



Total Extractable Petroleum Hydrocarbons (Diesel)

Case Narrative

NMED Hazardous Waste Bureau

KAFB - BFF

Work Order Number: 1104466

1. This report consists of 2 water samples. The samples were received cool by ALS on 04/29/11. The samples were received with cracked lids, which were replaced upon receipt. No sample volume was lost.
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 ZB-5HT 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 reporting limit, but above the MDL for diesel range organics. No diesel or other fuel pattern was present in the method blank. Typically, small fluctuations in the detector baseline are responsible for this type of low level analytical result with no observable fuel pattern.
6. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria.



7. Sample 1104466-15 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.

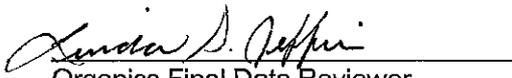
All matrix spike and matrix spike duplicate recoveries and RPDs were within the acceptance criteria.

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 Norjøn
Organics Primary Data Reviewer

05-16-11
Date


Sandra S. Jeffery
Organics Final Data Reviewer

05-16-2011
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: 1104466

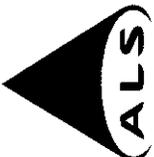
Client Name: NMED Hazardous Waste Bureau

Client Project Name: KAFB - BFF

Client Project Number:

Client PO Number: 10-667-00-13453

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
10625-A	1104466-1		WATER	28-Apr-11	11:26
10625-B	1104466-2		WATER	28-Apr-11	11:28
10625-C	1104466-3		WATER	28-Apr-11	11:31
10625-D	1104466-4		WATER	28-Apr-11	11:35
10625-E	1104466-5		WATER	28-Apr-11	11:38
10625-F	1104466-6		WATER	28-Apr-11	11:40
10625-G	1104466-7		WATER	28-Apr-11	11:42
10625-H	1104466-8		WATER	28-Apr-11	11:43
10625-I	1104466-9		WATER	28-Apr-11	11:44
10625-J	1104466-10		WATER	28-Apr-11	11:46
10626-A	1104466-11		WATER	28-Apr-11	14:39
10626-B	1104466-12		WATER	28-Apr-11	14:42
10626-C	1104466-13		WATER	28-Apr-11	14:46
10626-D	1104466-14		WATER	28-Apr-11	14:49
10626-E	1104466-15		WATER	28-Apr-11	14:55
10626-F	1104466-16		WATER	28-Apr-11	14:57
10626-G	1104466-17		WATER	28-Apr-11	14:59
10626-H	1104466-18		WATER	28-Apr-11	15:01
10626-I	1104466-19		WATER	28-Apr-11	15:03
10626-J	1104466-20		WATER	28-Apr-11	15:04



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 202/8

PROJECT NAME	KAFB - BFF	SAMPLER	SFB	DATE	4/28/11	WORKORDER #	1104466
PROJECT No.		SITE ID	KAFB 10625	TURNAROUND	NORMAL	PAGE	1 of 2
COMPANY NAME	NHED	EDD FORMAT				DISPOSAL	BY Lab or Return to Client
SEND REPORT TO	GID BRANDWEIN	PURCHASE ORDER					
ADDRESS	5500 SAN ANTONIO DR. NE	BILL TO COMPANY	NHED / HUB				
CITY/STATE/ZIP	AUBURN, N.M. 87109	INVOICE ATTN TO	DAVE COBRAN				
PHONE	505-222-9504	ADDRESS	2905 RODEO PARK DR				
FAX		CITY/STATE/ZIP	SANTA FE, NM 87505				
E-MAIL	gid.brandwein@state.nm.us	PHONE	505-476-6055				
		FAX					
		E-MAIL					

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	TURNAROUND	DATE	PRINTED NAME	SIGNATURE	DATE	TIME
1	10625-A	W	4/28/11	11:26	3	HCI		8260	4/28/11	S. BRANDWEIN	[Signature]	4/28/11	3:45 PM
2	10625-B	W	4/28/11	11:28	3	HCI		801/505.1	4/28/11	Lawrenschmitz	[Signature]	4/29/11	1000
3	10625-C	W	4/28/11	11:31	3	HCI		801/505.1	4/28/11				
4	10625-D	W	4/28/11	11:35	1	-		801/505.1	4/28/11				
5	10625-E	W	4/28/11	11:38	1	-		801/505.1	4/28/11				
6	10625-F	W	4/28/11	11:40	1	-		801/505.1	4/28/11				
7	10625-G	W	4/28/11	11:42	1	H6504		801/505.1	4/28/11				
8	10625-H	W	4/28/11	11:43	1	Zn/GA		801/505.1	4/28/11				
9	10625-I	W	4/28/11	11:44	1	H6504		801/505.1	4/28/11				
10	10625-J	W	4/28/11	11:46	1	H6504		801/505.1	4/28/11				

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: TOTAL METALS - TAL
DIGS METALS - Fe, Mn only

Relinquished by: [Signature]
Received by: [Signature]

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



ALS Laboratory Group

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Chain-of-Custody

Form 2022a

WORKORDER: 1104466
PAGE: 2 of 2

PROJECT NAME	PROJECT NO.	SAMPLER	DATE	TURNAROUND	DISPOSAL	Return to Client
KAFB - BFF	55B	KAFB - 10626	4/28/11	4/28/11	RECYCLE	
COMPANY NAME	EDD FORMAT					
SEND REPORT TO	PURCHASE ORDER					
ADDRESS	BILL TO COMPANY					
CITY/STATE/ZIP	INVOICE ATTN TO					
PHONE	ADDRESS					
FAX	CITY/STATE/ZIP					
E-MAIL	PHONE					
	FAX					
	E-MAIL					
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres. QC
(11)	10626 - A	W	4/28/11	14:39	3	HG
(12)	10626 - B	W	4/28/11	14:42	3	HG
(13)	10626 - C	W	4/28/11	14:46	3	HG
(14)	10626 - D	W	4/28/11	14:49	1	-
(15)	10626 - E	W	4/28/11	14:55	1	-
(16)	10626 - F	W	4/28/11	14:57	1	-
(17)	10626 - G	W	4/28/11	14:59	1	HSG
(18)	10626 - H	W	4/28/11	15:01	1	2-HG
(19)	10626 - I	W	4/28/11	15:03	1	HSG
(20)	10626 - J	W	4/28/11	15:04	1	HSG

RELINQUISHED BY	RECEIVED BY	DATE	TIME
	A. Brandwein	4/28/11	3:45 PM
	Lawen Schmitz	4/29/11	1:00

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

QC PACKAGE (check below)

LEVEL II (Standard QC)	
LEVEL III (Std QC + Ions)	
LEVEL IV (Std QC + Ions + raw data)	

Comments: TOTAL METALS - TAL
DIGS METALS - Fe, Mn only

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



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: NMED
Project Manager: LRS

Workorder No: 1104466
Initials: LAS Date: 4/29/11

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	YES	<input checked="" type="radio"/> 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	<input checked="" type="radio"/> YES	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>3.8</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>15</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.

* see page 2 please

If applicable, was the client contacted? YES / NO / NA Contact: Sid B. Date/Time: 5/2
Project Manager Signature / Date: [Signature] 5/2/11



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: NMED
Project Manager: LRS

Workorder No: 1104466
Initials: LAS Date: 4/29/11

Additional Information:

*13 10625-B (vials-3-for GRO) analysis were all smashed with no recoverable volume because of improper packing. Two vials of 10625-A for voa sent to voa lab and one vial used for GRO analysis:
1104466-1-1 & 1-2 = voa
1104466-2-1 = GRO

*1104466-5-1 (10625 E) } arrived with cracked lids due to
↓ -15-1 (10626 E) } improper packing - so clean
new lids placed on these containers (no lost volume)

Was the laboratory directed to proceed with the analysis of any samples yielding the presence of residual chlorine? YES / NO / NA

NOTE:

No pH adjustments shall be made without prior consent of Project Manager. After pH adjustments, hold metals and radchem samples ≥ 24 hrs. before analysis.

Was the pH of any sample adjusted by the laboratory? YES (See Table below) / NO

pH Excursion:

Laboratory Sample ID	Client Sample ID	Initial pH	Final pH	Reagent Used	Volume Added (mL)	Lot No. of Reagent	Requested Analysis	Initials / Date / Time
1104466-5-1	10625-E	7	<2	H ₂ SO ₄	0.5	49245	DRO	LAS 4/29/11 @ 1240
1104466-15-1	10626-E	↓	↓	↓	↓	↓	↓	↓

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

Project Manager Signature / Date: [Signature] 5/14/11

Diesel Range Organics

Method SW8015MB

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1104466

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF

Lab ID: EX110502-4MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 02-May-11

Date Analyzed: 10-May-11

Prep Batch: EX110502-4

QCBatchID: EX110502-4-1

Run ID: HCD110510-3A

Cleanup: NONE

Basis: N/A

File Name: F3F38968

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	0.45	0.5	0.17	J	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	1.19		1.25	95	57 - 132

Data Package ID: HCD1104466-1

Date Printed: Monday, May 16, 2011

ALS Environmental -- FC

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LIMS Version: 6.482

Diesel Range Organics

Method SW8015MB

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1104466

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF

Field ID:	10625-E
Lab ID:	1104466-5

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 28-Apr-11

Date Extracted: 02-May-11

Date Analyzed: 11-May-11

Prep Method: METHOD

Prep Batch: EX110502-4

QC Batch ID: EX110502-4-1

Run ID: HCD110510-3A

Cleanup: NONE

Basis: As Received

File Name: F3F38971

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	0.45	0.5	0.17	B,J	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	1.2		1.25	96	57 - 132

Data Package ID: HCD1104466-1

Date Printed: Monday, May 16, 2011

ALS Environmental -- FC

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LIMS Version: 6.482

Diesel Range Organics

Method SW8015MB

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1104466

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF

Field ID: 10626-E
Lab ID: 1104466-15

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Apr-11
Date Extracted: 02-May-11
Date Analyzed: 11-May-11
Prep Method: METHOD

Prep Batch: EX110502-4
QCBatchID: EX110502-4-1
Run ID: HCD110510-3A
Cleanup: NONE
Basis: As Received
File Name: F3F38972

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	0.44	0.5	0.17	B,J	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
84-15-1	O-TERPHENYL	1.19		1.25	95	57 - 132

Data Package ID: HCD1104466-1

Date Printed: Monday, May 16, 2011

ALS Environmental -- FC

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Diesel Range Organics

Method SW8015MB

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1104466

Client Name: NMED Hazardous Waste Bureau

ClientProject ID: KAFB - BFF

Lab ID: EX110502-4LCS	Sample Matrix: WATER % Moisture: N/A Date Collected: N/A Date Extracted: 05/02/2011 Date Analyzed: 05/10/2011 Prep Method: METHOD	Prep Batch: EX110502-4 QCBatchID: EX110502-4-1 Run ID: HCD110510-3A Cleanup: NONE Basis: N/A File Name: F3F38969	Sample Aliquot: 160 ml Final Volume: 4 ml Result Units: MG/L Clean DF: 1
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CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
68334-30-5	Diesel Range Organics	5	5.16	0.5		103	36 - 150%

Lab ID: EX110502-4LCSD	Sample Matrix: WATER % Moisture: N/A Date Collected: N/A Date Extracted: 05/02/2011 Date Analyzed: 05/11/2011 Prep Method: METHOD	Prep Batch: EX110502-4 QCBatchID: EX110502-4-1 Run ID: HCD110510-3A Cleanup: NONE Basis: N/A File Name: F3F38970	Sample Aliquot: 160 ml Final Volume: 4 ml Result Units: MG/L Clean DF: 1
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CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
68334-30-5	Diesel Range Organics	5	4.96	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	93		93		57 - 132

Data Package ID: HCD1104466-1

Diesel Range Organics

Method SW8015MB

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1104466
Client Name: NMED Hazardous Waste Bureau
ClientProject ID: KAFB - BFF

Field ID: 10626-E
LabID: 1104466-15MS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Apr-11
Date Extracted: 02-May-11
Date Analyzed: 11-May-11
Prep Method: METHOD

Prep Batch: EX110502-4
QCBatchID: EX110502-4-1
Run ID: HCD110510-3A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 160 ml
Final Volume: 4 ml
Result Units: MG/L
File Name: F3F38973

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
68334-30-5	Diesel Range Organics	0.44	B,J	4.62		0.5	5	84	36 - 150%

Field ID: 10626-E
LabID: 1104466-15MSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 28-Apr-11
Date Extracted: 02-May-11
Date Analyzed: 11-May-11
Prep Method: METHOD

Prep Batch: EX110502-4
QCBatchID: EX110502-4-1
Run ID: HCD110510-3A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 160 ml
Final Volume: 4 ml
Result Units: MG/L
File Name: F3F38974

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
68334-30-5	Diesel Range Organics	4.91		5	89	0.5	20	6

Surrogate Recovery MS/MSD

CASNO	Target Analyte	Spike Added	MS % Rec.	MS Flag	MSD % Rec.	MSD Flag	Control Limits
84-15-1	O-TERPHENYL	1.25	84		87		57 - 132

Data Package ID: HCD1104466-1