



OCD

30-025-32841

#195

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

April 04, 2014

BRIAN WALL

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

HOBBS OCD

APR 07 2014

RECEIVED

RE: CAPROCK MALJAMAR UNITS

Enclosed are the results of analyses for samples received by the laboratory on 04/03/14 9:45.

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,

Celey D. Keene

Lab Director/Quality Manager

commented on

Environmental Specialist

NMOC-DIST 1

4/7/14

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

 Received: 04/03/2014  
 Reported: 04/04/2014  
 Project Name: CAPROCK MALJAMAR UNITS  
 Project Number: NONE GIVEN  
 Project Location: ANGEL RANCH

 Sampling Date: 04/03/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2-1 CMU #195 (H400990-04)**

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	04/03/2014	ND	2.59	129	2.00	1.32		
Toluene*	<0.050	0.050	04/03/2014	ND	2.50	125	2.00	0.955		
Ethylbenzene*	<0.050	0.050	04/03/2014	ND	2.47	124	2.00	1.10		
Total Xylenes*	<0.150	0.150	04/03/2014	ND	7.08	118	6.00	0.890		
Total BTEX	<0.300	0.300	04/03/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 113 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	04/04/2014	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	<100	100	04/03/2014	ND	194	97.1	200	0.486	
DRO >C10-C28	1600	100	04/03/2014	ND	207	104	200	5.18	

Surrogate: 1-Chlorooctane 109 % 65.2-140

Surrogate: 1-Chlorooctadecane 137 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received: 04/03/2014  
 Reported: 04/04/2014  
 Project Name: CAPROCK MALJAMAR UNITS  
 Project Number: NONE GIVEN  
 Project Location: ANGEL RANCH

Sampling Date: 04/03/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2-2 CMU #195 (H400990-05)**

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	04/03/2014	ND	2.59	129	2.00	1.32	
Toluene*	<0.050	0.050	04/03/2014	ND	2.50	125	2.00	0.955	
Ethylbenzene*	<0.050	0.050	04/03/2014	ND	2.47	124	2.00	1.10	
Total Xylenes*	<0.150	0.150	04/03/2014	ND	7.08	118	6.00	0.890	
Total BTEX	<0.300	0.300	04/03/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	04/04/2014	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	04/03/2014	ND	194	97.1	200	0.486	
DRO >C10-C28	900	10.0	04/03/2014	ND	207	104	200	5.18	

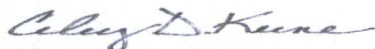
Surrogate: 1-Chlorooctane 103 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received: 04/03/2014  
 Reported: 04/04/2014  
 Project Name: CAPROCK MALJAMAR UNITS  
 Project Number: NONE GIVEN  
 Project Location: ANGEL RANCH

Sampling Date: 04/03/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2-3 CMU #195 (H400990-06)**

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	04/03/2014	ND	2.59	129	2.00	1.32	
Toluene*	<0.050	0.050	04/03/2014	ND	2.50	125	2.00	0.955	
Ethylbenzene*	<0.050	0.050	04/03/2014	ND	2.47	124	2.00	1.10	
Total Xylenes*	<0.150	0.150	04/03/2014	ND	7.08	118	6.00	0.890	
Total BTEX	<0.300	0.300	04/03/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1730	16.0	04/04/2014	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	04/03/2014	ND	194	97.1	200	0.486	
DRO >C10-C28	<10.0	10.0	04/03/2014	ND	207	104	200	5.18	

Surrogate: 1-Chlorooctane 103 % 65.2-140

Surrogate: 1-Chlorooctadecane 96.8 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

 Received: 04/03/2014  
 Reported: 04/04/2014  
 Project Name: CAPROCK MALJAMAR UNITS  
 Project Number: NONE GIVEN  
 Project Location: ANGEL RANCH

 Sampling Date: 04/03/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2-4 CMU #195 (H400990-07)**

BTEX 8021B			mg/kg		Analyzed By: MS			S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/03/2014	ND	2.59	129	2.00	1.32		
Toluene*	<0.050	0.050	04/03/2014	ND	2.50	125	2.00	0.955		
Ethylbenzene*	0.063	0.050	04/03/2014	ND	2.47	124	2.00	1.10		
Total Xylenes*	<0.150	0.150	04/03/2014	ND	7.08	118	6.00	0.890		
Total BTEX	<0.300	0.300	04/03/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 140 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	04/04/2014	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: ms					
				S-06					

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	04/03/2014	ND	194	97.1	200	0.486	
DRO >C10-C28	2670	100	04/03/2014	ND	207	104	200	5.18	

Surrogate: 1-Chlorooctane 97.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 215 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received: 04/03/2014  
 Reported: 04/04/2014  
 Project Name: CAPROCK MALJAMAR UNITS  
 Project Number: NONE GIVEN  
 Project Location: ANGEL RANCH

Sampling Date: 04/03/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2-5 CMU #195 (H400990-08)**
**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	04/03/2014	ND	2.59	129	2.00	1.32	
Toluene*	<0.050	0.050	04/03/2014	ND	2.50	125	2.00	0.955	
Ethylbenzene*	<0.050	0.050	04/03/2014	ND	2.47	124	2.00	1.10	
Total Xylenes*	<0.150	0.150	04/03/2014	ND	7.08	118	6.00	0.890	
Total BTEX	<0.300	0.300	04/03/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

**Chloride, SM4500Cl-B**

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	04/04/2014	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	04/03/2014	ND	194	97.1	200	0.486	
DRO >C10-C28	<10.0	10.0	04/03/2014	ND	207	104	200	5.18	

Surrogate: 1-Chlorooctane 112 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	04/03/2014	Sampling Date:	04/03/2014
Reported:	04/04/2014	Sampling Type:	Soil
Project Name:	CAPROCK MALJAMAR UNITS	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ANGEL RANCH		

**Sample ID: 2-6 CMU #195 (H400990-09)**

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	04/04/2014	ND	2.59	129	2.00	1.32		
Toluene*	<0.050	0.050	04/04/2014	ND	2.50	125	2.00	0.955		
Ethylbenzene*	<0.050	0.050	04/04/2014	ND	2.47	124	2.00	1.10		
Total Xylenes*	<0.150	0.150	04/04/2014	ND	7.08	118	6.00	0.890		
Total BTEX	<0.300	0.300	04/04/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 112 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	04/04/2014	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	04/03/2014	ND	194	97.1	200	0.486		
DRO >C10-C28	<10.0	10.0	04/03/2014	ND	207	104	200	5.18		

Surrogate: 1-Chlorooctane 103 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.8 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

LINN OPERATING-HOBBS  
 BRIAN WALL  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	04/03/2014	Sampling Date:	04/03/2014
Reported:	04/04/2014	Sampling Type:	Soil
Project Name:	CAPROCK MALJAMAR UNITS	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	ANGEL RANCH		

**Sample ID: 2-7 CMU #195 (H400990-10)**

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	04/04/2014	ND	2.59	129	2.00	1.32		
Toluene*	<0.050	0.050	04/04/2014	ND	2.50	125	2.00	0.955		
Ethylbenzene*	<0.050	0.050	04/04/2014	ND	2.47	124	2.00	1.10		
Total Xylenes*	<0.150	0.150	04/04/2014	ND	7.08	118	6.00	0.890		
Total BTEX	<0.300	0.300	04/04/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 113 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	04/04/2014	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: ms					

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	04/03/2014	ND	194	97.1	200	0.486	
DRO >C10-C28	<10.0	10.0	04/03/2014	ND	207	104	200	5.18	

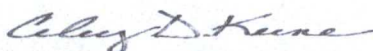
Surrogate: 1-Chlorooctane 109 % 65.2-140

Surrogate: 1-Chlorooctadecane 103 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

