1R - 427-86

APPROVALS

YEAR(S):

2012-2013

Hansen, Edward J., EMNRD

From: Hansen, Edward J., EMNRD
Sent: Tuesday, August 14, 2012 5:36 PM
To: Hack Conder (hconder@riceswd.com)
Cc: Leking, Geoffrey R, EMNRD; Laura Pena (lpena@riceswd.com); Lara Weinheimer (lweinheimer@rice-ecs.com); Scott Curtis (scurtis@riceswd.com)
Subject: Remediation Plan (1R427-86) Termination - ROC EME D-3 Site

RE: ICP Report and Termination Request
for the Rice Operating Company's
EME D-3 Site
Unit Letter D, Section 3, T20S, R37E, NMPM, Lea County, New Mexico
Remediation Plan (1R427-86) Termination

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received Rice Operating Company's report and request to close the above-referenced site, dated August 6, 2012 (received August 10, 2012). The report is acceptable to the OCD.

The above-referenced report, submitted in accordance with 19.15.29 NMAC (Rule 29; formally, Rule 116), indicates that Rice Operating Company has met the requirements of 19.15.29 NMAC; therefore, the OCD approves the report and hereby notifies you that the remediation plan (1R427-86) is terminated in accordance with 19.15.29 NMAC.

Please be advised that OCD approval of this report does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

Rice Environmental Consulting & Safety
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 9491

August 6th, 2012

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: **ICP Report and Termination Request**
Rice Operating Company – EME SWD System
EME D-3 (1R427-86): UL/D sec. 3 T20S 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 EME Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the EME 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.

Background and Previous Work

The site is located approximately 1.5 miles southeast of Monument, New Mexico at UL/D sec. 3 T20S R37E as shown on the Site Location Map (Figure 1). RECS conducted a groundwater study of NM OSE records and BLM well records which indicates that groundwater will likely be encountered at a depth of approximately 37 +/- feet.

In 2002, ROC initiated work on the former EME D-3 junction box. The site was delineated using a backhoe to form a 20 ft x 20 ft x 10 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite and the bottom composite were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 331 mg/kg, a gasoline range organics (GRO) reading and diesel range organics (DRO) reading of non-detect. The bottom composite showed a chloride laboratory reading of 284 mg/kg and a GRO and DRO reading of non-detect. The excavated soil with the highest chloride and hydrocarbon field numbers was properly disposed of at a NMOCD approved facility and clean soil was imported to the site. The clean soil was blended with the remaining excavated soil and was used to backfill the excavation to approximately 5 ft bgs. At approximately 5-4 ft bgs, a one foot thick,

compacted clay layer was installed. The excavation was backfilled with the remaining blended soil to ground surface.

The area was contoured to the surrounding landscape and NMOCD was notified of potential groundwater impact on May 17th, 2002. A junction box disclosure report was submitted to NMOCD with all the 2002 junction box closures and disclosures.

Investigation and Characterization Report

As part of the Investigation and Characterization Plan (ICP) submitted to NMOCD on May 22nd, 2012 and approved on May 30th, 2012, RECS personnel were on site to conduct soil bore investigations on July 12th, 2012 (Figure 2). Two soil bores were installed at the site in the areas with the highest chloride readings and samples were taken at regular intervals for chloride and hydrocarbon field testing. Representative samples from each bore were taken to a commercial laboratory for confirmation of field numbers. SB-1 returned chloride results of 32 mg/kg at the surface and 80 mg/kg at 6 ft bgs. SB-2 returned chloride results of 450 mg/kg at 15 ft bgs and 256 mg/kg at 24 ft bgs. GRO and DRO readings throughout both bores were non-detect (Appendix A).

Based on the soil bore information, it is evident that the residual chlorides in the vadose zone are so low that they will in no way contribute to the degradation of groundwater beneath the site. In addition, the 20 ft x 20 ft compacted clay layer will also inhibit the downward migration of residual chlorides to groundwater. Finally, the site is located within an active land farm, so re-vegetation of the site is not warranted (Appendix B). Therefore, ROC requests 'remediation termination' status of the regulatory file.

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

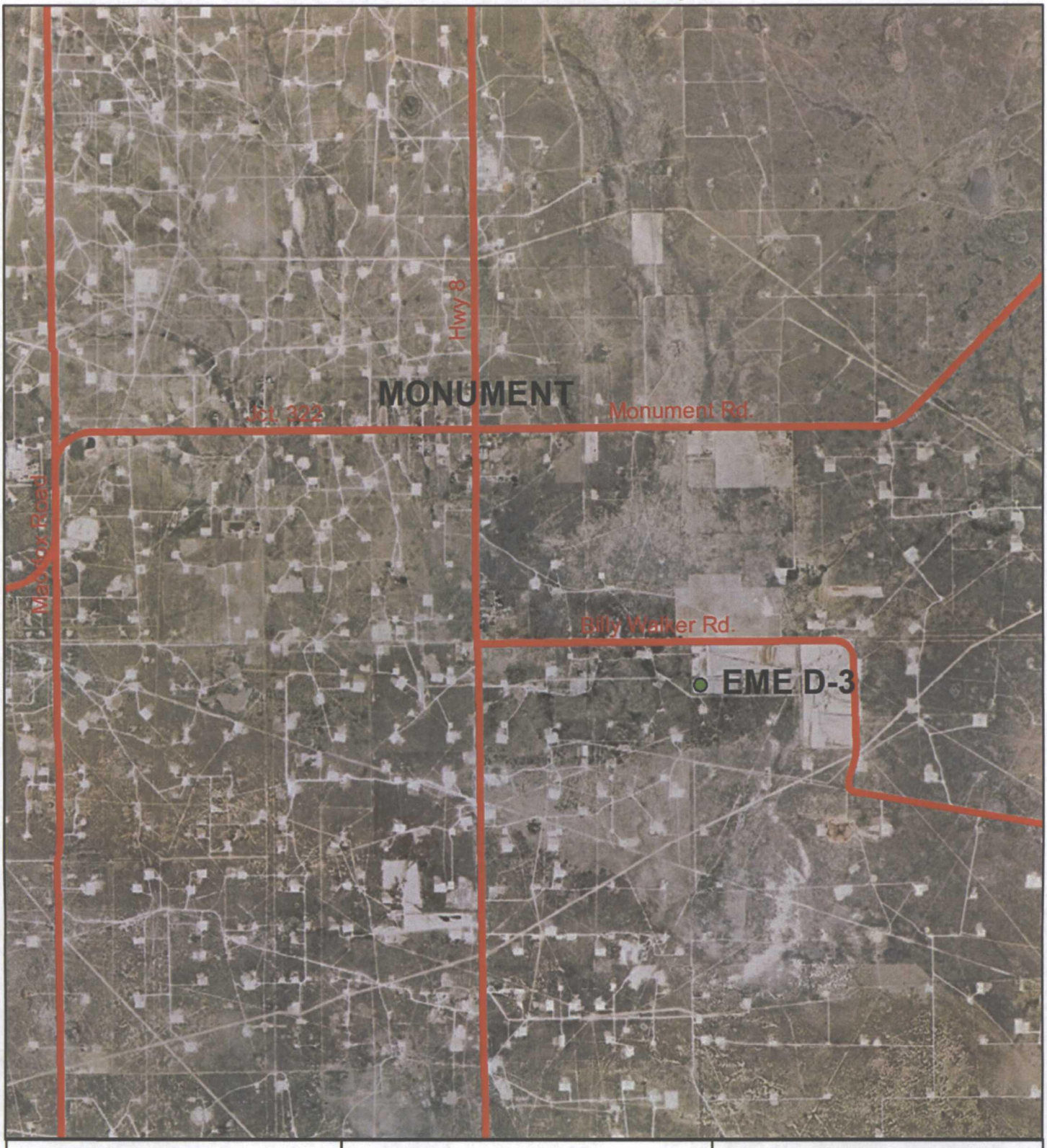
Attachments:

- Figure 1 – Site Location Map
- Figure 2 – Soil Bore Installation Map
- Appendix A – Soil Bore Installation Documentation
- Appendix B – Site Photo

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



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC
RECS

EME D-3

Legals: UL/D sec. 3
T-20-S R-37-E
LEA COUNTY, NM
NMOCD Case#: 1R427-86

Figure 1

N
W E
S

0 0.3 0.6 1.2
Miles

Drawing date: 5-8-12
Drafted by: L. Weinheimer

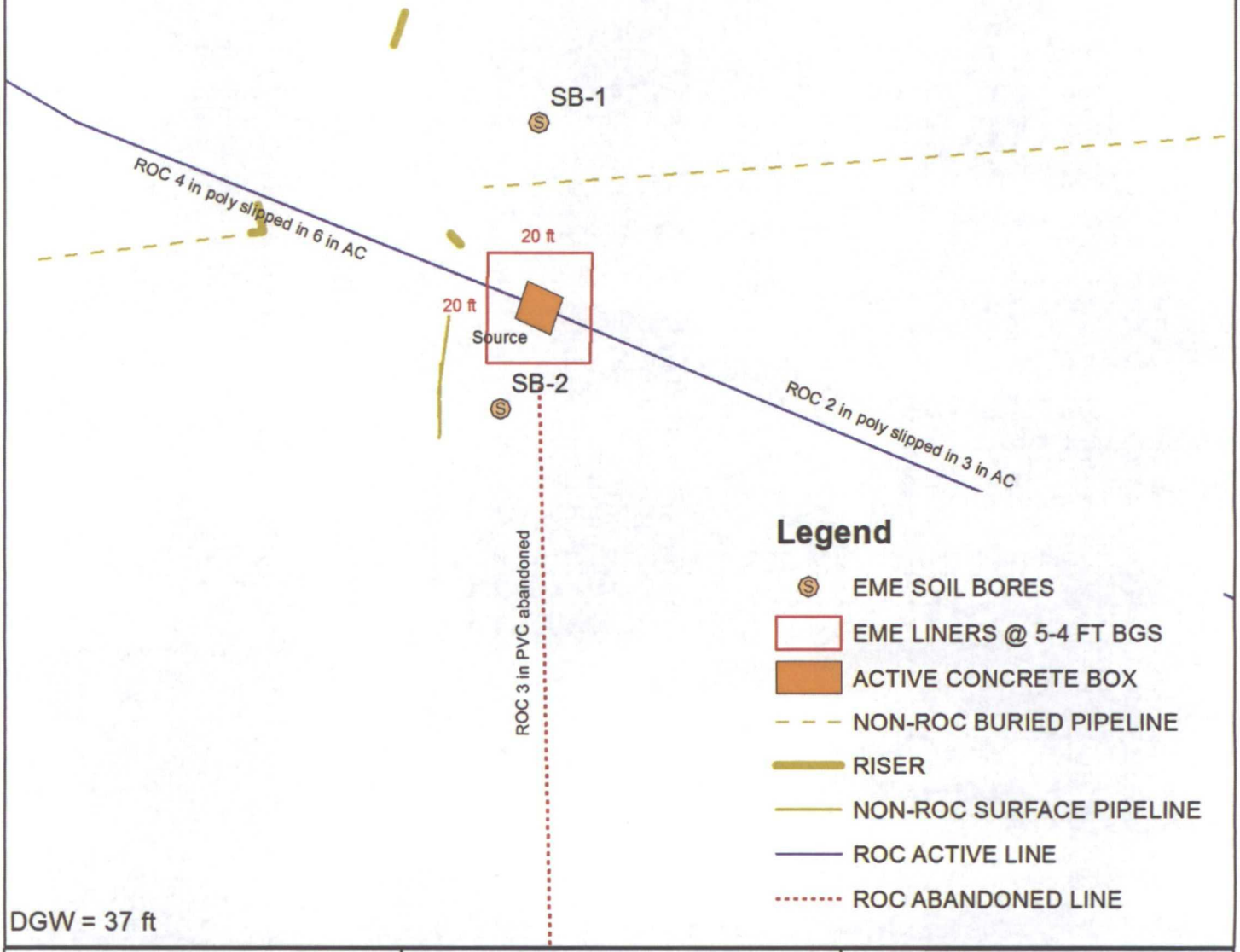
Soil Bore Installation

SB-1

Depth	Cl-	PID	LAB Cl-	GRO	DRO
SS	113	27.7	32	<10	<10
3	91	25.8			
6	90	13.8	80	<10	<10

SB-2

Depth	Cl-	PID	LAB Cl-	GRO	DRO
15	450	16.3	450	<10	<10
18	363	5.4			
21	330	10.9			
24	252	10.5	256	<10	<10



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME D-3

Legals: UL/D sec. 3
T-20-S R-37-E
LEA COUNTY, NM

NMOCD Case#: 1R427-86

Figure 2

N W E S

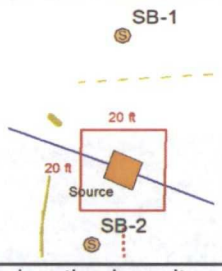
0 15 30 60 Feet

Drawing date: 7-23-12
Drafted by: L. Weinheimer

Appendix A

Soil Bore Installation Documentation

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

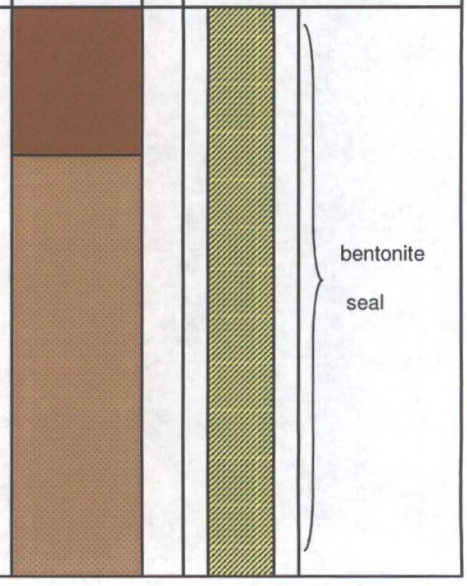
Logger:	Kyle Norman		
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air Rotary		**Project Name:** EME D-3 **Well ID:** SB-1
Start Date:	7/12/2012		
End Date:	7/12/2012		**Project Consultant:** RECS

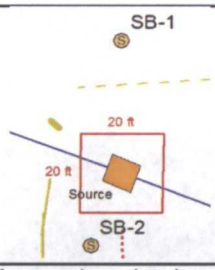
Comments: Located 35 ft. north of the former junction box site.
All samples were from cuttings.
DRAFTED BY: A.C. Ruth
TD = 6 ft. GW = 37 ft.

Location: UL/D sec. 3 T-20-S R-37-E

Lat: 32°36'25.719"N **Long:** 103°14'49.316"W **County**: Lea **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Brown Sand
SS	113	Cl- 32	27.7	
		GRO <10		Tan Sand
		DRO <10		
3 ft	91		25.8	
6 ft	90	Cl- 80	13.8	
		GRO <10		
		DRO <10		



Logger:	Kyle Norman		
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air Rotary		**Project Name:** EME D-3 **Well ID:** SB-2
Start Date:	7/12/2012		
End Date:	7/12/2012		**Project Consultant:** RECS

Comments: Located 21 ft. southwest of the former junction box site. All samples were from cuttings.

DRAFTED BY: A.C. Ruth

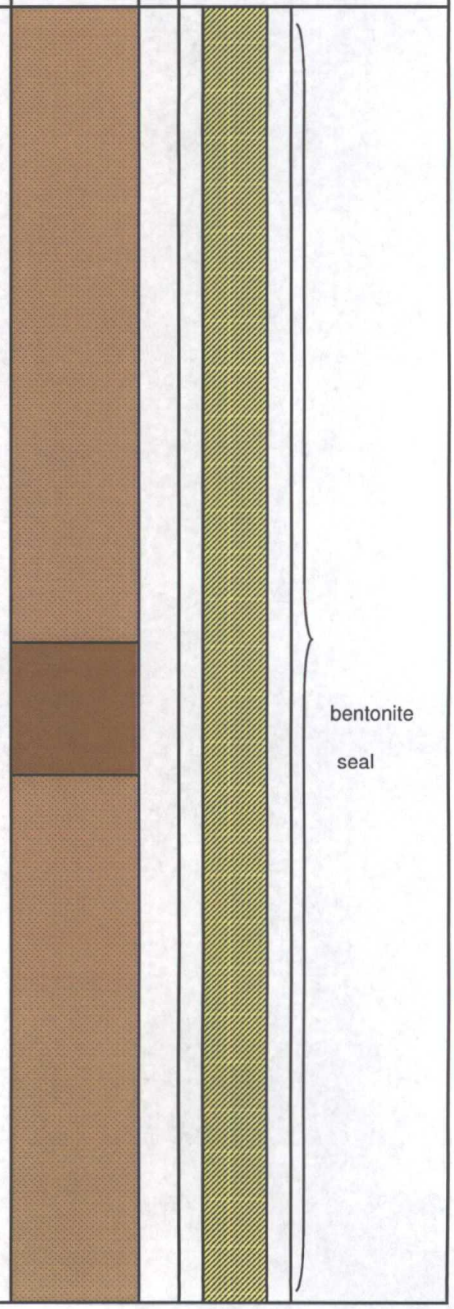
TD = 24 ft. GW = 37 ft.

Location: UL/D sec. 3 T-20-S R-37-E

Lat: 32°36'25.17"N **County**: Lea

Long: 103°14'49.405"W **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description
				Tan Sand
SS				
3 ft				
6 ft				
9 ft				
12 ft				
				Moist Tan Sand
15 ft	450	Cl- 450	16.3	
		GRO <10		Tan Sand
		DRO <10		
18 ft	363		5.4	
21 ft	330		10.9	
24 ft	252	Cl- 256	10.5	Tan Sand
		GRO <10		
		DRO <10		



CARDINAL Laboratories

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

July 17, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME D-3 20S/37E

Enclosed are the results of analyses for samples received by the laboratory on 07/12/12 15:26.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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 accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	07/12/2012	Sampling Date:	07/12/2012
Reported:	07/17/2012	Sampling Type:	Soil
Project Name:	EME D-3 20S/37E	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 1 @ SURFACE (H201596-01)

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	07/16/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: AM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2012	ND	174	87.0	200	0.184	
DRO >C10-C28	<10.0	10.0	07/16/2012	ND	185	92.6	200	5.08	

Surrogate: 1-Chlorooctane	*80.8 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*101 %*	*63.6-154*

Sample ID: SB 1 @ 6' (H201596-02)

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	07/16/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: AM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2012	ND	174	87.0	200	0.184	
DRO >C10-C28	<10.0	10.0	07/16/2012	ND	185	92.6	200	5.08	

Surrogate: 1-Chlorooctane	*83.0 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*104 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	07/12/2012	Sampling Date:	07/12/2012
Reported:	07/17/2012	Sampling Type:	Soil
Project Name:	EME D-3 20S/37E	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 @ 15' (H201596-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**450**	16.0	07/16/2012	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: AM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2012	ND	174	87.0	200	0.184	
DRO >C10-C28	<10.0	10.0	07/16/2012	ND	185	92.6	200	5.08	

Surrogate: 1-Chlorooctane	*82.3 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*105 %*	*63.6-154*

Sample ID: SB 2 @ 24' (H201596-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	07/16/2012	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: AM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/16/2012	ND	174	87.0	200	0.184	
DRO >C10-C28	<10.0	10.0	07/16/2012	ND	185	92.6	200	5.08	

Surrogate: 1-Chlorooctane	*80.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*102 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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	**BILL TO**
Project Manager: Hack Conder	P.O. #:
Address:	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: EME D3 20S 37E	Phone #:
Sampler Name: Kyle Norman	Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS						
H201596																										
1	SB1 @ Surface	G	1			✓					✓		7-12-12	11:30	✓	✓										
2	SB1 @ 6'	G	1			✓					✓		"	11:45	✓	✓										
3	SB2 @ 15'	G	1			✓					✓		"	12:00	✓	✓										
4	SB 2 @ 24'	G	1			✓					✓		"	12:30	✓	✓										

Relinquished By:	Date: 7-12-12	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No	Add'l Phone #:	
	Time: 3:26		Fax Result: ☐ Yes ☑ No	Add'l Fax #:	
Relinquished By:	Date:	Received By:	REMARKS: email results: zconder@rice-ecs.com Knorman@rice-ecs.com; lpena@riceswd.com Kjones@riceswd.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com		
	Time:				
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials)			

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

Appendix B

Site Photo

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

EME D-3
Unit Letter D, sec. 3, T-20-S R-37-E
1R427-86

Site Location Photo, facing south 6-28-12

Hansen, Edward J., EMNRD

From: Hansen, Edward J., EMNRD
Sent: Wednesday, May 30, 2012 6:04 PM
To: Hack Conder (hconder@riceswd.com)
Cc: Leking, Geoffrey R, EMNRD; Laura Pena (lpena@riceswd.com); Lara Weinheimer (lweinheimer@rice-ecs.com)
Subject: ICP Approval (1R427-86) - ROC EME D-3 Site

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has reviewed the submitted revised Investigation & Characterization Plan (ICP), dated May 22, 2012, for the below-referenced site. The OCD hereby conditionally approves the following ICP for the Rice Operating Company (ROC) site:

> Rice EME D-3 Site submitted by Rice Environmental Consulting & Safety (RECS) on 5/24/2012 #1R427-86
>
> ROC must submit an ICP report to the OCD within 90 days.

Also, please be advised that OCD approval of this plan does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau