1R - 427-07

REPORTS

DATE:

9-24-10

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

CERTIFIED MAIL
RETURN RECIEPT NO. 7009 1680 0001 6619 6323

September 24th, 2010

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. O-24 (1R427-07): UL/O sec. 24 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 (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 5 miles south-west of Monument, New Mexico at UL/O sec. 24 T20S R36E as shown on the Site Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 36 - 117 +/- feet depending on its location relative to the hydrogeologic boundary line which shows depth to groundwater reading of around 36 feet north of the boundary line to 117 feet south of the boundary line.

In 2002 ROC initiated work on the former EME O-24 junction box after the box was eliminated. The site was delineated using a backhoe and soil samples were screened a regular intervals for both hydrocarbons and chlorides. The excavation reached dimensions of 35 x 35 x 12 feet bgs where composite samples were collected for laboratory verification. Laboratory tests of the site showed negligible gasoline range organics (GRO) and the diesel range organics (DRO) showed negligible readings from the excavation's walls and bottom composite samples while the remediated backfill was 65.3 mg/kg. Chlorides at the site ranged from 780 mg/kg from the 4-wall composite, 798 mg/kg for the bottom composite at 12 ft bgs and 368 mg/kg in the remediated backfill.

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. NMOCD was notified of potential groundwater impact on January 31, 2003 and a junction box disclosure report (Appendix A) was submitted to NMOCD with all the 2003 junction box closures and disclosures.

RECS submitted an Investigation and Characterization Plan (ICP) to NMOCD on August 2nd, 2010 to further address concerns at the site. The ICP proposed conducting soil bores at the site to delineate the chloride and hydrocarbon impact laterally and horizontally. NMOCD approved the ICP on August 11th, 2010.

Boring Results

A soil bore was advanced through the former junction box site on September 14, 2010. The boring (see Appendix B) showed relatively low chloride readings, and no hydrocarbons. 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 688 mg/kg at 55 ft bgs and 80 mg/kg at 70 ft bgs while GRO and DRO readings were non-detect in both samples. Red bed clay was encountered at 60 ft bgs through 70 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 in to the bore. On September 16, 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 (see Appendix C). The soil bore was then plugged in entirety with bentonite.

Recommendations

Based on the fact that there is no groundwater below the former O-24 junction box, the site will in no way contribute to groundwater impairment. In addition, the vegetation has returned (see Appendix D) and will provide an evapo-transpiration layer at the site further inhibiting the downward movement of the chlorides. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone and transporting residual chloride to groundwater. Because there is no groundwater below the site and vegetation has returned, RECS requests Termination status for this site.

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

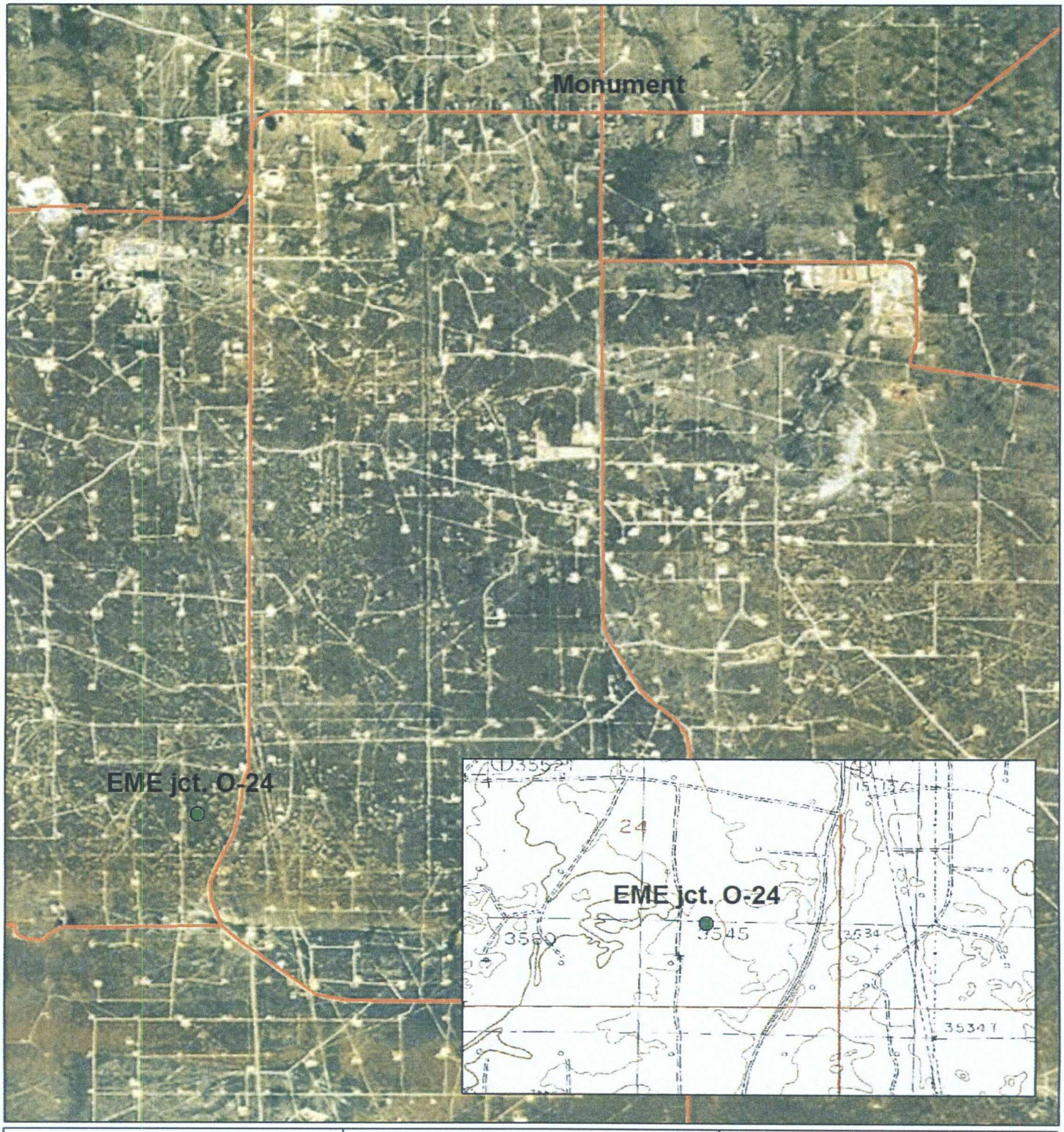
Attachments:

Figures – Site location map
Appendix A – Disclosure report form
Appendix B – Soil bore log and laboratory analysis
Appendix C – Driller's report of 'No Water' at the site
Appendix D – Recent vegetation photos

Figures

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

Monitor Well Soil Data



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME jct. O-24

Legals: UL/O sec. 24
T20S R36E
NMOCD Case #: 1R427-07

FIGURE 1

N
W E
S

0 2,000 4,000 8,000
Feet

Drawing date:
Revision date:
Drafted by:

Appendix A

Junction Box Disclosure Report

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

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
EME	O-24	O	24	20 S	36 E	Lea	No Box		

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER Tuffy Cooper OTHER _____

Depth to Groundwater 36-117? feet NMOCD SITE ASSESSMENT RANKING SCORE: ? *

Date Started 12/12/2002 Date Completed 12/19/2002 OCD Witness No

Soil Excavated 540 cubic yards Excavation Length 35 Width 35 Depth 12 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL ANALYTICAL RESULTS: Sample Date 12/17/2002 Sample Depth 12'

Procure 5-point composite sample of bottom and 4-point composite sample of sidewalls. TPH, BTEX and Chloride laboratory test results completed by using an approved lab and testing procedures pursuant to NMOCD guidelines.

Sample Location	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	GRO mg/kg	DRO mg/kg	Chlorides mg/kg
BOTTOM	<0.005	<0.005	<0.005	<0.015	<10.0	<10.0	798
WALLS	<0.005	<0.005	<0.005	<0.015	<10.0	<10.0	780
REMEDIATED	<0.005	<0.005	<0.005	<0.015	<10.0	65.3	368

General Description of Remedial Action: This junction box location was visibly impacted with TPH prior to excavating. Vertically, the visual TPH ceased at 11' bgs. The walls were then extended until visual TPH virtually diminished, creating a 35'x 35' x 12' excavation. The excavated soil was landfarmed on-site and then backfilled into the excavation. The backfill was contoured to mimic the surrounding landscape and the surface is expected to experience a re-growth a vegetation. The bottom and wall composite samples were tested for chlorides at two different labs. Cardinal Laboratory's results have been significantly inconsistent with field tests, as was the case when these results were received. The samples were then sent to Environmental Lab of Texas whose results were congruent with field tests and those results are reported above.

* Depth to groundwater here is ambiguous. USGS maps indicate that the site is located on a hydrogeologic boundary line to the north of which groundwater is around 36' and 117' to the south.

cc: lab results, photos

CHLORIDE FIELD TESTS

LOCATION	DEPTH	ppm
Vertical	8'	1107
	12'	986
	14'	951
17' E	6'	489
17'W	8'	1102
	12'	507
17'N	12'	1073
17'S	8'	476
	12'	910

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE 1/13/2003 PRINTED NAME Kristin Farris

SIGNATURE Kristin Farris TITLE Projects Scientist

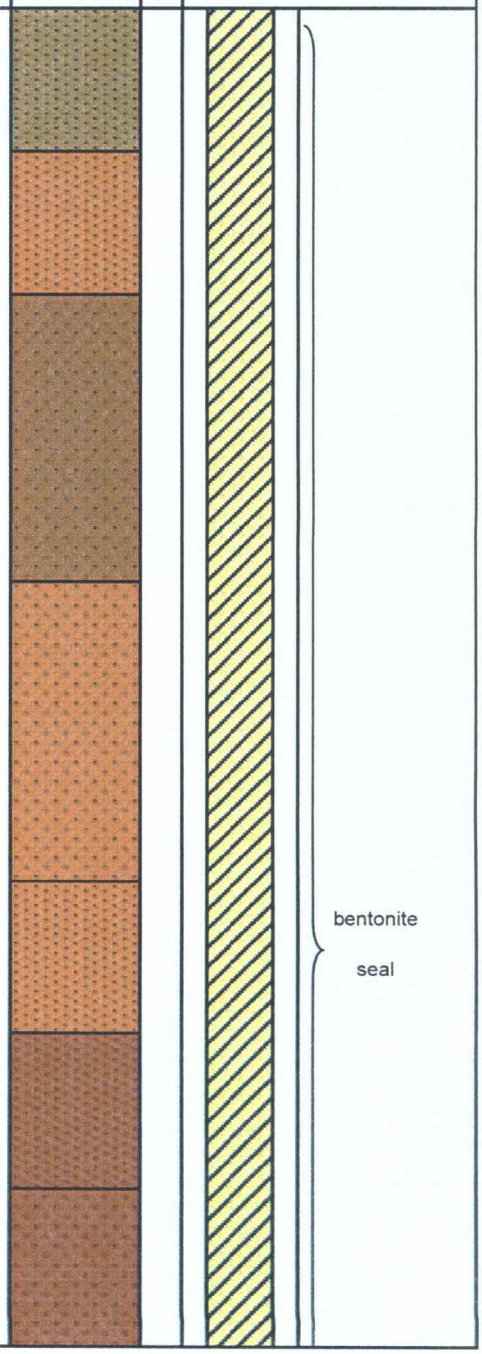
Appendix B

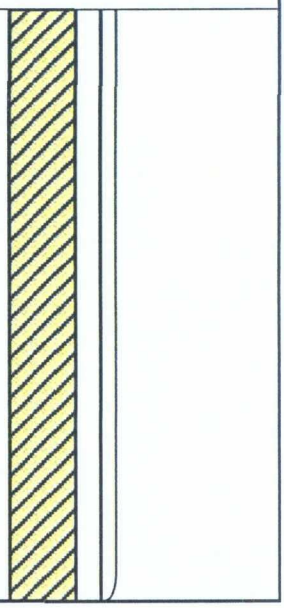
Soil bore logs and Laboratory Analysis

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

Logger:	Lara Weinheimer		RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC
Driller:	Harrison & Cooper Inc. Drilling		**Project Name:** EME jct. O-24 — **Well ID:** SB-1
Drilling Method	Air rotary		**Project Consultant:** RECS
Start Date:	9/14/2010		
End Date:	9/14/2010		
Comments: Located at source of former junction box site. Drafted by: Lara Weinheimer TD = 70 ft GW = none			**Location:** UL/O sec. 24 T20S R36E **Lat:** 32°33'17.044"N **Long:** 103°18'15.232" **County**: LEA **State**: NM

Depth (feet)	chloride field tests	LAB	PID	Description
				Light brown very fine sand with sandstone. Slightly moist. No odor.
15 ft	438		0	
				Orangey brown very fine sand with sandstone. Slightly moist. No odor
20 ft	326		0	
				Orangey brown very fine sand. Slightly moist. No odor.
25 ft	431		0	
30 ft	267		0	
				Reddish orange very fine sand. Slightly moist. No odor.
35 ft	445		0	
40 ft	516		0	
				Reddish orange very fine sand with sandstone. Slightly moist. No odor.
45 ft	448		0	
				Dark reddish orange very fine sand with sandstone particles. Slightly moist. No odor.
50 ft	708		0	
55 ft	715	Cl-688	0	



Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
		GRO <10		Dark reddish orange very fine sand. Clayey. Slightly moist No odor.		
		DRO <10				
60 ft	464		0			
65 ft	203		0			
70 ft	150	Cl- 80	0			
		GRO <10				
		DRO <10				

CARDINAL Laboratories

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

September 20, 2010

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JCT O-24

Enclosed are the results of analyses for samples received by the laboratory on 09/14/10 16:10.

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:	09/14/2010	Sampling Date:	09/14/2010
Reported:	09/20/2010	Sampling Type:	Soil
Project Name:	EME JCT O-24	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME JCT O-24		

Sample ID: SB - 1 @ 55' (H020850-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**688**	16.0	09/16/2010	ND	416	104	400	3.77	

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	09/18/2010	ND	165	82.5	200	2.83	
DRO >C10-C28	<10.0	10.0	09/18/2010	ND	164	82.1	200	0.607	

Surrogate: 1-Chlorooctane	*90.2 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*116 %*	*70-130*

Sample ID: SB - 1 @ 70' (H020850-02)

Chloride, SM4500Cl-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	09/16/2010	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: AB **S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/18/2010	ND	165	82.5	200	2.83	
DRO >C10-C28	<10.0	10.0	09/18/2010	ND	164	82.1	200	0.607	

Surrogate: 1-Chlorooctane	*92.0 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*132 %*	*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

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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

ARDINAL 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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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 #: 393-9174 Fax #: 397-1471	Address:
Project #: Project Owner:	City:
Project Name: [illegible]	State: Zip:
Project Location: [illegible]	Phone #:
Sampler Name: Lara Weinheimer	Fax #:

ANALYSIS REQUEST

Lab I.D. (FOR LAB USE ONLY)	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL	OTHER:	DATE	TIME	[illegible]	[illegible]
H20850-1	[illegible]	[illegible]	1			✓					✓		[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	1			✓					✓		[illegible]	[illegible]	[illegible]	[illegible]

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.

Relinquished By: L. Weinheimer Date: 9-14-10 Time: 4:10 Received By:

Relinquished By: Date: Time: Received By: Jodie Henson

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No

CHECKED BY: (Initials) [illegible]

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

Fax Result: ☐ Yes ☑ No Add'l Fax #:

REMARKS:

email results

Hconder@riceswd.com; jpurvis@riceswd.com; Lweinheimer@riceswd.com

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

NEED SAMPLES BACK, PLEASE

#26

EME jct. O-24

UL/O sec. 24 T20S R36E

Drilling soil bore #1

Packed the hole open for 48 hours.

Plugging the soil bore in total with bentonite.

Completed soil bore #1

Appendix C

Driller's report of 'No water' at site

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

September 24, 2010

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

Attn: Lara Weinheimer

RE: EME Jct. O-24, Monument, NM
Bore Hole Condition

To whom it may concern:

On September 14, 2010, Harrison and Cooper were contracted by Rice Operating to drill and sample a soil b oring at t he subject site. The soil boring was drilled to approximately 70 feet in an effort to determine whether or not a saturated interval existed. After a forty-eight hour holdover time, the moisture content at that depth was NON-detectable.

If an y questions arise from this issue, do not hesitate to contact a representative with H arrison an d Cooper.

Sincerely,

Kenny Cooper
Operations Manager

Copies: File
Email (Lara Weinheimer)

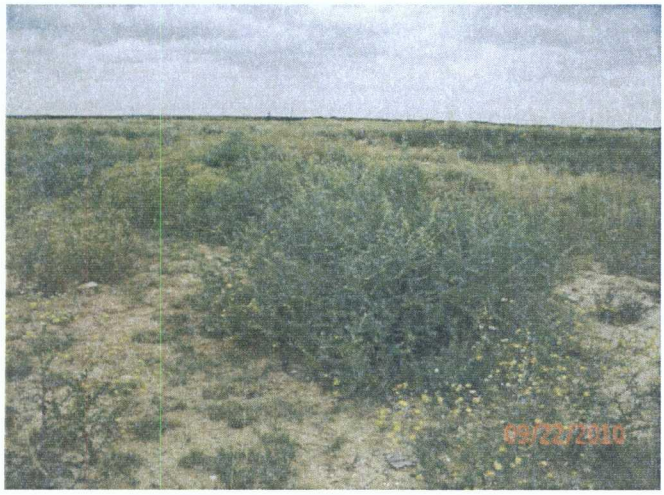
Appendix D

Recent vegetation photos

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

EME jct. O-24

T20S R36E



Facing east

Facing north