aug-11	12:32
106061-B	1108152-2		WATER	10-Aug-11	12:38
106061-C	1108152-3		WATER	10-Aug-11	12:43
106061-D	1108152-4		WATER	10-Aug-11	12:54
106061-E	1108152-5		WATER	10-Aug-11	12:57
106061-F	1108152-6		WATER	10-Aug-11	12:59
106061-G	1108152-7		WATER	10-Aug-11	13:01
106061-H	1108152-8		WATER	10-Aug-11	13:03
106061-I	1108152-9		WATER	10-Aug-11	13:04
106061-J	1108152-10		WATER	10-Aug-11	13:05

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 202r8

WORKORDER #	1108152				
PAGE	1 of 1				
DISPOSAL	(By Lab) or Return to Client				

PROJECT NAME	KAFB-BFF-3Q11	SAMPLER	SSB	DATE	8/10/11
PROJECT No.		SITE ID	KAFB-10CC61	TURNAROUND	NORMAL
		EDD FORMAT			
		PURCHASE ORDER			
COMPANY NAME	NM ED	BILL TO COMPANY	NM ED/HWB		
SEND REPORT TO	SID BRANDWEIN	INVOICE ATTN TO	DAVE COBRAIN		
ADDRESS	5500 SAN ANTONIO OR NE	ADDRESS	2905 RODEO PARK DR		
CITY / STATE / ZIP	ALBQ, NM 87109	CITY / STATE / ZIP	SANTA FE, NM 87505		
PHONE	505-222-9504	PHONE	505-476-6055		
FAX		FAX			
E-MAIL	sid.brandwein@state.nm.us	E-MAIL			

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	VOCs 8260	EDB 8011	GRO 8015	DRO 8015	PAH-SVOCs 8270 SIM	TOT. MET TAL 6010	ALK+ANIONS 310.1 300	NITRATE+NITRITE 350.3 353.3	SULFIDE 376.1	DISS. MET 6010 Fe, Mn only
1	10CC61 -A	W	8/10/11	12:32	3	HCl		X									
2	10CC61 -B	W		12:38	3	HCl				X							
3	10CC61 -C	W		12:43	3	HCl			X								
4	10CC61 -D	W		12:54	1	—						X					
5	10CC61 -E	W		12:57	1	H_2SO_4					X						
6	10CC61 -F	W		12:59	1	—								X			
7	10CC61 -G	W		13:01	1	H_2SO_4									X		
8	10CC61 -H	W		13:03	1	ZnOAc										X	
9	10CC61 -I	W		13:04	1	NO_3							X				
10	10CC61 -J	W	8/10/11	13:05	1	NO_3											X

Time Zone (Circle): EST CST (MST) PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: TOT MET. - TAL 6010
DISS. MET. - Fe, Mn only 6010

QC PACKAGE (check below)	
	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	[signature]	S. BRANDWEIN	8/10/11	13:25
RECEIVED BY	[signature]	Lauren Schmitz	8/11/11	1010
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Laboratory Group - Fort Collins

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: NMED Workorder No: 1108152

Project Manager: LRS Initials: LAS Date: 8/11/11

1. Does this project require any **special handling** in addition to standard Paragon procedures?			YES	(NO)
2. Are custody **seals** on **shipping containers** intact?	NONE		(YES)	NO
3. Are Custody seals on **sample containers** intact?	(NONE)		YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?			(YES)	NO
5. Are the **COC and bottle labels complete and legible**?			(YES)	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)			(YES)	NO
7. Were **airbills / shipping documents** present and/or removable?	DROP OFF		(YES)	NO
8. Are all **aqueous samples requiring preservation preserved correctly? (excluding volatiles)**	N/A		(YES)	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A		(YES)	NO
10. Is there **sufficient sample** for the requested analyses?			(YES)	NO
11. Were all samples placed in the **proper containers** for the requested analyses?			(YES)	NO
12. Are all samples within **holding times** for the requested analyses?			(YES)	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)			(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	N/A		YES	(NO) *
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(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.)	(N/A)		YES	NO
17. Were the samples **shipped on ice**?			(YES)	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** (#2) #4	RAD ONLY		(YES)	NO

Cooler #:	1							
Temperature (°C):	1.4							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	14							
Background µR/hr reading:	12							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? **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.

LAS 8/11/11 * 1108152-2-1 (106061-B) for GRO has headspace < pea size

Can still run OK.

If applicable, was the client contacted? **YES / NO / NA** Contact: Sid Brandum Date/Time: 8/12

Project Manager Signature / Date: 8/12/11

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

Form 201r22.xls (6/1/09)

22 13 14

FedEx Express **NEW Package US Airbill**

FedEx Tracking Number 8762 4637 7404

0200 Form ID No.

1108152

FedEx Retrieval Copy

1 From

Date 8/10/11 Sender's FedEx Account Number

Sender's Name SID BRANDWEIN Phone 505 222-9504

Company NMED/HWB

Address 5500 SAN ANTONIO DR NE Dept./Floor/Suite/Room

City ALBQ State NM ZIP 87109

2 Your Internal Billing Reference

3 To

Recipient's Name LANCE STEERE Phone 970 491 1511

Company ALS LABS

Address 225 COMMERCE DR. Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City FT. COLLINS State CO ZIP 80524-2762

01 ☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

31 ☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8762 4637 7404

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

06 ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

01 ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

05 ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

49 ☐ NEW FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

03 ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

20 ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

06 ☐ FedEx Envelope* 02 ☐ FedEx Pak* 03 ☐ FedEx Box 04 ☐ FedEx Tube 01 ☒ Other

6 Special Handling and Delivery Signature Options

03 ☐ **SATURDAY DELIVERY**

No Signature Required — Package may be left without obtaining a signature for delivery.

10 ☐ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.

34 ☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

☒ No 04 ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. 06 ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip. Acct. No. ☐

1 ☐ Sender — Acct. No. in Section 1 will be billed. 2 ☒ Recipient 3 ☐ Third Party 4 ☐ Credit Card 5 ☐ Cash/Check

Total Packages 1 Total Weight 4x1 lbs. Credit Card Auth.

Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

612

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fedex.com 1.800.GoFedEx 1.800.463.3339

Diesel Range Organics

Method SW8015MB

Method Blank

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1108152
Client Name: NMED Hazardous Waste Bureau
ClientProject ID: KAFB - BFF 3Q11

Lab ID: EX110815-8MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 15-Aug-11
Date Analyzed: 19-Aug-11

Prep Batch: EX110815-8
QCBatchID: EX110815-8-1
Run ID: HCD110818-3A
Cleanup: NONE
Basis: N/A
File Name: F3F40240

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	0.994		1.25	80	57 - 132

Data Package ID: *HCD1108152-1*

Diesel Range Organics

Method SW8015MB

Sample Results

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1108152
Client Name: NMED Hazardous Waste Bureau
ClientProject ID: KAFB - BFF 3Q11

Field ID: 106061-E
Lab ID: 1108152-5

Analysis ReqCode: **163**

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 10-Aug-11
Date Extracted: 15-Aug-11
Date Analyzed: 19-Aug-11
Prep Method: METHOD

Prep Batch: EX110815-8
QCBatchID: EX110815-8-1
Run ID: HCD110818-3A
Cleanup: NONE
Basis: As Received
File Name: F3F40243

Sample Aliquot: 160 ml
Final Volume: 4 ml
Result Units: MG/L
Clean DF: 1

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	1.08		1.25	87	57 - 132

Data Package ID: *HCD1108152-1*

Diesel Range Organics

Method SW8015MB

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1108152
Client Name: NMED Hazardous Waste Bureau
ClientProject ID: KAFB - BFF 3Q11

Lab ID: EX110815-8LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/15/2011
Date Analyzed: 08/19/2011
Prep Method: METHOD

Prep Batch: EX110815-8
QCBatchID: EX110815-8-1
Run ID: HCD110818-3A
Cleanup: NONE
Basis: N/A
File Name: F3F40241

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	4.73	0.5		95	36 - 150%

Lab ID: EX110815-8LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08/15/2011
Date Analyzed: 08/19/2011
Prep Method: METHOD

Prep Batch: EX110815-8
QCBatchID: EX110815-8-1
Run ID: HCD110818-3A
Cleanup: NONE
Basis: N/A
File Name: F3F40242

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	4.93	0.5		99	20	4

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	78		89		57 - 132

Data Package ID: *HCD1108152-1*