



September 29, 2015

ZACK THOMAS  
MEWBOURNE OIL COMPANY  
P. O. BOX 5270  
HOBBS, NM 88240

RE: SANTO NINO 29 FED SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 09/23/15 9:20.

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". The signature is written in a cursive style with a large, flowing "C" and "K".

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:	09/23/2015	Sampling Date:	09/22/2015
Reported:	09/29/2015	Sampling Type:	Soil
Project Name:	SANTO NINO 29 FED SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 3 @ 1.5' (H502514-01)**

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	09/28/2015	ND	2.04	102	2.00	2.21	
Toluene*	<0.050	0.050	09/28/2015	ND	1.75	87.4	2.00	1.79	
Ethylbenzene*	<0.050	0.050	09/28/2015	ND	1.67	83.5	2.00	1.51	
Total Xylenes*	<0.150	0.150	09/28/2015	ND	5.37	89.5	6.00	1.51	
Total BTEX	<0.300	0.300	09/28/2015	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 107 % 85.6-137*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/25/2015	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	09/25/2015	ND	162	80.9	200	1.42	
DRO >C10-C28	<10.0	10.0	09/25/2015	ND	173	86.3	200	0.855	

*Surrogate: 1-Chlorooctane 68.4 % 47.2-157*
*Surrogate: 1-Chlorooctadecane 75.4 % 52.1-176*

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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Received:	09/23/2015	Sampling Date:	09/22/2015
Reported:	09/29/2015	Sampling Type:	Soil
Project Name:	SANTO NINO 29 FED SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 4 @ 2.5' (H502514-02)**

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	09/28/2015	ND	2.04	102	2.00	2.21		
Toluene*	<0.050	0.050	09/28/2015	ND	1.75	87.4	2.00	1.79		
Ethylbenzene*	<0.050	0.050	09/28/2015	ND	1.67	83.5	2.00	1.51		
Total Xylenes*	<0.150	0.150	09/28/2015	ND	5.37	89.5	6.00	1.51		
Total BTEX	<0.300	0.300	09/28/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2015	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	09/25/2015	ND	186	92.8	200	4.70		
DRO >C10-C28	<10.0	10.0	09/25/2015	ND	197	98.6	200	3.89		

Surrogate: 1-Chlorooctane 114 % 47.2-157

Surrogate: 1-Chlorooctadecane 131 % 52.1-176

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Received:	09/23/2015	Sampling Date:	09/22/2015
Reported:	09/29/2015	Sampling Type:	Soil
Project Name:	SANTO NINO 29 FED SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 7 @ 2.5' (H502514-03)**

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	09/28/2015	ND	2.04	102	2.00	2.21		
Toluene*	<0.050	0.050	09/28/2015	ND	1.75	87.4	2.00	1.79		
Ethylbenzene*	<0.050	0.050	09/28/2015	ND	1.67	83.5	2.00	1.51		
Total Xylenes*	<0.150	0.150	09/28/2015	ND	5.37	89.5	6.00	1.51		
Total BTEX	<0.300	0.300	09/28/2015	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/25/2015	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	09/25/2015	ND	186	92.8	200	4.70		
DRO >C10-C28	<10.0	10.0	09/25/2015	ND	197	98.6	200	3.89		

Surrogate: 1-Chlorooctane 111 % 47.2-157

Surrogate: 1-Chlorooctadecane 130 % 52.1-176

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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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Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Mewbourne  
 Project Manager: Zach  
 Address:  
 City: State: Zip:  
 Phone #: Fax #:  
 Project #:  
 Project Name:  
 Project Location: Santo Nino 29 Fed SWD #1  
 Sampler Name: Jack Kampplain  
 FOR LAB USE ONLY

P.O. #:  
 Company:  
 Attn:  
 Address:  
 City: State: Zip:  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:								
H502514			1							9/22/15	9:00	✓	✓	✓				
	1	pt.3 @1.5'	1									✓	✓	✓				
	2	pt.4 @2.5'	1								9:30	✓	✓	✓				
	3	pt.7 @2.5'	1								10:00	✓	✓	✓				

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Relinquished By: [Signature]  
 Date: 9/21/15  
 Time: 9:00  
 Received By: [Signature]  
 Date: 9/22/15  
 Time: 2:40

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other: 2.40

Sample Condition  
 Intact  
 Yes  No

CHECKED BY: [Signature]

Phone Result:  Yes  No  
 Fax Result:  Yes  No  
 Add'l Phone #: \_\_\_\_\_  
 Add'l Fax #: \_\_\_\_\_

REMARKS:  
 email results  
 knorman@basinenv.com; jkampplain@basinenv;  
 cursanic@basinenv;

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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