



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 29, 2015

ZACK THOMAS

MEWBOURNE OIL COMPANY

P. O. BOX 5270

HOBBS, NM 88240

RE: RED HILLS SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 08/24/15 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

MEWBOURNE OIL COMPANY
ZACK THOMAS
P. O. BOX 5270
HOBBS NM, 88240
Fax To: (575) 937-6252

Received: 08/24/2015
Reported: 08/29/2015
Project Name: RED HILLS SWD #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/24/2015
Sampling Type: Water
Sampling Condition: ** (See Notes)
Sample Received By: Jodi Henson

Sample ID: FRAC TANK WATER SAMPLE (H502242-01)**Chloride, SM4500Cl-B****mg/L****Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	6700	4.00	08/25/2015	ND	100	100	100	3.92	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



BILL TO

ANALYSIS REQUEST

#54



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 01, 2015

ZACK THOMAS

MEWBOURNE OIL COMPANY

P. O. BOX 5270

HOBBS, NM 88240

RE: RED HILLS WEST SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 08/31/15 16:37.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

MEWBOURNE OIL COMPANY
ZACK THOMAS
P. O. BOX 5270
HOBBS NM, 88240
Fax To: (575) 937-6252

Received:	08/31/2015	Sampling Date:	08/31/2015
Reported:	09/01/2015	Sampling Type:	Water
Project Name:	RED HILLS WEST SWD #1	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MEWBOURNE		

Sample ID: WEST FRAC TANK WATER SAMPLE (H502312-01)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	172	4.00	09/01/2015	ND	104	104	100	0.00	

Sample ID: EAST FRAC TANK WATER SAMPLE (H502312-02)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	300	4.00	09/01/2015	ND	104	104	100	0.00	

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CARDINAL
Laboratories

RUSH

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Meadors

Project Manager: Zach Thomas

Address:

City:

State:

Zip:

Phone #:

Fax #:

Project #:

Project Owner:

Project Name: Meadors

Project Location: Red Hills West SUD #1

Sampler Name: Chris Flores

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: Diversified DFI

Attn:

Address:

City:

State:

Zip:

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H50237

West Frac Tank Water Sample
East Frac Tank Water Sample

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE TIME

Chloride

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Relinquished By:

Date: 8-31-2015

Received By:

Chris Flores

Relinquished By:

Date: 8-31-2015

Received By:

Chris Flores

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition
Cool ☒ Intact ☒
Yes ☒ No ☐

CHECKED BY:
(Initials)

CF

REMARKS:

email to: crensshaw@diversifiedfi.com
mburton@diversifiedfi.com
mgafferson@diversifiedfi.com
cflores@diversifiedfi.com

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 12, 2015

ZACK THOMAS

MEWBOURNE OIL COMPANY

P. O. BOX 5270

HOBBS, NM 88240

RE: RED HILLS STATE SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 10/06/15 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Snyder".

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

MEWBOURNE OIL COMPANY
ZACK THOMAS
P. O. BOX 5270
HOBBS NM, 88240
Fax To: (575) 937-6252

Received:	10/06/2015	Sampling Date:	10/06/2015
Reported:	10/12/2015	Sampling Type:	Soil
Project Name:	RED HILLS STATE SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: AUGER BORE PT. 1 @ 12' (H502644-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2015	ND	2.04	102	2.00	2.92	
Toluene*	<0.050	0.050	10/07/2015	ND	1.90	95.2	2.00	2.19	
Ethylbenzene*	<0.050	0.050	10/07/2015	ND	1.61	80.3	2.00	1.41	
Total Xylenes*	<0.150	0.150	10/07/2015	ND	5.63	93.8	6.00	0.660	
Total BTX	<0.300	0.300	10/07/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	10/09/2015	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2015	ND	207	103	200	1.36	
DRO >C10-C28	<10.0	10.0	10/08/2015	ND	237	119	200	0.539	

Surrogate: 1-Chlorooctane 89.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 93.2 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

MEWBOURNE OIL COMPANY
ZACK THOMAS
P. O. BOX 5270
HOBBS NM, 88240
Fax To: (575) 937-6252

Received:	10/06/2015	Sampling Date:	10/06/2015
Reported:	10/12/2015	Sampling Type:	Soil
Project Name:	RED HILLS STATE SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: AUGER BORE PT. 2 @ 12' (H502644-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2015	ND	2.04	102	2.00	2.92	
Toluene*	<0.050	0.050	10/07/2015	ND	1.90	95.2	2.00	2.19	
Ethylbenzene*	<0.050	0.050	10/07/2015	ND	1.61	80.3	2.00	1.41	
Total Xylenes*	<0.150	0.150	10/07/2015	ND	5.63	93.8	6.00	0.660	
Total BTEx	<0.300	0.300	10/07/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/09/2015	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2015	ND	207	103	200	1.36	
DRO >C10-C28	<10.0	10.0	10/08/2015	ND	237	119	200	0.539	

Surrogate: 1-Chlorooctane 95.5 % 47.2-157

Surrogate: 1-Chlorooctadecane 100 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 MEWBOURNE OIL COMPANY
 ZACK THOMAS
 P. O. BOX 5270
 HOBBS NM, 88240
 Fax To: (575) 937-6252

 Received: 10/06/2015
 Reported: 10/12/2015
 Project Name: RED HILLS STATE SWD #1
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 10/06/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: AUGER BORE PT. 3 @ 12' (H502644-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2015	ND	2.04	102	2.00	2.92	
Toluene*	<0.050	0.050	10/07/2015	ND	1.90	95.2	2.00	2.19	
Ethylbenzene*	<0.050	0.050	10/07/2015	ND	1.61	80.3	2.00	1.41	
Total Xylenes*	<0.150	0.150	10/07/2015	ND	5.63	93.8	6.00	0.660	
Total BTEX	<0.300	0.300	10/07/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/09/2015	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2015	ND	207	103	200	1.36	
DRO >C10-C28	<10.0	10.0	10/08/2015	ND	237	119	200	0.539	

Surrogate: 1-Chlorooctane 101 % 47.2-157

Surrogate: 1-Chlorooctadecane 103 % 52.1-176

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*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

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RPD	Relative Percent Difference
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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Page 6 of 6