

1R - 427-10

REPORTS

DATE:

7-15-11

Rice Environmental Consulting & Safety

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

RECEIVED OCD

2011 JUL 18 A 11: 37

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0003 0323 9162

July 15th, 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: **Termination Request**
Rice Operating Company – EME SWD System
EME P-27 EOL (1R427-10): UL/P sec. 27 T20S R36E

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/usage basis.

Background and Previous Work

The site is located approximately 7 miles south-west of Monument, New Mexico or 4.5 miles west of the intersection of Maddox Road and Hwy 8 at UL/P sec. 27 T20S R36E as shown on the Site Location Map (Figure 1).

In 2003, ROC initiated work on the former EME P-27 EOL junction box. The site was delineated using a backhoe to form a trench. Soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the trench, the bottom sample was taken to a commercial laboratory for analysis. Laboratory tests of the bottom sample showed a chloride reading of 1,400 mg/kg, negligible gasoline range organics (GRO) and diesel range organics (DRO). The benzene reading for the bottom sample was 0.115 mg/kg, the toluene reading was 0.076 mg/kg, the ethyl benzene reading was non-detect and the xylene reading was 0.029 mg/kg.

The site was backfilled and NMOCD was notified of potential groundwater impact on July 23rd, 2003. A junction box disclosure report was submitted to NMOCD with all the 2003 junction box closures and disclosures.

ROC proposed additional investigative work at the site to determine if there is potential for groundwater degradation from residual chlorides and hydrocarbons at the site.

Proposed Work Elements

1. Conduct vertical and lateral delineation of residual soil hydrocarbons and chlorides from samples taken using a drill rig, hand auger, and/or backhoe
 - a. Vertical sampling will be conducted until the following criteria are met in the field.
 - i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of ≤ 250 ppm; and,
 - ii. Three samples in which PID readings decrease and the third sample has a PID reading of ≤ 100 ppm; or,
 - iii. The sampling reaches the capillary fringe.
 - b. Lateral sampling will be conducted until the following criteria are met in the field.
 - i. A decrease is observed in chloride concentrations between lateral bores at similar depths; and,
 - ii. A chloride concentration of ≤ 250 ppm is observed in a lateral surface sample; or,
 - iii. Safety concerns impede further lateral delineation.
2. If warranted, install a monitor well to provide direct measurement of the potential groundwater impact at the site. (All monitor wells will be installed by EPA, NMOCD, and industry standards.)
3. Evaluate the risk of groundwater impact based on the information obtained.

ICP Investigative Results

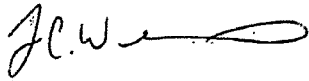
As part of the Investigation and Characterization Plan approved by NMOCD on May 19th, 2011, one soil bore was advanced through the former junction box site to an approximate depth of 117 ft bgs on May 27th, 2011 (Figure 2). ROC personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID). Representative samples from the bore were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers (Appendix A). Laboratory readings showed chloride numbers of 2,040 mg/kg at 30 ft bgs, 768 mg/kg at 90 ft bgs, and 1,900 mg/kg at 100 ft bgs. Laboratory readings for GRO and DRO showed non-detect in all samples. Although sampling ceased at 100 ft bgs at the red bed clay aquatard, the soil bore was continued to an approximate depth of 117 ft bgs to determine depth to groundwater. The soil bore was left open to allow any groundwater to accumulate. On June 10th, 2011, Arc Environmental personnel visited the site to check for groundwater in the bore hole. The bore was measured with a Solinst Water Level Meter and the meter indicated no water within the borehole to a total depth of 120.35 ft bgs (Appendix B). The soil bore was plugged with bentonite to the ground surface on 6/17/2011.

Based on the fact that there is no groundwater below the former P-27 EOL junction box, the site will in no way contribute to groundwater impairment. In addition, the site is returning to normal vegetative capacity (Figure 3) which will provide an evapo-transpiration barrier at the site inhibiting the downward migration of chlorides. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone. Since there is no groundwater

present at the site and that the site is returning to normal vegetative capacity, ROC requests that the site be given "remediation termination" of the regulatory file.

ROC 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,

A handwritten signature in black ink, appearing to read "L.W." followed by a stylized flourish.

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Site location map
- Figure 2 – Up gradient site location map
- Figure 3 – Soil bore installation plat
- Figure 4 – Site photo on 5/6/2011

- Appendix A – Soil bore installation logs and laboratory confirmation
- Appendix B – Groundwater confirmation letter



Figures

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



EME P-27 EOL

**LEGALS: UL/P sec. 27
T20S R36E**

NMOCD Case#: 1R427-10

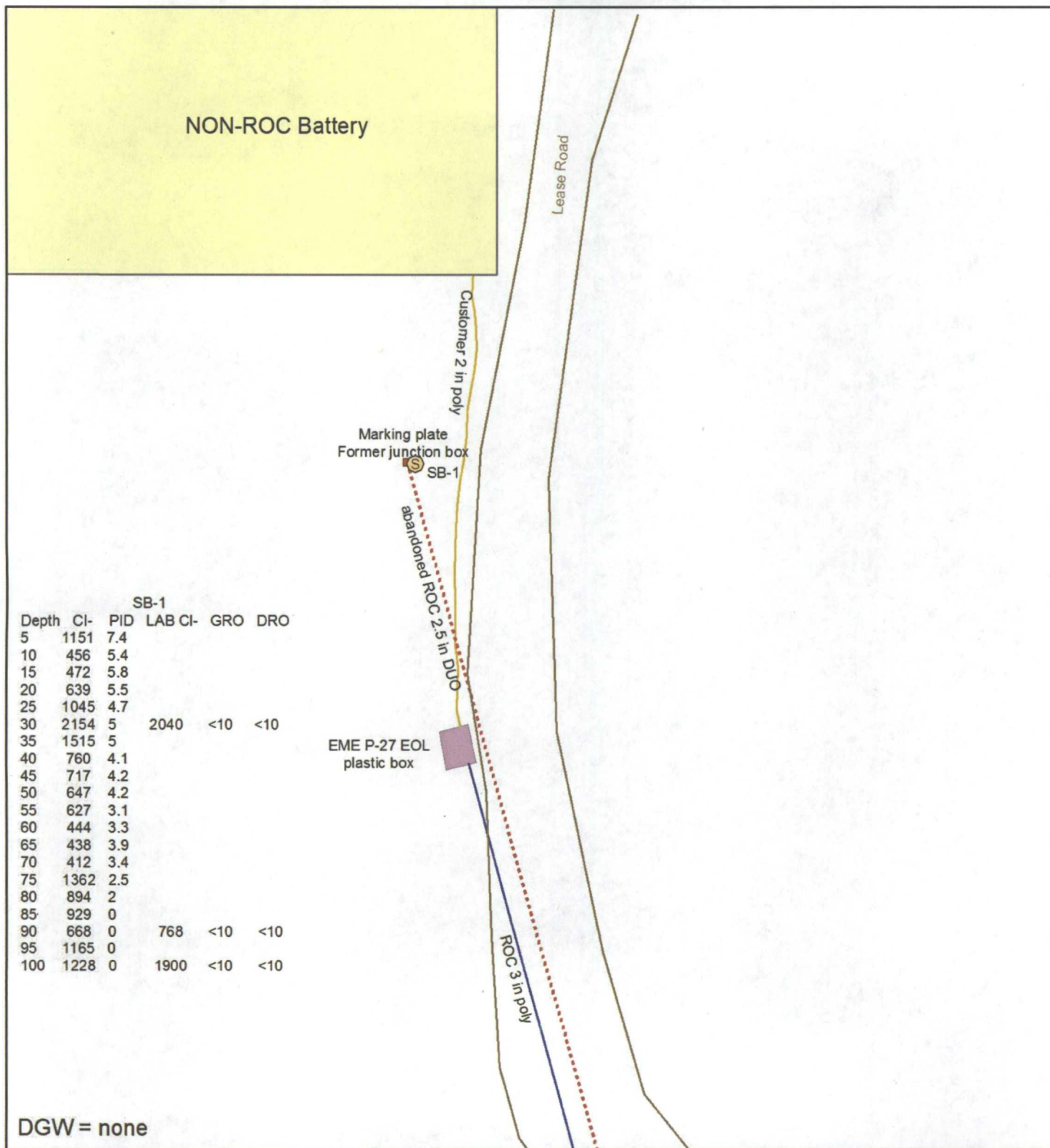
Figure 1



0 0.3 0.6 1.2
Miles

Drawing date: 4-14-11
Drafted by: L. Weinheimer

Soil bore installation

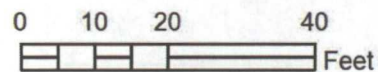


EME P-27 EOL

LEGALS: UL/P sec. 27
T20S R36E

NMOCD Case#: 1R427-10

Figure 2



Drawing date: 7-12-11
Drafted by: L. Weinheimer



EME P-27 EOL site photo, facing west

5/6/2011



EME P-27 EOL site photo, facing north

5/6/2011

Figure 3



Appendix A

Soil bore installation and laboratory confirmation

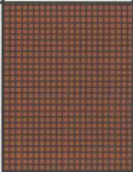



RICE Environmental Consulting and Safety (RECS)

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		Project Name:	Well ID:				
Start Date:	5/27/2011		EME P-27 EOL	SB-1				
End Date:	5/27/2011	Project Consultant: RECS						
Comments: Located 1.5 ft east of the former junction box site. All samples were taken from cuttings. <u>SOIL BORE PLUGGED 6-17-11</u> DRAFTED BY: L. Weinheimer TD = 117 ft GW = none		Location: UL/P sec. 27 T20S R36E Lat: 32°32'16.493"N County: Lea Long: 103°20'10.277"W State: NM						
Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction		
				Tan very fine silty sand				
5 ft	1151		7.4					
10 ft	456		5.4	Red very fine silty sand				
15 ft	472		5.8					
20 ft	639		5.5	Tan to red very fine sand (wet)				
25 ft	1045		4.7					
30 ft	2154	CI-2040	5					
		GRO <10.0						
		DRO <10.0						
35 ft	1515		5					
40 ft	760		4.1					

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
45 ft	717		4.2			
50 ft	647		4.2			
55 ft	627		3.1			
60 ft	444		3.3			
65 ft	438		3.9	Light brown very fine sand (wet)		
70 ft	412		3.4			
75 ft	1362		2.5			
80 ft	894		2			
85 ft	929		0			
90 ft	668	Cl- 768	0			
		GRO <10.0				
		DRO <10.0				
95 ft	1165		0	Brown to red sandy clay		

annular
space
left open
SOIL BORE
PLUGGED
6/17/2011

Depth (feet)	chloride field tests	LAB	PID	Description		Lithology		Well Construction		
				Red clay						
100 ft	1228	CI-1900	0							
		GRO <10.0		NO SAMPLES TAKEN						
		DRO <10.0								
105 ft										
110 ft										
115 ft										
117 ft										



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

June 01, 2011

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME P-27 EOL

Enclosed are the results of analyses for samples received by the laboratory on 05/27/11 15:07.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

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: 05/27/2011
 Reported: 06/01/2011
 Project Name: EME P-27 EOL
 Project Number: NOT GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 05/27/2011
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Caley D. Keene

Sample ID: SB1 @ 30' (H101102-01)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2040	16.0	05/31/2011	ND	448	112	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	05/31/2011	ND	203	101	200	1.89	
DRO >C10-C28	<10.0	10.0	05/31/2011	ND	163	81.7	200	0.0275	
Surrogate: 1-Chlorooctane	121 %	70-130							
Surrogate: 1-Chlorooctadecane	128 %	70-130							

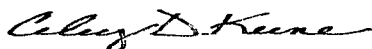
Sample ID: SB1 @ 90' (H101102-02)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	05/31/2011	ND	448	112	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	05/31/2011	ND	203	101	200	1.89	
DRO >C10-C28	<10.0	10.0	05/31/2011	ND	163	81.7	200	0.0275	
Surrogate: 1-Chlorooctane	118 %	70-130							
Surrogate: 1-Chlorooctadecane	125 %	70-130							

Cardinal Laboratories

*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

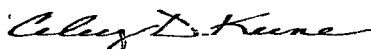
Notes and Definitions

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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Celest D. Keene, Lab Director/Quality Manager



Page 4 of 4

Company Name: RICE				BILL TO				ANALYSIS REQUEST																																					
Project Manager: HACK Conder				P.O. #:				<div>CL TP-HOBSON</div>																																					
Address: 122 W. TAYLOR				Company:																																									
City: HOBBBS State: TX Zip:				Attn:																																									
Phone #: Fax #:				Address:																																									
Project #: Project Owner:				City:																																									
Project Name: EME P-27 EOC				State: Zip:																																									
Project Location:				Phone #:																																									
Sampler Name: Jordan Woodfin				Fax #:																																									
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																																			
Lab I.D.		Sample I.D.		(G)RABOR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME																	
H101102-				9		1						X										X				5-27-11		900		X		X													
		01 SB 1 @ 30'		9		1						X										X				11		950		X		X													
		02 SB 1 @ 90'																																											
<p>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 the client for the 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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</p>																																													
Relinquished By:				Date: 5/27/11		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		<p>REMARKS: Email cwerybamer@Rice-ecg.com SWD@Rice-ecg.com KJONES@RiceSWD.com HACK@RiceSWD.com</p>																															
Relinquished By:				Time: 3:07		Received By:		Add'l Fax #:																																					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:				Date:		Time:																																							
Sample Condition				Cool Intact		CHECKED BY: (Initials)																																							
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																									

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

#26



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

June 01, 2011

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

RE: EME P-27 EOL

Enclosed are the results of analyses for samples received by the laboratory on 05/27/11 15:07.

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Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
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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,

Caley 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: 05/27/2011
Reported: 06/01/2011
Project Name: EME P-27 EOL
Project Number: NOT GIVEN
Project Location: NOT GIVEN

Sampling Date: 05/27/2011
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Caley D. Keene

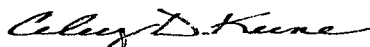
Sample ID: SB1 @ 100' (H101101-01)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1900	16.0	05/31/2011	ND	448	112	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	05/31/2011	ND	203	101	200	1.89	
DRO >C10-C28	<10.0	10.0	05/31/2011	ND	163	81.7	200	0.0275	
Surrogate 1-Chlorooctane	115 %	70-130							
Surrogate 1-Chlorooctadecane	108 %	70-130							

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*=Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

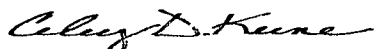
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RPD	Relative Percent Difference
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***	Insufficient time to reach temperature.
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	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

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

EME P-27 EOL

Unit P, Section 27, T20S, R36E



Drilling the soil bore, facing S

5/27/2011



Packing the top of the bore with bentonite 5/27/2011



Inserting 2 in casing into well, facing S

5/27/2011



Plugging the SB in total with bentonite

6/17/2011



Appendix B

Groundwater confirmation letter

RICE Environmental Consulting and Safety (RECS)

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

Arc Environmental

P! O. Box 1772
Lovington, New Mexico 88260
(575) 631-9310
Rozanne Johnson ~ rozanne@valornet.com

June 10, 2011

Mr. Hack Conder
RICE Operating Company
112 West Taylor
Hobbs, New Mexico 88240

Re: EME P-27 EOL

Mr. Conder,

On Tuesday June 7, 2011 soil bore #1 at the EME P-27 EOL, Lea County T20S, R36E, Sec 27 Unit Letter P was checked with a Solinist Water Level Meter for water accumulation within the borehole. The meter indicated no water within the borehole at a total depth of 120.35 feet.

Sincerely,
Arc Environmental

Rozanne Johnson
Rozanne Johnson

Electronic Copy: Hack Conder
Katie Jones