1R - 427-08

REPORTS

DATE:

9-16-11

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

CERTIFIED MAIL
RETURN RECIEPT NO. 7008 1140 0001 3068 8517

September 16th, 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: **ICP Report and Termination Request**
Rice Operating Company – EME SWD System
EME jct. D-25 (1R427-08): UL/D sec. 25 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 6 miles south-west of Monument, New Mexico at UL/D sec. 25 T20S R36E as shown on the Site Location Map (Figure 1). NM OSE records indicated that groundwater would likely be encountered at a depth of approximately 68 +/- feet, but a soil bore drilled to a depth of 90 ft below ground surface (bgs) confirmed groundwater is not present beneath this site.

In 2002, ROC initiated work on the former EME D-25 junction box. The site was delineated using a backhoe and soil samples were screened at regular intervals for both hydrocarbons and chlorides. The excavation reached dimensions of 40 x 33 x 15 feet bgs where composite samples were collected for laboratory verification. Laboratory tests of the site showed gasoline range organics (GRO) readings of 723 mg/kg in the 4-wall composite, 1,210 mg/kg in the bottom composite and negligible readings in the remediated backfill. Diesel range organics (DRO) ranged from 265 mg/kg in the 4-wall composite, 538 mg/kg in the bottom composite, and 138 mg/kg in the remediated backfill. Chlorides at the site ranged from 727 mg/kg on the 4-wall composite, 727 mg/kg for the bottom composite at 15 ft bgs, and 88.6 mg/kg for the remediated backfill. A clay layer was installed at the bottom of the excavation to inhibit further chloride migration. The soils were blended on site and then backfilled into the excavation. The area was contoured to the surrounding landscape and an identification plate was placed on the surface of

the site to mark its location for future environmental considerations. A new junction box was not required at the site.

NMOCD was notified of potential groundwater impact on January 31, 2003 and 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 was a potential for groundwater degradation from residual chlorides and/or hydrocarbons at the site.

ICP Investigative Results

As part of the Investigation and Characterization Plan (ICP) approved by NMOCD on September 28th, 2010, a soil bore was advanced through the former junction box site on October 21st, 2010. The soil bore (SB-1) was drilled to a depth of 90 ft bgs with soil samples collected at regular intervals to a depth of 60 ft bgs. The boring (Appendix A) showed relatively low chloride readings and moderately high PID (Photo-ionization Detector) readings that decreased with depth. Representative samples from the bore were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers. Laboratory readings showed chloride numbers of 256 mg/kg at 20 ft bgs, 720 mg/kg at 55 ft bgs, and 112 mg/kg at 60 ft bgs. Laboratory readings for GRO showed numbers of 210 mg/kg at 20 ft bgs, 189 mg/kg at 55 ft bgs, and <10 mg/kg at 60 ft bgs. Laboratory DRO readings showed numbers of 1,180 mg/kg at 20 ft bgs, 1,900 mg/kg at 55 bgs, and 42.8 mg/kg at 60 ft bgs. Laboratory BTEX numbers showed non-detect at 20 ft bgs, and at 55 ft bgs, BTEX numbers were Benzene <0.1, Toluene <0.1, Ethyl Benzene 0.223, and Xylene 0.847.

Red bed clay was encountered at 55 ft bgs through 90 ft bgs which indicates the base of the water table. Since water was not encountered above the red bed clay, the bore hole was left open for 48 hours to determine if groundwater would seep back into the bore hole. On October 23rd, 2010, 48 hours after the bore was left open, Harrison & Cooper Drilling, Inc. checked the bore for water and found no water in the bore hole (Appendix B). The soil bore was then plugged in entirety with bentonite.

Recommendations

Based on the fact that there is no groundwater below the former D-25 junction box, the site will in no way contribute to groundwater impairment. In addition, the site is located on a right of way (R-O-W); therefore, seeding is not required (Appendix C). Because there is no groundwater below the site and seeding is not required, RECS requests "remediation termination" status of the regulatory file.

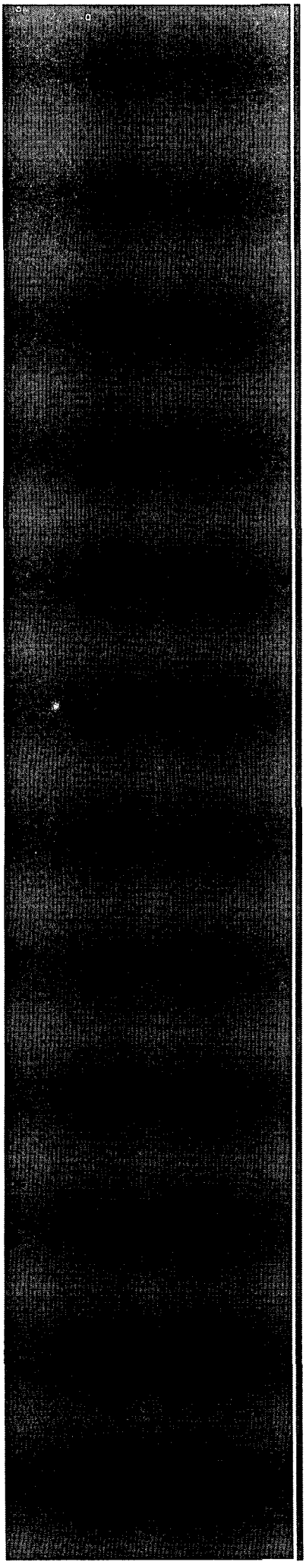
ROC appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

Figures – Site location map
Appendix A – Soil Bore Log and Laboratory Analysis
Appendix B – Depth to Groundwater report
Appendix C – Site photos



Figures

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

Site Location

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME jct. D-25

Legals: UL/D sec. 25
T20S R36E
NMOCD Case #: 1R427-08

FIGURE 1

N W E S

0 1,750 3,500 7,000 Feet

Drawing date: 7-13-10
Drafted by: L. Weinheimer

Appendix A

Soil Bore Log and Laboratory Analysis

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

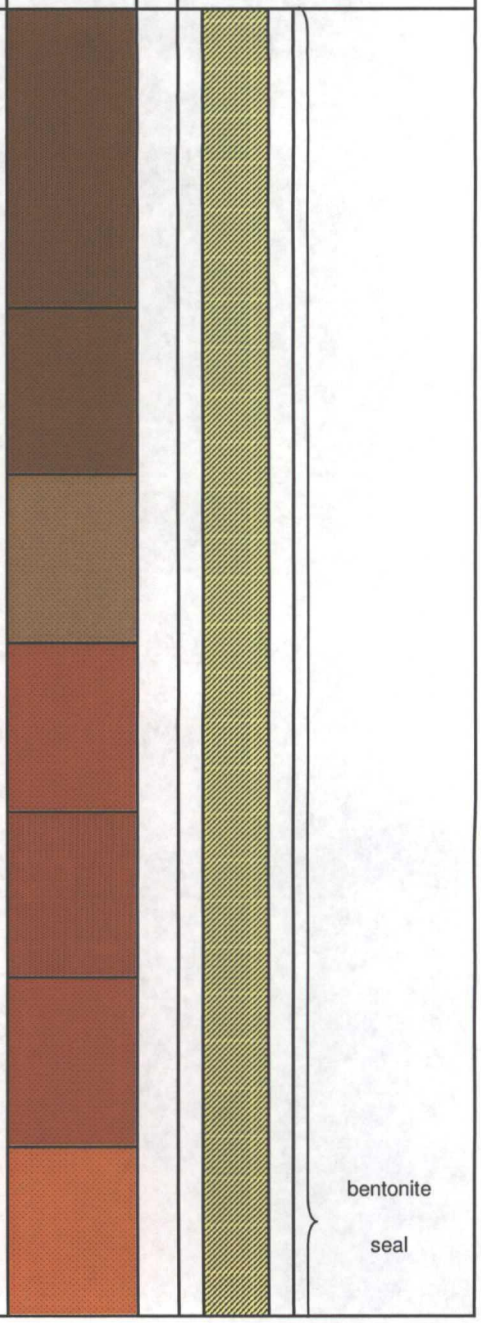
Logger:	Jordan Woodfin	SB-1	RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air rotary		**Project Name:** EME jct. D-25 **Well ID:** SB-1
Start Date:	10/21/2010		
End Date:	10/21/2010		**Project Consultant:** RECS

Comments: Located at the source of the former junction box site.
All samples were from split spoon sampling.
DRAFTED BY: LARA WEINHEIMER
TD = 90 ft GW = none

Location: UL/D sec. 25 T20S R36E

Lat: 32°32'51.424"N **County**: LEA
Long: 103°18'47.339"W **State**: NM

Depth (feet)	chloride field tests	LAB	PID	Description
				Dark Brown to black fine grain sand with caliche fragments. Hydrocarbon odor.
15 ft	225		691	
20 ft	307	Cl- 256	1381	
B <0.1 T <0.1		GRO 210		Brown fine grain sand with caliche fragments. Hydrocarbon odor.
E <0.1 X <0.1		DRO 1180		
25 ft	277		148	
				Light brown very fine grain sand. Hydrocarbon odor.
30 ft	273		214	
				Very fine grain red sand. Hydrocarbon odor.
35 ft	379		260	
				Very fine grain red sand with caliche fragments. Hydrocarbon odor.
40 ft	330		116	
				Very fine red sand.
45 ft	578		72.6	
				Light red very fine sand.
50 ft	570		11.9	



Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brownish red fine grain sand.		
55 ft	649	Cl- 720	409			
B <0.1 T <0.1		GRO 189		Red clay		
E 0.223 X 0.847		DRO 1900				
60 ft	254	Cl- 112	21.4			
		GRO <10				
		DRO 42.8				
65 ft						
70 ft						
80 ft						
85 ft						
90 ft						

CARDINAL Laboratories

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

October 28, 2010

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JCT D-25

Enclosed are the results of analyses for samples received by the laboratory on 10/22/10 7:58.

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 Hydorcarbons

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

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 (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:	10/22/2010	Sampling Date:	10/21/2010
Reported:	10/28/2010	Sampling Type:	Soil
Project Name:	EME JCT D-25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EME JCT D-25		

Sample ID: SB #1 @ 20' (H021121-01)

BTEX 8260B mg/kg **Analyzed By: CMS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	10/27/2010	ND	1.00	100	1.00		
Toluene*	<0.100	0.100	10/27/2010	ND	0.970	97.0	1.00		
Ethylbenzene*	<0.100	0.100	10/27/2010	ND	1.04	104	1.00		
m+p - Xylene	<0.200	0.200	10/27/2010	ND	2.07	103	2.00		
o-Xylene	<0.100	0.100	10/27/2010	ND	1.02	102	1.00		
Total Xylenes*	<0.100	0.100	10/27/2010	ND	3.09	103	3.00		

Surrogate: Dibromofluoromethane	*83.8 %*	*80-120*
Surrogate: Toluene-d8	*95.4 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*99.0 %*	*80-120*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	10/22/2010	ND	416	104	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	**210**	10.0	10/22/2010	ND	211	105	200	6.63	
DRO >C10-C28	**1180**	10.0	10/22/2010	ND	180	90.2	200	5.39	

Surrogate: 1-Chlorooctane	*114 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*106 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

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:	10/22/2010	Sampling Date:	10/21/2010
Reported:	10/28/2010	Sampling Type:	Soil
Project Name:	EME JCT D-25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EME JCT D-25		

Sample ID: SB #1 @ 55' (H021121-02)

BTEX 8260B mg/kg **Analyzed By: CMS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	10/27/2010	ND	1.00	100	1.00		
Toluene*	<0.100	0.100	10/27/2010	ND	0.970	97.0	1.00		
Ethylbenzene*	**0.223**	0.100	10/27/2010	ND	1.04	104	1.00		
m+p - Xylene	**0.839**	0.200	10/27/2010	ND	2.07	103	2.00		
o-Xylene	<0.100	0.100	10/27/2010	ND	1.02	102	1.00		
Total Xylenes*	**0.847**	0.100	10/27/2010	ND	3.09	103	3.00		

Surrogate: Dibromofluoromethane	*86.8 %*	*80-120*
Surrogate: Toluene-d8	*92.6 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*100 %*	*80-120*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**720**	16.0	10/22/2010	ND	416	104	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	**189**	10.0	10/22/2010	ND	211	105	200	6.63	
DRO >C10-C28	**1900**	10.0	10/22/2010	ND	180	90.2	200	5.39	

Surrogate: 1-Chlorooctane	*112 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*118 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

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:	10/22/2010	Sampling Date:	10/21/2010
Reported:	10/28/2010	Sampling Type:	Soil
Project Name:	EME JCT D-25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	EME JCT D-25		

Sample ID: SB #1 @ 60' (H021121-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	10/22/2010	ND	416	104	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	10/22/2010	ND	211	105	200	6.63	
DRO >C10-C28	**42.8**	10.0	10/22/2010	ND	180	90.2	200	5.39	

Surrogate: 1-Chlorooctane	*95.4 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*92.5 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

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

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 Operating Company	**BILL TO**
Project Manager: Hack Conder	**P.O. #:**
Address: 122 West Taylor	**Company:**
City: Hobbs **State:** NM **Zip:** 88240	**Attn:**
Phone #: 575-393-9174 **Fax #:** 575-397-1471	**Address:**
Project #: **Project Owner:**	**City:**
Project Name: EME Jct D-25	**State:** **Zip:**
Project Location: EME Jct D-25	**Phone #:**
Sampler Name: Jordan Woodfin	**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							
H21121-1	SB # 1 @ 20ft		1			✓					✓		10/21/10	09:30	✓	✓	✓								
2	SB # 1 @ 55ft		1			✓					✓		10/21/10	09:50	✓	✓	✓								
3	SB # 1 @ 60ft		1			✓					✓		10/21/10	10:15	✓	✓									

Relinquished By: Jordan Woodfin	**Date:** 10/22/10 **Time:** 9:20	**Received By:**	
Relinquished By:	**Date:** 10/22/10 **Time:** 7:58	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	**CHECKED BY: (Initials)**	

Phone Result:	☐ Yes	☑ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☑ No	**Add'l Fax #:**

REMARKS:

email results

Hconder@riceswd.com; jwoodfin@riceswd.com;
Lweinheimer@riceswd.com kjones@riceswd.com

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

#24

NEED SAMPLES BACK, PLEASE

EME jct. D-25

Soil bore installation

Drilling the soil bore

Split spoon sample

Gauging the soil bore for water

Completed soil bore

Appendix B

Depth to Groundwater report

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

HARRISON & COOPER, INC.

Drilling & Pump Professionals

7414 85th Street, Lubbock, Texas 79424-4951

P.O. Box 96, Wolfforth, Texas 79382-0096

Ph: (806) 866-4026 Fax: (806) 866-4044 harrisoncooper-drilling.com

November 1, 2010

Rice Operating Co.
112 W. Taylor
Hobbs, NM 88240

Attn: Lara Weinheimer

RE: EME Jct. D-25, Monument, NM
Bore Hole Condition

To whom it may concern:

On October 21, 2010, Harrison and Cooper were contracted by Rice Operating to drill and sample a soil boring at the subject site. The soil boring was drilled to approximately 90 feet in an effort to determine whether or not a saturated interval existed. After a fourty-eight hour holdover time the moisture content at that depth was NON-detectable.

If any questions arise from this issue, do not hesitate to contact a representative with Harrison and Cooper.

Sincerely,

Kenny Cooper
Operations Manager

Copies: File
Email (Lara Weinheimer)

Appendix C

Site Photos

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

Site photo, facing north 8/19/11

Site photo, facing west 8/19/11