1R - 427-146

APPROVALS

YEAR(S):

2013

Hansen, Edward J., EMNRD

From: Hansen, Edward J., EMNRD
Sent: Tuesday, September 24, 2013 11:04 AM
To: Hack Conder (hconder@riceswd.com)
Cc: Lowe, Leonard, EMNRD; Leking, Geoffrey R, EMNRD; Laura Pena (lpena@riceswd.com); Katie Jones <kjones@riceswd.com> (kjones@riceswd.com); Scott Curtis (scurtis@riceswd.com)
Subject: Remediation Plan (1R427-146) Termination - ROC EME Gullully A EOL Site

RE: Termination Request
for the Rice Operating Company's
EME Gullully A EOL Site
Unit Letter O, Section 24, T20S, R36E, NMPM, Lea County, New Mexico
Remediation Plan (1R427-146) 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 September 12, 2013 (received September 16, 2013). 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 (1R427-146) 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 *Operating Company*
122 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax: (575) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 8944

September 12, 2013

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
EME Gullully A EOL (1R427-146): UL/O, Sec. 24, T20S, R36E
RICE Operating Company – Eunice Monument Eumont (EME) SWD System

Mr. Hansen:

Rice Operating Company (ROC) is the service provider (agent) for the EME Saltwater Disposal (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
In 2004, ROC initiated work on the former Gullully A EOL junction box. The site is located in UL O, Sec. 24, T20S, R36E, and within an area of no groundwater. The junction box was located west of an active production facility. An updated study of NM OSE records indicates the there are no wells within a half mile radius. The site was delineated using a backhoe to form a 10x20x12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. Each sample was field titrated for chlorides and screened for TPH, resulting in slightly elevated chloride concentrations that decreased with depth and low PID readings. Representative composite samples were analyzed by a commercial laboratory to be analyzed for chloride, TPH, and BTEX. No delineation was conducted east of the box due to proximity of the facility. The 3-wall composite resulted in a chloride concentration of 213 mg/kg and concentrations of gasoline range organics (GRO) and diesel range organics (DRO) below detectable limits. The bottom field composite sample resulted in a chloride, GRO and DRO concentration below detectable limits. The excavated soil was blended and a sample was sent to a commercial laboratory for analysis of chloride and TPH, resulting in a chloride concentration of 85.1 mg/kg and concentrations of GRO and DRO below detectable limits. The excavation was

backfilled with the blended soil to ground surface and contoured to the surrounding area. On 8/4/2004, the site was seeded with a blend of native vegetation.

Vegetation has rebounded at this site so no further action is warranted. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater. A junction box is no longer required at this site.

The Gullully A EOL site is located within an area of no groundwater. A plat showing this site in relation to the other sites proven to have no groundwater has been attached. The closest site is EME Jct. O-24 (1R427-07), which is approximately 40 feet to the northwest of the Gullully A EOL site. A soil bore was drilled at Jct. O-24 to a depth of 70 ft bgs, and the red bed was encountered at approximately 60 ft bgs. After a 48 hour holdover period, the bore was gauged by Harrison & Cooper, Inc., and the moisture content at that depth was non-detectable. A letter of no groundwater from Harrison & Cooper, Inc. for the EME Jct. O-24 is attached. Letters of no groundwater for three additional sites in the area [EME Jct. D-25 (1R427-08), EME P-27 EOL (1R427-10), and EME K-35 (1R427-01)] are also attached.

The junction box site map, area map, area of no groundwater plat, final report, photodocumentation, chloride graphs, laboratory analysis, PID sheets, water flow direction diagram, letters of no groundwater documentation and current photodocumentation are attached.

Based on the site not having groundwater, chloride, TPH and BTEX all fall below NMOCD guidelines provided in the NMOCD-approved Revised Junction Box Upgrade Work Plan and residual constituents pose no threat to groundwater quality. As such, we respectfully request termination of this regulatory file, or similar closure status.

Please contact Hack Conder or me at (575)393-2967 if you have any questions or wish to discuss this site. Thank you for your time and consideration.

Sincerely,
RICE Operating Company

L Flores

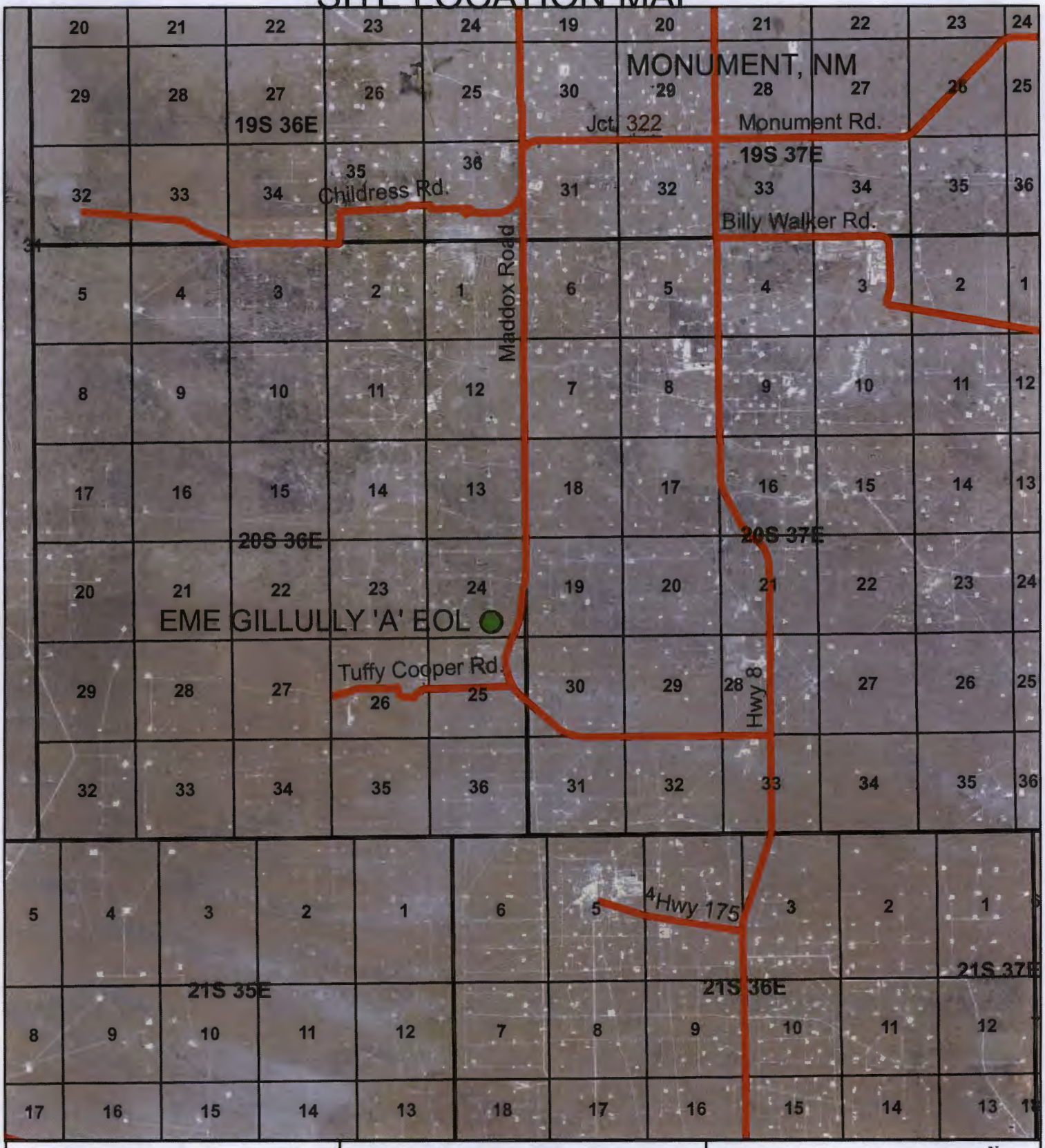
Laura Flores
Environmental Project Assistant Manager

enclosures

Site Maps

RICE *Operating Company* (ROC)
112 West Taylor Hobbs, NM 88240
Phone: (575) 393-9174 Fax: (575) 397-1471

SITE LOCATION MAP



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

EME GILLULLY 'A' EOL

UL O SECTION 24
T-20-S R-36-E
LEA COUNTY, NM

N
W E
S

0 1 2
Miles

Drawing date: 7/29/13
Drafted by: T. Grieco

Area Map

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME GILLULLY 'A' EOL

UL O SECTION 24
T-20-S R-36-E
LEA COUNTY, NM

N W E S

0 1,000 2,000 Feet

Drawing date: 7/29/13
Drafted by: T. Grieco

Sites in Area of No Groundwater

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

EME Gullully A EOL

LEGALS: UL/O sec. 24
T-20-S R-36-E
LEA COUNTY, NM
NMOCD Case #: 1R427-146

N W E S

0 1,900 3,800
Feet

Junction Box Report

RICE *Operating Company* (ROC)
112 West Taylor Hobbs, NM 88240
Phone: (575) 393-9174 Fax: (575) 397-1471

RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
EME	Gullully 'A' EOL	O	24	20S	36E	Lea	Eliminated		

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER Dale Cooper Family Trust OTHER _____

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

Date Started 5/20/2004 Date Completed 6/16/2004 OCD Witness No

Soil Excavated 89 cubic yards Excavation Length 10 Width 20 Depth 12 feet

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

FINAL ANALYTICAL RESULTS: **Sample Date** 5/24/2004 **Sample Depth** 12 ft

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

Sample Location	PID ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
3-WALL COMP.	XXX	<10.0	<10.0	213
BOTTOM	XXX	<10.0	<10.0	<20
REMEDIATED	XXX	<10.0	<10.0	85.1

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vertical	5	749
at box	6	809
	7	779
	8	539
	9	629
	10	539
	11	629
	12	479
15 ft West	6	1139
	7	1289
	8	1499
	9	1559
	10	1349
	11	1109
	12	929
3-wall comp.	n/a	599
bottom comp.	12	149
remed. comp.	n/a	300

General Description of Remedial Action: This end-of-line (EOL) box was located west of an active production facility. Delineation and excavation were performed with a backhoe as chloride tests and PID readings were conducted at regular intervals. The source at the box yielded a conclusive trend of declination to a depth of 12 ft BGS (see graph), indicative of non-saturated conditions in the vadose zone below the box. All PID field screenings were 0.0 ppm and lab results confirmed TPH concentrations well below NMOCD guidelines. The excavated soil from the 10 x 20 x 12-ft deep hole was blended on site and then backfilled. The disturbed surface was contoured and seeded with a blend of native vegetation. This EOL has been eliminated with a new pipeline re-plumbed straight through. No excavation was conducted east of the box due to proximity of the battery.

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

enclosures: chloride graphs, photos, lab results, PID field screenings, groundwater map

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

SITE SUPERVISOR Rob Elam SIGNATURE Rob Elam COMPANY Curt's Environmental--Odessa, TX

REPORT ASSEMBLED BY Kristin Farris Pope SIGNATURE Kristin Farris Pope

DATE 8/25/2004 TITLE Project Scientist

EME Gullully 'A' EOL

unit 'O', sec. 24, T20S, R36E

undisturbed junction box 1/12/2004

final excavation 5/24/2004

backfilling excavation 6/16/2004

seeding backfilled site 8/4/2004

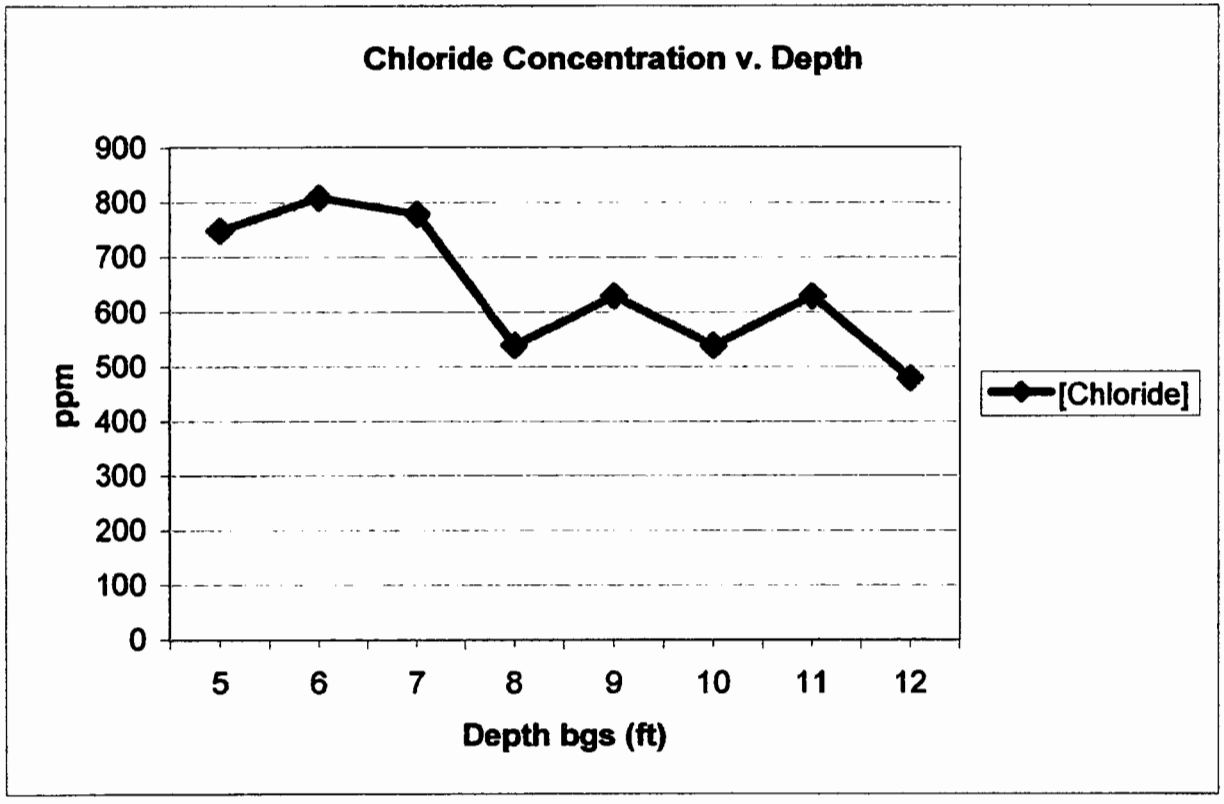
EME Gullully 'A' EOL

Unit 'O', Sec. 24, T20S, R36E

Vertical Delineation at Source

Depth bgs (ft)	[Cl⁻] ppm
5	749
6	809
7	779
8	539
9	629
10	539
11	629
12	479

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 depth is ~36 ft and 117 ft to the south.



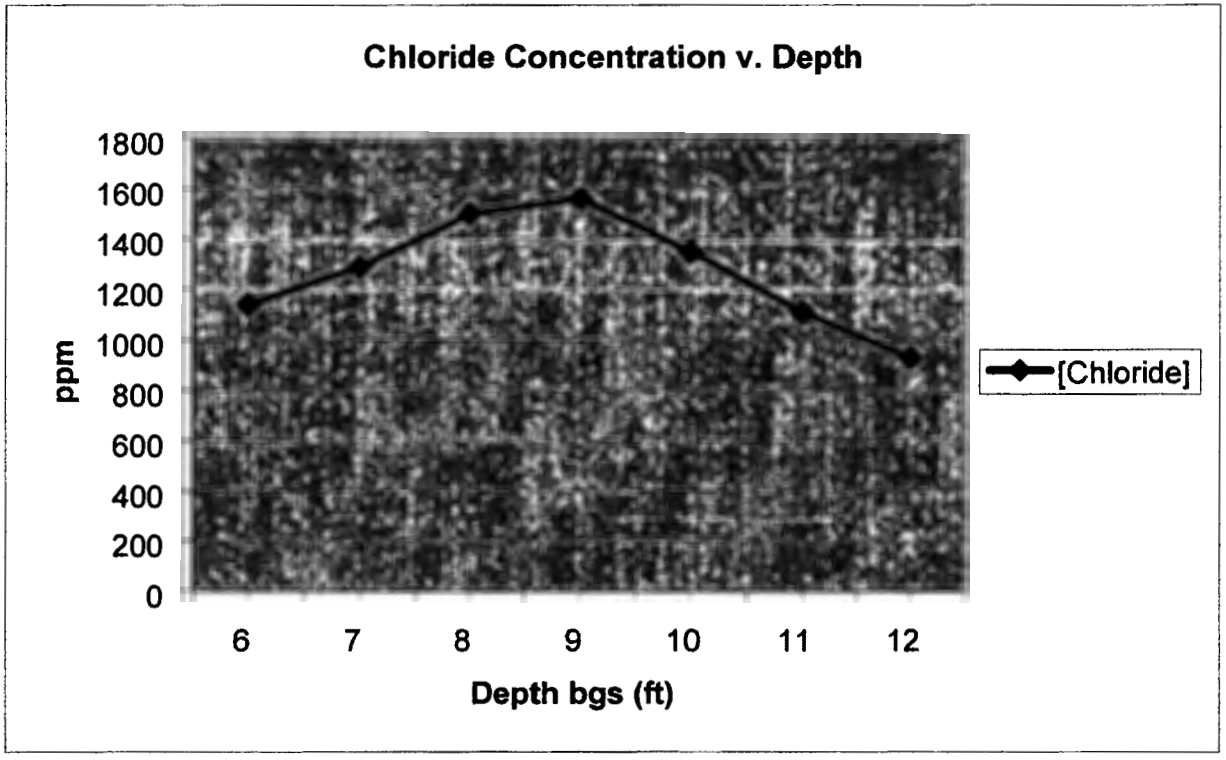
EME Gullully 'A' EOL

Unit 'O', Sec. 24, T20S, R36E

15 ft West of box

Depth bgs (ft)	[Cl] (ppm)
6	1139
7	1289
8	1499
9	1559
10	1349
11	1109
12	929

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 depth is ~36 ft and 117 ft to the south.



ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Kristin Farris

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: Gullully 'A' EOL

Project Number: None Given

Location: EME

Lab Order Number: 4E25003

Report Date: 05/28/04

Rice Operating Co.	Project: Gullully 'A' EOL	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/28/04 10:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Wall Composite	4E25003-01	Soil	05/24/04 11:30	05/25/04 08:05
12' Bottom Composite	4E25003-02	Soil	05/24/04 13:30	05/25/04 08:05
Stockpile	4E25003-03	Soil	05/24/04 16:00	05/25/04 08:05

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: Gullully 'A' EOL	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/28/04 10:46

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Wall Composite (4E25003-01) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE42503	05/25/04	05/26/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*98.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*90.4 %*	*70-130*		"	"	"	"	
12' Bottom Composite (4E25003-02) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE42503	05/25/04	05/26/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*87.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*91.0 %*	*70-130*		"	"	"	"	
Stockpile (4E25003-03) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE42503	05/25/04	05/26/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*77.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*80.6 %*	*70-130*		"	"	"	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory.. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Roland K. Tuttle

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: Gullully 'A' EOL	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/28/04 10:46

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Wall Composite (4E25003-01) Soil									
Chloride	**213**	20.0	mg/kg Wet	2	EE42609	05/26/04	05/26/04	SW 846 9253	
% Solids	**77.0**		%	1	EE42605	05/25/04	05/25/04	% calculation	
12' Bottom Composite (4E25003-02) Soil									
Chloride	ND	20.0	mg/kg Wet	2	EE42609	05/26/04	05/26/04	SW 846 9253	
% Solids	**90.0**		%	1	EE42605	05/25/04	05/25/04	% calculation	
Stockpile (4E25003-03) Soil									
Chloride	**85.1**	20.0	mg/kg Wet	2	EE42609	05/26/04	05/26/04	SW 846 9253	
% Solids	**99.0**		%	1	EE42605	05/25/04	05/25/04	% calculation	

Environmental Lab of Texas

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Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: Gullully 'A' EOL	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/28/04 10:46

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE42503 - Solvent Extraction (GC)										
Blank (EE42503-BLK1)				Prepared & Analyzed: 05/25/04						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*43.3*		*mg/kg*	*50.0*		*86.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*43.4*		"	*50.0*		*86.8*	*70-130*			
LCS (EE42503-BS1)				Prepared & Analyzed: 05/25/04						
Gasoline Range Organics C6-C12	417		mg/kg	500		83.4	75-125			
Diesel Range Organics >C12-C35	448		"	500		89.6	75-125			
Total Hydrocarbon C6-C35	865		"	1000		86.5	75-125			
Surrogate: 1-Chlorooctane	*47.5*		"	*50.0*		*95.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.9*		"	*50.0*		*71.8*	*70-130*			
Calibration Check (EE42503-CCV1)				Prepared: 05/25/04 Analyzed: 05/27/04						
Gasoline Range Organics C6-C12	403		mg/kg	500		80.6	80-120			
Diesel Range Organics >C12-C35	479		"	500		95.8	80-120			
Total Hydrocarbon C6-C35	882		"	1000		88.2	80-120			
Surrogate: 1-Chlorooctane	*55.9*		"	*50.0*		*112*	*70-130*			
Surrogate: 1-Chlorooctadecane	*43.7*		"	*50.0*		*87.4*	*70-130*			
Matrix Spike (EE42503-MS1)	**Source: 4E25003-02**			Prepared: 05/25/04 Analyzed: 05/26/04						
Gasoline Range Organics C6-C12	469	10.0	mg/kg dry	556	ND	84.4	75-125			
Diesel Range Organics >C12-C35	522	10.0	"	556	ND	93.9	75-125			
Total Hydrocarbon C6-C35	991	10.0	"	1110	ND	89.3	75-125			
Surrogate: 1-Chlorooctane	*57.1*		*mg/kg*	*50.0*		*114*	*70-130*			
Surrogate: 1-Chlorooctadecane	*40.8*		"	*50.0*		*81.6*	*70-130*			
Matrix Spike Dup (EE42503-MSD1)	**Source: 4E25003-02**			Prepared: 05/25/04 Analyzed: 05/26/04						
Gasoline Range Organics C6-C12	512	10.0	mg/kg dry	556	ND	92.1	75-125	8.77	20	
Diesel Range Organics >C12-C35	539	10.0	"	556	ND	96.9	75-125	3.20	20	
Total Hydrocarbon C6-C35	1050	10.0	"	1110	ND	94.6	75-125	5.78	20	
Surrogate: 1-Chlorooctane	*59.9*		*mg/kg*	*50.0*		*120*	*70-130*			
Surrogate: 1-Chlorooctadecane	*43.1*		"	*50.0*		*86.2*	*70-130*			

Environmental Lab of Texas

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Roland K Tuttle

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Rice Operating Co.	Project: Gullully 'A' EOL	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Kristin Farris	05/28/04 10:46

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Environmental Lab of Texas

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Roland K Tuttle

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

RICE OPERATING COMPANY

122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S
SERIAL NO: 104412
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE 100 PPM
AIR BALANCE
LOT NO: 0-22-30 FILL DATE: 6-20-03
EXP. DATE: 11-20-04 ACCURACY: +or-2%
METER READING
ACCURACY: 100.1

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
EME	Occidental Gullully A	0	24	20-S	36E

Source 5' West

SAMPLE	PID RESULT	SAMPLE	PID RESULT
5'	0	5'	0
6'	0	6'	0
7'	0	7'	0
8'	0	8'	0
9'	0	9'	0
10'	0	10'	0
11'	0	11'	0
12'	0	12'	0

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Rob Elam
Signature

5-20-04
Date

RICE OPERATING COMPANY

122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE
AIR
LOT NO: 0-22-30
EXP. DATE: 11-20-04
METER READING
ACCURACY: 10%

SERIAL NO: 104412

100 PPM
BALANCE
FILL DATE: 6-20-03
ACCURACY: +or- 3%

10' West

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
EME	Occidental Gullully A	0	24	20-S	36-E

10' West		15' West	
SAMPLE	PID RESULT	SAMPLE	PID RESULT
5'	0		
6'	0	6'	0
7'	0	7'	0
8'	0	8'	0
9'	0	9'	0
10'	0	10'	0
11'	0	11'	0
12'	0	12'	0
13'	0		
14'	0		
15	0		

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual.

Signature

5-20 & 5-21
Date

RICE OPERATING COMPANY

122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE
AIR
LOT NO: 0-22-30
EXP. DATE: 11-20-04
METER READING
ACCURACY: 100.1

SERIAL NO: 104412

100 PPM
BALANCE
FILL DATE: 6-20-03
ACCURACY: +or- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
EME	Occidental Gullally A	0	24	20-S	36E

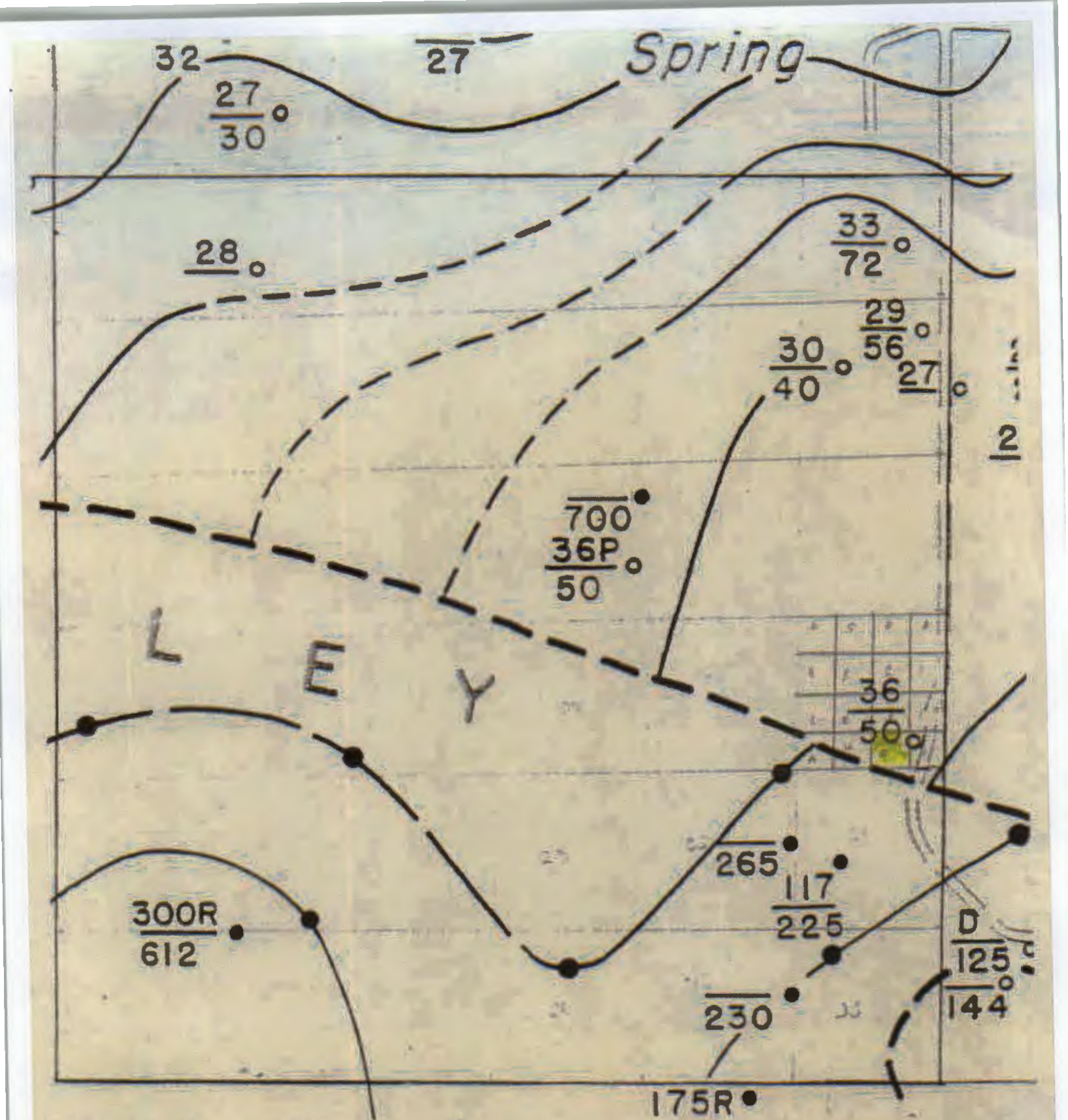
5' South

SAMPLE	PID RESULT	SAMPLE	PID RESULT
6'	0	6'	0
7'	0	7'	0
8'	0	8'	0
9'	0	9'	0
10'	0	10'	0
11'	0	11'	0
12'	0	12'	0
13'	0		
14'	0		
15'	0		

I certify that I have calibrated the above instrument in accordance to the manufacture operation manual

Signature

5-21 & 5-24
Date



nlarged from Plate 2 "Groundwater Map of Southern Lea County, New Mexico"
Map

from USGS book "Geology + Groundwater Conditions in Southern Lea County, New Mexico"

Nicholson & Clebsch 1961

Letters of No Groundwater Documentation

RICE *Operating Company* (ROC)
419 West Cain Hobbs, NM 88240
Phone: (575) 393-2967 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)

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 hcidrill.com

January 5, 2012

Rice Operating
112 W. Taylor
Hobbs, NM 88240

Attn: Lara Weinheimer

RE: EME K-35
Bore Hole Condition

To whom it may concern:

On December 12, 2011, 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 140 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 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)

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

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)

Current Photodocumentation

RICE *Operating Company* (ROC)
112 West Taylor Hobbs, NM 88240
Phone: (575) 393-9174 Fax: (575) 397-1471

EME Gullully A EOL (1R427-146)
Unit Letter O, Section 24, T20S, R36E

Facing north-northeast 7/18/2013

Facing southwest 7/18/2013