

1R - 426-04

WORKPLANS

Date:

11-17-11

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

RECEIVED OCD

2011 NOV 21 P 2:09

CERTIFIED MAIL
RETURN RECEIPT NO. 7008 1140 0001 3070 6006

November 17th, 2011

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Report of Further Investigation
Rice Operating Company – BD SWD System
BD M-26-1 (1R426-04): UL/M sec. 26 T21S R37E**

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

The site is located approximately 1 mile northeast of Eunice, New Mexico at UL/M sec. 26 T21S R37E as shown on the Site Location Map (Figure 1). Groundwater is located at approximately 40 feet bgs.

In 2003, ROC initiated work on the former BD M-26-1 junction box. The site was delineated using a backhoe to form a 30 ft x 30 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite, the bottom composite and the remediated backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 1,900 mg/kg, negligible gasoline range organics (GRO) and diesel range organics (DRO), and negligible BTEX. The bottom composite showed a chloride laboratory reading of 851 mg/kg, a GRO reading of 114 mg/kg, and a DRO reading of 867 mg/kg. BTEX for the bottom composite showed negligible benzene and toluene, an ethyl benzene reading of 0.334 mg/kg, and a total xylene reading of 0.674 mg/kg. A 20 mil poly liner was placed at the bottom of the excavation. The excavated soil was blended on site and backfilled over the liner. Laboratory analysis of the blended backfill showed a chloride reading of 248 mg/kg, a GRO reading of 26 mg/kg, and a DRO reading of 324 mg/kg. BTEX reading for the backfill showed negligible benzene, toluene, and ethyl-benzene. Total xylenes showed a reading of 0.070 mg/kg.

The area was contoured to the surrounding landscape and seeded. NMOCD was notified of potential groundwater impact on March 17th, 2003, and a junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

As part of the Investigation and Characterization Plan approved by NMOCD on May 19th, 2011, seven soil bores (SB-1 through SB-7) were advanced through the former junction box site on May 23rd, 2011, May 24th, and June 6th, 2011 (Figure 2). RECS personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID) for hydrocarbons. Representative samples from the bores were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers (Appendix A). SB-1, SB-2 and SB-5 had low laboratory chloride readings which tapered off (below 250 mg/kg) prior to reaching the capillary fringe. SB-3, SB-4, SB-6 and SB-7 had laboratory chloride readings which indicated that chlorides may have affected the groundwater beneath the site. GRO readings in all seven bores were non-detect and DRO readings were also low. Additional soil samples will be collected to determine dimensions of an infiltration barrier.

On October 25th, 2011, a monitor well was installed 18 ft southeast of the former junction box site to determine if groundwater beneath the site has been affected by residual chlorides. The monitor well will be sampled quarterly and if the evaluation of the well shows no impact to groundwater from residual chlorides, then only a vadose zone remedy will be undertaken. However, if groundwater shows impact from residual chlorides, a groundwater remedy will be developed to address these concerns. Additional monitor wells may be added to the site as necessary to adequately delineate groundwater quality. Once groundwater quality is fully delineated, a Corrective Action Plan (CAP) will be submitted to the NMOCD and will include proposed liner dimensions and a groundwater remedy if necessary.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

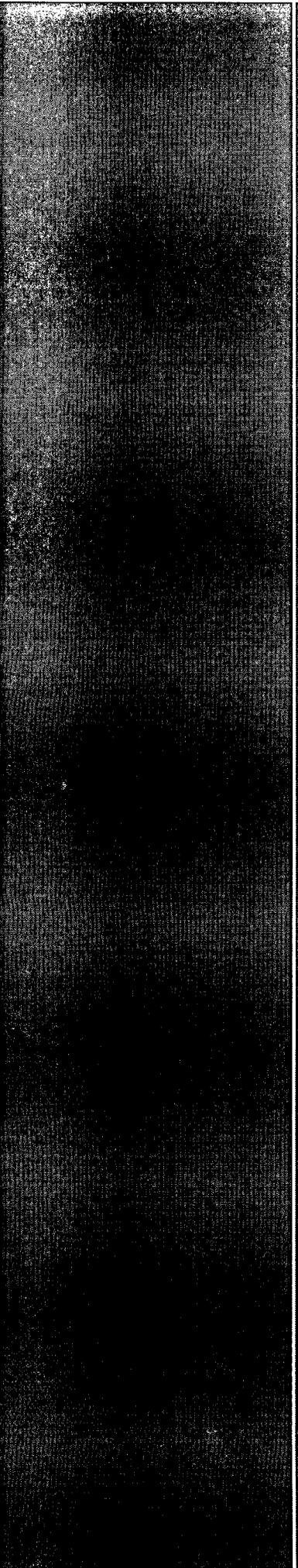
Sincerely,



Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

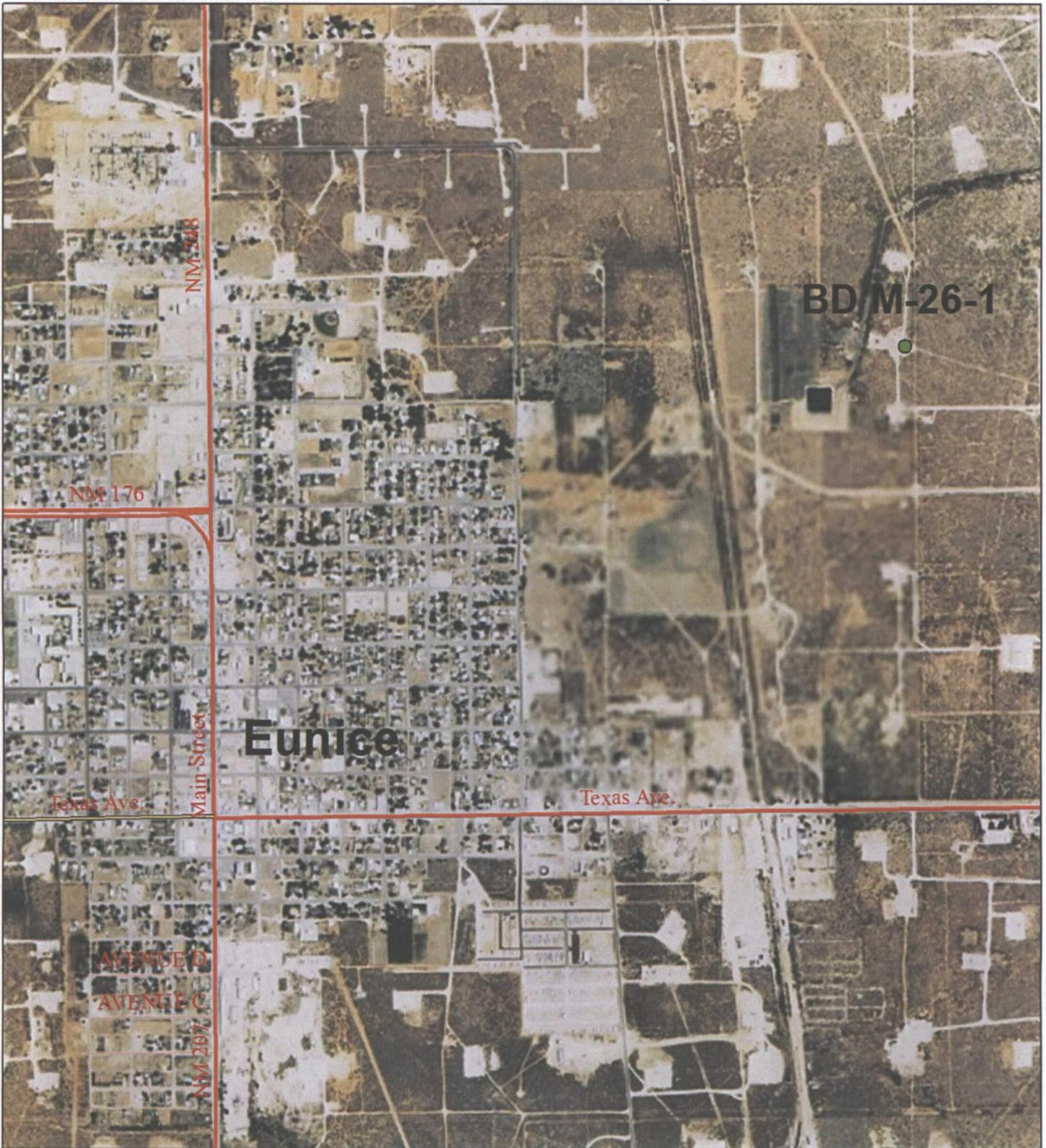
- Figure 1 – Site Location Map
- Figure 2 – Soil bore and MW installation Map
- Appendix A – Soil bore and MW logs with laboratory confirmation



Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Location Map



BD M-26-1

**LEGALS: UL/M sec. 26
T21S R37E**

NMOCD Case #: 1R426-04

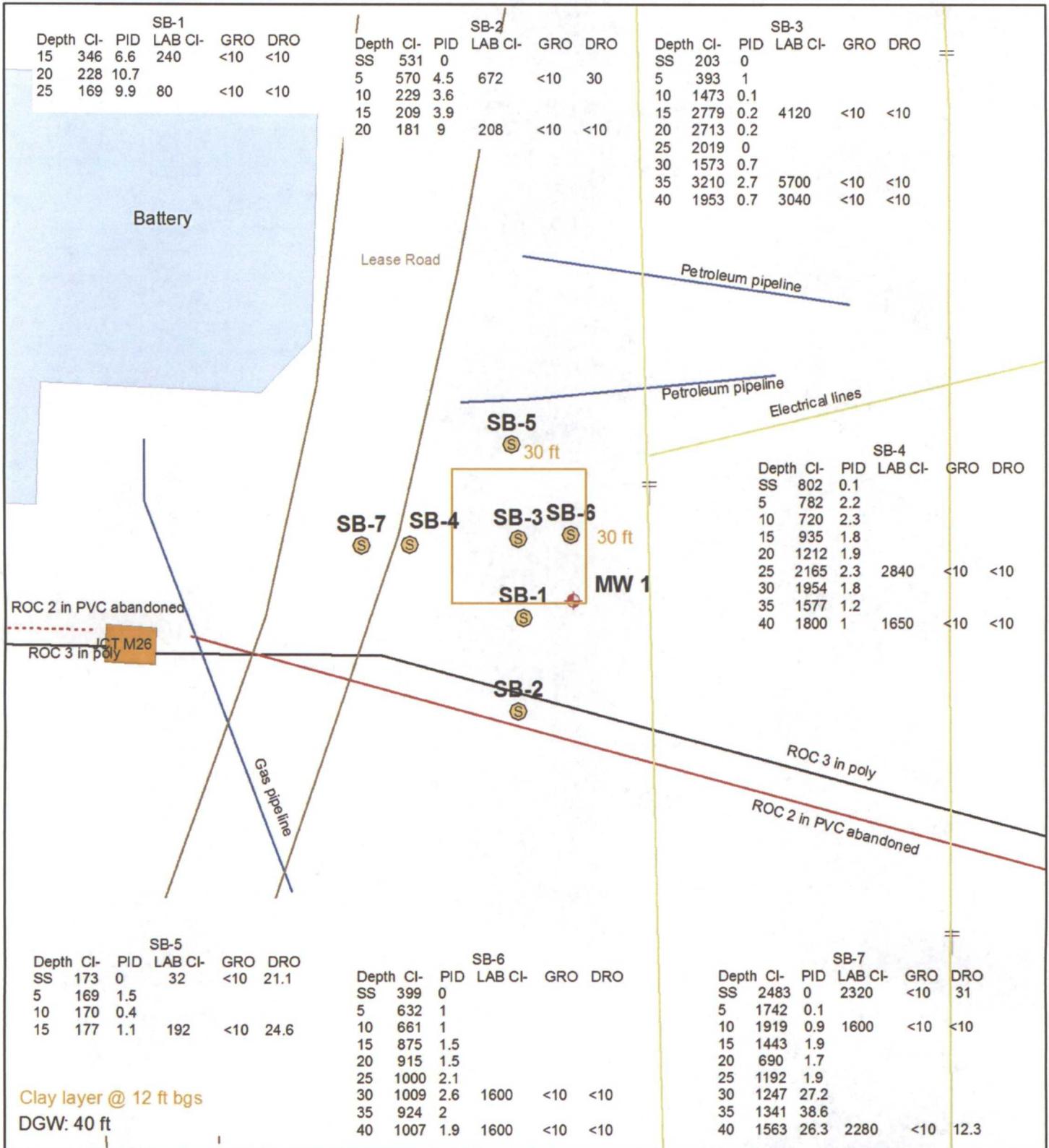
Figure 1



0 365 730 1,460
Feet

Drawing date: 7-1-11
Drafted by: L. Weinheimer

Soil bore and MW installation

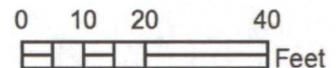


BD M-26-1

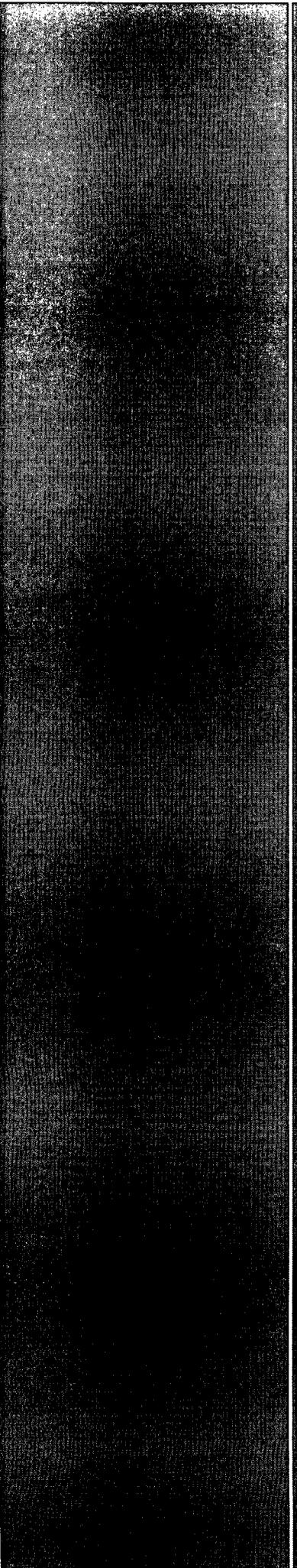
LEGALS: UL/M sec. 26
T21S R37E

NMOCD Case #: 1R426-04

Figure 2



Drawing date: 5-31-11
Drafted by: L. Weinheimer



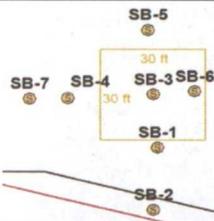
Appendix A

Soil bore and MW logs with laboratory confirmation

RICE Environmental Consulting and Safety (RECS)

P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Logger: Jordan Woodfin
Driller: Harrison & Cooper, Inc.
Drilling Method: Air rotary
Start Date: 5/24/2011
End Date: 5/24/2011

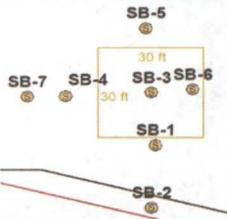


Project Name: BD M-26-1
Well ID: SB-3
Project Consultant: RECS
Location: UL/M sec. 26 T21S R37E
Lat: 32°26'46.27"N
Long: 103°8'23.854"W
County: Lea
State: NM

Comments: Located at the source of the former junction box site.
 All samples were from cuttings.
DRAFTED BY: L. Weinheimer
 TD = 40 ft GW = 40 ft

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown very fine sand with some small caliche fragments		
SS	203		0			
				Brownish red fine sand with small caliche fragments		
5 ft	393		1			
				Tan very fine sand		
10 ft	1473		0.1			
15 ft	2779	Cl-4120	0.2			
		GRO <10				
		DRO <10				
20 ft	2713		0.2			
				Red very fine sand with some clay		
25 ft	2019		0			
				Tan very fine silty sand		
30 ft	1573		0.7			
				Tan very fine sand with mixed in fine gravel		
35 ft	3210	Cl-5700	2.7			
		GRO <10				
		DRO <10				
40 ft	1953	Cl-3040	0.7			
		GRO <10				
		DRO <10				

Logger: Jordan Woodfin
Driller: Harrison & Cooper, Inc.
Drilling Method: Air rotary
Start Date: 6/6/2011
End Date: 6/6/2011



Project Name: BD M-26-1
Well ID: SB-4
Project Consultant: RECS
Location: UL/M sec. 26 T21S R37E
Lat: 32°26'46.26"N
County: Lea
Long: 103°8'24.133"W
State: NM

Comments: Located 24 ft west of the former junction box site.
 All samples were from cuttings.
DRAFTED BY: L. Weinheimer
 TD = 40 ft GW = 40 ft

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Light brown to tan very fine sand		bentonite seal
SS	802		0.1			
				Brown slightly consolidated fine sand		
5 ft	782		2.2			
				Light brown very fine silty sand		
10 ft	720		2.3			
				Tan very fine silty sand with caliche		
15 ft	935		1.8			
				Light brown very fine silty sand with caliche		
20 ft	1212		1.9			
25 ft	2165	CI-2840 GRO <10 DRO <10	2.3			
30 ft	1954		1.8			
35 ft	1577		1.2	Tan medium sand with some gravel		
40 ft	1800	CI-1650 GRO <10 DRO <10	1			

Logger:	Jordan Woodfin		
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air rotary		
Start Date:	6/6/2011		
End Date:	6/6/2011	Project Name: BD M-26-1 Well ID: SB-6 Project Consultant: RECS	
Comments: Located 12 ft east of the former junction box site. All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 40 ft GW = 40 ft		Location: UL/M sec. 26 T21S R37E Lat: 32°26'46.282"N County: Lea Long: 103°8'23.715"W State: NM	

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown very fine sand		
SS	399		0			
				Light brown very fine sand		
5 ft	632		1			
				Tan very fine silty sand		
10 ft	661		1			
15 ft	875		1.5			
20 ft	915		1.5			
				Light brown to red very fine silty sand		
25 ft	1000		2.1			
				Tan medium sand with caliche and some gravel		
30 ft	1009	CI-1600 GRO <10 DRO <10	2.6			
35 ft	924		2			
40 ft	1007	CI-1600 GRO <10 DRO <10	1.9			

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
60 ft						
65 ft						
70 ft						
75 ft						
80 ft						

May 24, 2011

KATY JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD JCT. M-26-1

Enclosed are the results of analyses for samples received by the laboratory on 05/23/11 15:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

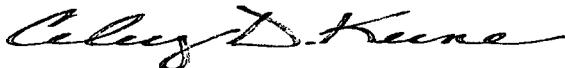
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Analytical Results For:

 Rice Operating Company
 KATY JONES
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 05/23/2011
 Reported: 05/24/2011
 Project Name: BD JCT. M-26-1
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 05/23/2011
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Jodi Henson

Sample ID: SB 1 @ 15' (H101048-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	05/24/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/23/2011	ND	168	84.1	200	0.698		
DRO >C10-C28	<10.0	10.0	05/23/2011	ND	152	75.8	200	1.48		
<i>Surrogate: 1-Chlorooctane</i>	98.9 %	70-130								
<i>Surrogate: 1-Chlorooctadecane</i>	96.1 %	70-130								

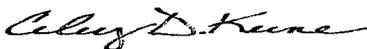
Sample ID: SB 1 @ 25' (H101048-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/24/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/23/2011	ND	168	84.1	200	0.698		
DRO >C10-C28	<10.0	10.0	05/23/2011	ND	152	75.8	200	1.48		
<i>Surrogate: 1-Chlorooctane</i>	105 %	70-130								
<i>Surrogate: 1-Chlorooctadecane</i>	100 %	70-130								

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

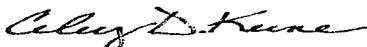
Notes and Definitions

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

May 27, 2011

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: BD JCT. M-26-1

Enclosed are the results of analyses for samples received by the laboratory on 05/25/11 8:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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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 (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

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 05/25/2011
 Reported: 05/27/2011
 Project Name: BD JCT. M-26-1
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 05/24/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB 2 @ 5' (H101067-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	05/27/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/26/2011	ND	192	95.8	200	1.14		
DRO >C10-C28	30.0	10.0	05/26/2011	ND	164	81.8	200	5.38		

Surrogate: 1-Chlorooctane 88.9 % 70-130
 Surrogate: 1-Chlorooctadecane 89.5 % 70-130

Sample ID: SB 2 @ 20' (H101067-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	05/27/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/26/2011	ND	192	95.8	200	1.14		
DRO >C10-C28	<10.0	10.0	05/26/2011	ND	164	81.8	200	5.38		

Surrogate: 1-Chlorooctane 89.1 % 70-130
 Surrogate: 1-Chlorooctadecane 97.3 % 70-130

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 05/25/2011
 Reported: 05/27/2011
 Project Name: BD JCT. M-26-1
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 05/24/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB 3 @ 15' (H101067-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4120	16.0	05/27/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/26/2011	ND	192	95.8	200	1.14		
DRO >C10-C28	<10.0	10.0	05/26/2011	ND	164	81.8	200	5.38		
<i>Surrogate: 1-Chlorooctane</i>	<i>93.8 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>94.8 %</i>	<i>70-130</i>								

Sample ID: SB 3 @ 35' (H101067-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5700	16.0	05/27/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/26/2011	ND	192	95.8	200	1.14		
DRO >C10-C28	<10.0	10.0	05/26/2011	ND	164	81.8	200	5.38		
<i>Surrogate: 1-Chlorooctane</i>	<i>107 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>103 %</i>	<i>70-130</i>								

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	05/25/2011	Sampling Date:	05/24/2011
Reported:	05/27/2011	Sampling Type:	Soil
Project Name:	BD JCT. M-26-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 3 @ 40' (H101067-05)

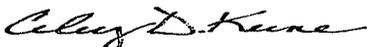
Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3040	16.0	05/27/2011	ND	464	116	400	3.51		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/26/2011	ND	192	95.8	200	1.14		
DRO >C10-C28	<10.0	10.0	05/26/2011	ND	164	81.8	200	5.38		

Surrogate: 1-Chlorooctane 107 % 70-130
 Surrogate: 1-Chlorooctadecane 97.4 % 70-130

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

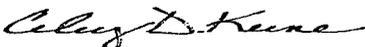
Notes and Definitions

- 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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL 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

Company Name: Rice Operating Company
Project Manager: Hack Conder
Address: 122 West Taylor
City: Hobbs **State:** NM **Zip:** 88240
Phone #: 575-393-9174 **Fax #:** 575-397-1471
Project #: **Project Owner:**
Project Name: BD Jct M-26-1
Project Location: BD Jct M-26-1
Sampler Name: Jordan Woodfin

BILL TO

Lab I.D.	Sample I.D.	FOR LAB USE ONLY	MATRIX			PRESERV			SAMPLING													
			WASTEWATER	GROUNDWATER	# CONTAINERS	(GRAB OR COMP)	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE:	TIME						
4101067					1	1	✓				✓		5/24/11	02:30	✓	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TPH 8015 M Extended Thru C40	
1	SB 2 @ 5'				1	1	✓				✓		"	02:50	✓							
2	SB 2 @ 20'				1	1	✓				✓		"	03:00	✓							
3	SB 3 @ 15'				1	1	✓				✓		"	03:30	✓							
4	SB 3 @ 35'				1	1	✓				✓		"	03:45	✓							
5	SB 3 @ 40'				1	1	✓				✓		"		✓							

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Relinquished By: Jordan Woodfin **Date:** 5/25/11 **Received By:** [Signature]
Relinquished By: [Signature] **Date:** 5/25/11 **Received By:** [Signature]
Delivered By: [Signature] **Date:** 5/25/11 **Checked By:** [Signature]
Sampler - UPS - Bus - Other: Yes No Yes No

REMARKS: email results
 Hconder@riceswd.com; jwoodfin@rice-ecs.com;
 Lweinheimer@rice-ecs.com kjones@riceswd.com

NEED SAMPLES BACK, PLEASE

June 14, 2011

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: BD JCT M-26-1

Enclosed are the results of analyses for samples received by the laboratory on 06/07/11 16:12.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 06/07/2011
 Reported: 06/14/2011
 Project Name: BD JCT M-26-1
 Project Number: NONE GIVEN
 Project Location: BD JCT M-26-1

 Sampling Date: 06/06/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB 4 @ 25' (H101180-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2840	16.0	06/09/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/10/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	<10.0	10.0	06/10/2011	ND	207	103	200	2.50		
<i>Surrogate: 1-Chlorooctane</i>		93.9 %	70-130							
<i>Surrogate: 1-Chlorooctadecane</i>		116 %	70-130							

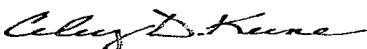
Sample ID: SB 4 @ 40' (H101180-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1650	16.0	06/09/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	<10.0	10.0	06/11/2011	ND	207	103	200	2.50		
<i>Surrogate: 1-Chlorooctane</i>		97.4 %	70-130							
<i>Surrogate: 1-Chlorooctadecane</i>		119 %	70-130							

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	06/07/2011	Sampling Date:	06/06/2011
Reported:	06/14/2011	Sampling Type:	Soil
Project Name:	BD JCT M-26-1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	BD JCT M-26-1		

Sample ID: SB 5 SURFACE SAMPLE (H101180-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/09/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	21.1	10.0	06/11/2011	ND	207	103	200	2.50		

Surrogate: 1-Chlorooctane 132 % 70-130
 Surrogate: 1-Chlorooctadecane 141 % 70-130

Sample ID: SB 5 @ 15' (H101180-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	06/09/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	24.6	10.0	06/11/2011	ND	207	103	200	2.50		

Surrogate: 1-Chlorooctane 130 % 70-130
 Surrogate: 1-Chlorooctadecane 140 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 06/07/2011
 Reported: 06/14/2011
 Project Name: BD JCT M-26-1
 Project Number: NONE GIVEN
 Project Location: BD JCT M-26-1

 Sampling Date: 06/06/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB 6 @ 30' (H101180-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1600	16.0	06/09/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	<10.0	10.0	06/11/2011	ND	207	103	200	2.50		
<i>Surrogate: 1-Chlorooctane</i>	<i>96.0 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>117 %</i>	<i>70-130</i>								

Sample ID: SB 6 @ 40' (H101180-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1600	16.0	06/09/2011	ND	448	112	400	0.00		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	<10.0	10.0	06/11/2011	ND	207	103	200	2.50		
<i>Surrogate: 1-Chlorooctane</i>	<i>109 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>126 %</i>	<i>70-130</i>								

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Celestine D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 06/07/2011
 Reported: 06/14/2011
 Project Name: BD JCT M-26-1
 Project Number: NONE GIVEN
 Project Location: BD JCT M-26-1

 Sampling Date: 06/06/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB 7 SURFACE SAMPLE (H101180-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	06/09/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	31.0	10.0	06/11/2011	ND	207	103	200	2.50		

Surrogate: 1-Chlorooctane 96.4 % 70-130

Surrogate: 1-Chlorooctadecane 99.7 % 70-130

Sample ID: SB 7 @ 10' (H101180-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1600	16.0	06/09/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	<10.0	10.0	06/11/2011	ND	207	103	200	2.50		

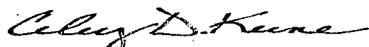
Surrogate: 1-Chlorooctane 175 % 70-130

Surrogate: 1-Chlorooctadecane 183 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 06/07/2011
 Reported: 06/14/2011
 Project Name: BD JCT M-26-1
 Project Number: NONE GIVEN
 Project Location: BD JCT M-26-1

 Sampling Date: 06/06/2011
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

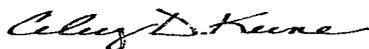
Sample ID: SB 7 @ 40' (H101180-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2280	16.0	06/09/2011	ND	432	108	400	3.64		
TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	06/11/2011	ND	180	89.9	200	1.10		
DRO >C10-C28	12.3	10.0	06/11/2011	ND	207	103	200	2.50		
<i>Surrogate: 1-Chlorooctane</i>	<i>130 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>137 %</i>	<i>70-130</i>								

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- Z-01 One or more surrogates above historical limits.
- 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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

