

**REVIEWED**

By Kellie Jones at 7:37 am, Jan 25, 2016

**INFORMATION ONLY**



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

January 08, 2016

ZACK THOMAS

MEWBOURNE OIL COMPANY

P. O. BOX 5270

HOBBS, NM 88240

RE: BONE SPRINGS WATERFLOOD CENTRAL FACILITY

Enclosed are the results of analyses for samples received by the laboratory on 01/04/16 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](http://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".

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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #1 (H600015-01)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.6-140*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
<b>DRO &gt;C10-C28</b>	<b>90.5</b>	10.0	01/08/2016	ND	185	92.5	200	2.06	

*Surrogate: 1-Chlorooctane 71.6 % 35-147*
*Surrogate: 1-Chlorooctadecane 77.7 % 28-171*

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #2 (H600015-02)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 69.5 % 35-147

Surrogate: 1-Chlorooctadecane 66.4 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #3 (H600015-03)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1140</b>	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 72.8 % 35-147

Surrogate: 1-Chlorooctadecane 72.3 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #4 (H600015-04)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 77.7 % 35-147

Surrogate: 1-Chlorooctadecane 73.5 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #5 (H600015-05)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1060</b>	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 69.0 % 35-147

Surrogate: 1-Chlorooctadecane 71.8 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #6 (H600015-06)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>64.0</b>	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 60.9 % 35-147

Surrogate: 1-Chlorooctadecane 59.1 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #8 (H600015-07)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.4 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>976</b>	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 70.3 % 35-147

Surrogate: 1-Chlorooctadecane 72.2 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #9 (H600015-08)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>624</b>	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 68.1 % 35-147

Surrogate: 1-Chlorooctadecane 63.7 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	01/04/2016	Sampling Date:	01/04/2016
Reported:	01/08/2016	Sampling Type:	Soil
Project Name:	BONE SPRINGS WATERFLOOD CENTRAL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP #10 (H600015-09)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/06/2016	ND	1.98	99.2	2.00	12.0	
Toluene*	<0.050	0.050	01/06/2016	ND	2.01	101	2.00	12.6	
Ethylbenzene*	<0.050	0.050	01/06/2016	ND	1.86	93.2	2.00	12.3	
Total Xylenes*	<0.150	0.150	01/06/2016	ND	5.93	98.9	6.00	11.7	
Total BTEX	<0.300	0.300	01/06/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	01/05/2016	ND	400	100	400	3.92	

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	01/08/2016	ND	194	96.9	200	1.41	
DRO >C10-C28	<10.0	10.0	01/08/2016	ND	185	92.5	200	2.06	

Surrogate: 1-Chlorooctane 62.5 % 35-147

Surrogate: 1-Chlorooctadecane 66.5 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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



---

Celey D. Keene, Lab Director/Quality Manager

