1R-42 2-17

REPORTS

DATE:



CERTIFIED MAIL RETURN RECIEPT NO. 7005 0390 0000 6036 4047

January 26, 2010

Mr. Ed Hansen New Mexico Energy, Minerals, & Natural Resources Department Oil Conservation Division, Environmental Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

2010 FEB - 1 A II:

RE: Termination Request, Rice Operating Company, Eunice Monument Eumont (EME) Saltwater Disposal System (SWD) JCT. I-13, Unit "I", Section 13, T-20-S, R-36-E, Lea County, New Mexico NMOCD #1R0427-171

Mr. Hansen:

Tetra Tech Inc (Tetra Tech) submits the following Termination Request for the Rice Operating Company (ROC), I-13 site located in the Eunice Monument Eumont (EME) Saltwater 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 EME SWD system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis. The site is shown on Figures 1 and 2.

1.0 BACKGROUND & PREVIOUS WORK

As part of the ROC Junction Box Upgrade Workplan, starting on August 13, 2004, the junction box was eliminated and the old A/C pipeline was slipped with a new 4-inch poly pipeline. The former junction box site was excavated to dimensions of 30 feet by 30 feet by 12 feet deep with a backhoe. PID readings and chloride field tests were conducted at regular intervals. All PID readings were below detection limits, while chloride levels increased with depth; however, only one sample exceeded 1,000 milligrams per kilograms (mg/kg) within the former junction box. Several water wells were located within Section 13 which contains the site. The wells are the ROC EME H-13 site and have groundwater elevations ranging from 31 to 33 feet below ground surface (bgs). In addition, one water well located onsite (MW-1) has a depth to groundwater ranging from 31 to 32 feet bgs.

Upon completion of the excavation, the soils were blended on site and placed within the excavation to a depth of 6 feet bgs. At 6 feet bgs, a 1-foot thick compacted clay barrier was installed to inhibit further downward migration of chlorides. The remaining soils were



backfilled on top of the clay and brought up to surface grade, contoured and reseeded. On November 24, 2004, ROC submitted a Junction Box Disclosure Report to the NMOCD. A copy of the Junction Box Disclosure Report is included in Appendix A.

On April 30, 2008, ROC submitted an Investigation and Characterization Plan (ICP) to Mr. Wayne Price of the NMOCD-Santa Fe office for review. NMOCD granted approval via e-mail on May 21, 2008.

On October 10, 2008, Tetra Tech personnel were onsite to oversee the drilling of six soil borings (SB-1 through SB-6) within and around the former junction box location. Soil samples were collected every 5 feet beginning at a depth of 5 feet below ground surface (bgs). Samples were collected from cuttings and were field screened for TPH utilizing a photoionization detector (PID) and for chlorides with a field sampling kit. Field results indicate the soils are impacted with chlorides ranging from 224 mg/kg in SB-5 (15') to 767 mg/kg in SB-3 (25'). Laboratory analytical results indicate the soils are impacted with chlorides ranging from 272 mg/kg in SB-2 (25') to 976 mg/kg in SB-1 (20'). The soil borings were extended to a maximum depth of 30' below ground surface (bgs). Upon completion of the drilling, each of the soil borings was backfilled with bentonite chips and brought up to surface grade. The soil boring locations are shown on Figure 3. The soil boring logs with field/lab soil analysis are included in Appendix B. The soil laboratory analysis is included in Appendix D.

In order to determine if groundwater was impacted from the former junction box, one monitor well was installed (MW-1) to the south/southeast of the excavated junction box to a depth of 40 feet bgs. Upon completion, the monitor well was developed and samples were submitted to Cardinal Labs of Hobbs, New Mexico for analysis of chlorides utilizing EPA method 4500-Cl'B and BTEX utilizing EPA method 8021B. The monitor well completion diagram is included in Appendix C. The results of the groundwater sampling are summarized in the tables located in Appendix C. The laboratory analysis is included in Appendix D.

2.0 MONITOR WELL SAMPLE RESULTS

The chloride concentration for the monitor well at the EME I-13 has been consistent but elevated since the well was installed in November 2008. The chloride concentration has ranged from 1,120 mg/L in August 2009, to 1,220 mg/L in November 2008. In comparing the chloride concentration analysis data with other water quality in the area, specifically the ROC EME H-13, it appears the chloride concentrations at the site are consistent with regional groundwater degradation in the area. The EME H-13 data indicates chloride concentrations, outside the original release area, range from 1,380 mg/L in down gradient MW-3 to 1,670 mg/L in up gradient MW-2. Based upon the two monitor wells, the average regional chloride concentration is 1592.41 mg/L, while the average chloride concentration for MW-1 at the EME I-13 is 1,188 mg/L. Copies of the analytical tables for both the EME jct. I-13 and the EME H-13 are included in Appendix E and F, respectively.



1.425

Since the installation in November 2008, there have been no BTEX constituents detected at or above reporting limits for any of the monitor wells at the EME jct. I-13. Cumulative analytical data is summarized in the tables located in Appendix E.

3.0 COLLECTED REGIONAL HYDROGEOLOGIC DATA

A search of the database supported by the New Mexico Institute of Mining and Technology (New Mexico Tech) New Mexico Water and Infrastructure Data System (WAIDS), yielded 2 well records in Section 7, T20S, R37E, Unit Letter 'M' (SW ¼, SW ¼) of Section 7 located within a 1-mile radius of the subject site. Both of the wells are noted to be livestock watering wells and both have historically elevated chloride concentrations (1,268 and 2,680 mg/L). A copy of the database file is included in Appendix G.

An adjacent ROC site, the EME H-13 located approximately 542 feet north to northwest of the site, also has elevated chlorides ranging in concentrations from 1,380 mg/L to 1,670 mg/L in areas outside the initial release area.

A groundwater gradient map was constructed for the adjacent ROC EME H-13 site. Based on the collected data it appears the groundwater gradient for the EME H-13 is to the southeast. Being that the EME jct. I-13 is only 542 feet south to southeast of the EME H-13, it is presumed the gradient at the EME jct I-13 is also to the southeast. Regionally, the groundwater gradient is to the south to southeast. Figure 4 presents the groundwater gradient map for the adjacent EME H-13 as gauged on November 17, 2008. Figure 5 shows the location of the EME I-13 in relation to the EME H-13.

4.0 Conclusions

- 1. Since the installation of the monitor well in November 2008, no BTEX constituents have been detected at or above the New Mexico Water Quality Control Commission (WQCC) standards.
- 2. The chloride concentration for the monitor well has remained elevated since the installation of the well in November 2008. The chloride concentration has ranged from 1,120 mg/L to 1,220 mg/L. In comparing the chloride concentration analysis data with other water quality in the area, specifically the ROC EME H-13 (located approximately 542 feet north to northwest of the site) and several livestock water wells (within 1-mile of the site), it appears the chloride concentrations at the site are consistent with regional groundwater degradation in the area. The EME H-13 data indicates the background chloride concentrations range from 1,380 to 1,670 mg/L, while the two livestock water wells have concentrations of 1,268 and 2,680 mg/L).
- 3. Chloride concentrations within the soils at the EME jct I-13 are relatively low (224 to 767 mg/kg for field results and 272 mg/kg in SB-2 (25') to 976 mg/kg in SB-1 (20') for laboratory results) when compared to the concentrations within the groundwater (1,120 mg/L to 1,220 mg/L). This indicates the



e 10. 32

1. C. C.

mi l'E

San and

2. 2. 2 M

創むの

1. A. B. Sara

9. STE 1

18 B. C

elevated groundwater chloride concentrations at the site are likely a regional degradation and not from the former junction box.

Since this site exhibits elevated chloride concentrations consistent with water quality throughout the area and due to the low soil concentrations associated with the former EME I-13 junction box and the installation of a clay barrier, ROC requests that the NMOCD terminate further activities at this site. If you require any additional information of have any questions or comments, please contact Hack Conder at (575) 393-9174. Thank you for your attention to this matter.

Respectfully Submitted, Tetra Tech, Inc.

Jeffrey Kindley, P.G. Senior Environmental Geologist

cc: ROC- Hack Conder Enclosures: site maps, data tables, figures

















APPENDIX A JUNCTION BOX DISCLOSURE REPORT

1 . . . A. A.

S. S. Ward

1 - 30

16.38

24.24

8 . T. . . .

C. Maria

A. 6. 10

Sec. and

a si an an

A cardin and

の語が

のでない。

1 34.4 20

No. of Lot of Lot

and the second

Sec. 20

1. S. S. S.

RICE OPERATING COMPANY JUNCTION BOX DISCLOSURE* REPORT

			1	BOX LOCA	ATION					
SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHI	P RANGE	COUNTY	BOX D	MENSION	S-FEET	
CMC	1.42		13	200	265	1.00	Length	Width	Depth	
EME	1-13 1		13	13 205		Lea	etir	ninated-no	box	
LAND TYPE: 8 Depth to Groun	LM ST/ dwater	ATE_X	FEE LAND(DWNER	D SITE ASSE	SSMENT	OTHER	CORE:	20	
Date Started	8/13/2	004	Date Col	mpleted	9/10/2004	OCD \	Witness		No	
Soil Excavated	400	cubic yard	ls Exc	cavation L	ength <u>30</u>	Width	30	Depth	12	feet
Soil Disposed	0	cubic yard	is Off	fsite Facilit	yn/	a	Location		n/a	
FINAL ANALY	TICAL RES	SULTS:	Sampl	e Date	8/26/20	04	Sample De	pth	12 ft	

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

PID <u>GRO</u> DRO Chloride Sample mg/kg Location mg/kg ma/ka ppm 0.1 <10.0 <10.0 304 4-WALL COMP 0.1 <10.0 <10.0 592 BOTTOM COMP 0.1 <10.0 27.2 432 REMED. BACKFILL

General Description of Remedial Action: This junction was located between a lease road and an active production battery. The junction was eliminated and the old asbestos-cement pipeline was slipped with a new 4-in. poly pipeline. The site was delineated using a backhoe while PID readings and chloride field tests were conducted at regular intervals. All PID readings were non-detect throughout the 30 x 30 x 12-ft-deep excavation and lab results confirmed TPH concentrations well below NMOCD guidetines. Chloride concentrations generally increased with depth within the excavation (see graphs). The excavated soils were blended on site and then backfilled into the excavation up to 6 ft BGS. At 6 ft, a 1-ft-thick compacted clay barrier was installed to inhibit further downward migration of chloride. The remaining spoits were backfilled on top of the clay and the surface was contoured to the surrounding terrain. The disturbed surface was seeded with a blend of native vegetation and will be monitored for growth. An identification plate has been placed on the surface to mark the site for future considerations. NMOCD has been

CHLORIDE FIELD TESTS

LOCATION		ppm
	7	86
	8	116
vertical at	9	173
junction box	10	204
	11	257
	12	344
	6	231
5 ft south of	8	1095
junction	10	843
	12	967
	4	115
15 B muth of	6	261
iunction	8	401
,	10	458
	12	578
4-wall comp.	n/a	344
bottom comp.	12	529
remed. backfill	n/a	407

notified of potential groundwater impact at the location.

ADDITIONAL EVALUATION IS HIGH PRIORITY

enclosures: chloride graphs, photos, lab results, PID field screenings, clay test, diagram

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF. SIGNATURE SITE SUPERVISOR Joe Gatts COMPANY RICE Operating Company nistin da SIGNATURE REPORT ASSEMBLED BY Kristin Farris Pope DATE 11/24/2004 TITLE Proie of Scientis

* This site is a "DISCLOSURE." It will be placed on a prioritized list of similar sites for further consideration.

APPENDIX B SOIL BORING LOGS

A. S. A.

A sheet of a start o

1000

S. P. Rich

 \mathcal{A}

An a start

1. Carlor

10 10 M

Leven Met

and the second

art and

1. 20 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100

A States

一般があ

1 . A. 1. 5

14. 22.

SAMPLE LOG

Boring/Well:SB-1Project Number:3463Client:Rice Operating CompanySite Location:Lea County, New MexicoTotal Depth30 feetDate Drilled:10/10/08

SAMPLE DESCRIPTION	grain well sorted sand	grain well sorted sand with medium grain sand	calcareous sand	calcareous sand	tium grain sand (moist)	Jium grain sand (wet)	vater encountered at 30 feet.
Chlorides (Lab)	- Tan fine	- Tan fine	- Tan/buf	976 Tan/buf	- Tan me	- Tan me	Ground
Chlorides (Field)	265	359	615	676	655	f	otal Depth is 30 feet
DEPTH (Ft)	0-5	5-10	10-15	15-20	20-25	25-30	• F -

() () .

· ~ . . .

.

f.

1. 1. 1. 18. 1. 1.

4 - Soc - Soc - 1 - Soc

.....

west -

調整湯 345 914 SAL The star Sec. Real TT TE N. Salar 20 June 2 20 and the second ATTEN S States at 14 1 m 1 m 1 Martin State A R. W. S. Sec. 22 F.R. C. B. の重要 Carlos Terral Section 2

SAMPLE LOG

Boring/Well:SB-2Project Number:3463Client:Rice Operating CompanySite Location:Lea County, New MexicoTotal Depth30 feetDate Drilled:10/10/08

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	226		Tan fine grain well sorted sand
5-10	623	912	Tan/buff calcareous sand
10-15	512	8	Tan/buff calcareous sand
15-20	393	1	Tan/buff calcareous sand
20-25	279	272	Tan medium grain sand (moist)
25-30	1	I	Tan medium grain sand (wet)
F	Fotal Depth is 30 feet		Groundwater encountered at 30 feet.

SAMPLE LOG

4

12.9

10 - 2 - 4 - 4

4.₁₀

Boring/Well:SB-3Project Number:3463Client:Rice Operating CompanySite Location:Lea County, New MexicoTotal Depth30 feetDate Drilled:10/10/08

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	236	ţ	Dark brown clay
5-10	393	•	Tan fine grain well sorted sand
10-15	237	J	Tan fine grain calcareous sand
15-20	620		Tan fine grain calcareous sand
20-25	767	752	Tan medium grain sand (moist)
25-30	-	ł	Tan medium grain sand (wet)
	Total Depth is 30 feet		Groundwater encountered at 30 feet.

2 2 444 C. O. R. Ward and reading a S. 2. C. 4. 5 1. 1. A. N. . . . Mary Star after of 1 8 8 4 6 8 10 . A. S. 20 1. 2 Mg - 7 19 B - 2 Mg - 7 Le Barris 14 E 8 4 - Jut -25.82 * 1 the 2 25 . 2 9.0

SAMPLE LOG

Boring/Well:SB-4Project Number:3463Client:Rice Operating CompanySite Location:Lea County, New MexicoTotal Depth30 feetDate Drilled:10/10/08

	SAMPLE DESCRIPTION	Tan fine grain sand	Tan fine grain sand	Tan fine grain calcareous sand	Tan fine grain calcareous sand	Tan medium grain sand	Tan medium grain sand	Groundwater encountered at 30 feet.
	Chlorides (Lab)	1			736	ı	1	
	Chlorides (Field)	242	225	447	533	417	t	otal Depth is 30 feet
a second and the second se	DEPTH (Ft)	0-5	5-10	10-15	15-20	20-25	25-30	F

SAMPLE LOG

Boring/Well:SB-5Project Number:3463Client:Rice Operating CompanySite Location:Lea County, New MexicoTotal Depth30 feetDate Drilled:10/10/08

SAMPLE DESCRIPTION	grain sand (well sorted)	calcareous sand	calcareous sand	^t calcareous sand	dium grain sand	dium grain sand	vater encountered at 30 feet.
s (Lab)	Tan fine	Tan/buff	Tan/buff	6 Tan/buff	Tan med	Tan med	Groundw
Chloride	1	•	I	41	L	1	
Chlorides (Field)	295	403	224	420	345	ţ	otal Depth is 30 feet
DEPTH (Ft)	0-5	5-10	10-15	15-20	20-25	25-30	F

Marine 12

the distance

and all the

S. There

Same and

3. B. B. B.

1. G. C. C. C. C.

1. M. 1.

8. 24° 5. 4

17 . W. 2.

A. C. Walt

10 °

Act Bran

11日日 福

Star Star

Cal Bo

a transfer the test C. Yana Ma a garage a strengt Ma Na 1. A.B. 19 S. To De C 10 m 1 Same to a 調整 1. 1. 1. 1. L. Bar Star とない States and the second second

SAMPLE LOG

Boring/Well:	SB-6
Project Number:	3463
Client:	Rice Operating Company
Site Location:	Lea County, New Mexico
Total Depth	30 feet
Date Drilled:	10/10/08

SAMPLE DESCRIPTION	d (well sorted)	is sand	is sand	is sand	sand	sand	buntered at 30 feet.
	Tan fine grain san	Tan/buff calcareou	Tan/buff calcareou	Tan/buff calcareou	Tan medium grain	Tan medium grain	Groundwater enco
Chlorides (Lab)	1	1	. 889	1	I	,	
Chlorides (Field)	287	462	603	411	288	1	otal Depth is 30 feet
DEPTH (Ft)	0-5	5-10	10-15	15-20	20-25	25-30	Ŧ

Cont. To be A 232.2 10 1 m 2 40 Contraction of the 2 af 20. C. C. E. C. a state State State the second 1. 2. M. M. a martin . NAM Cap Las S. The Car

SAMPLE LOG

Rice Operating Company Lea County, New Mexico 40 feet 10/10/08 Boring/Well: MW-1 Project Number: 3463 Site Location: Total Depth Date Drilled: Client:

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	243	•	Tan fine grain sand
5-10	546	-	Tan fine grain calcareous sand
10-15	671	752	Tan fine grain calcareous sand
15-20	596		Tan medium grain sand
20-25	335	-	Tan medium grain sand
25-30		k	Tan medium grain sand (wet)
30-35	ł	-	Tan medium grain sand
35-40	1	1	Tan medium grain clayey sand
-	Fotal Depth is 40 feet		Groundwater encountered at 30 feet.

APPENDIX C MONITOR WELL COMPLETION DIAGRAM

- Martine

R. 4 1. B. Ma.

2. 3. 3. 9.

Service State

1.240.20

State of the second

A. 19

1 (a. 1 a 1

3 H.M.

The second second

10 A 40

All all all





۰. ب

ت د به د د به



ANALYTICAL RESULTS FOR TETRA TECH ATTN: JEFF KINDLEY 1910 N. BIG SPRING STREET MIDLAND, TX 79705

Receiving Date: 10/10/08 Reporting Date: 10/15/08 Project Number: 3464 Project Name: RICE EME I-13 Project Location: NOT GIVEN Analysis Date: 10/14/08 Sampling Date: 10/10/08 Sample Type: SOIL Sample Condition: INTACT Sample Received By: AB Analyzed By: HM

		CI
LAB NO.	SAMPLE ID	(mg/kg)
H16095-1	SB-1 (20')	976
H16095-2	SB-2 (10')	912
H16095-3	SB-2 (25')	272
H16095-4	SB-3 (25')	752
H16095-5	SB-4 (20')	736
H16095-6	SB-5 (20')	416
H16095-7	SB-6 (15')	688
H16095-8	MW-1 (15')	752
Quality Contro)	500
True Value Q	C	500
% Recovery		100
Relative Perce	ent Difference	< 0.1

METHOD: Standard Methods 4500-CI'B Note: Analyses performed on 1:4 w:v aqueous extracts.

[Marono Chemist

10-16-0 Date

H16095 RICE

PLEASE NOTE: Liability and Damages. Cardinal's liability and cliant's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (30) days after completion of the applicable services. In no event shall Cardinal be fiable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profils incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whather such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full written approval of Cardinal Laboratories.

AGE: 1 OF: ANALYSIS REQUEST (Circle or Specify Method No.)	.D2 1 Λι ΕΡ Ηθ 26 1 Cι ΕΡ Ηθ 26 2 (ΕΧΓ το C32)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8 000M 5 4 8A alfa 4 8A alfa 9 4 8A alfa 9 4 104 alfa 9 104 alfa 104 alf	Мајст Койс РЕЦК 8021 РЕЦК 8021 РЕСЕ 8021 <									2.3 2.10 2.10 2.10 2.10 2.10 2.10 2.10 2.10	SAMPLE SHIPPED-01: (Circle) AIR/BILL #:	(HAND DELIVERED / UPS OTHER:	rifter Kindley RUSH	vo
Chain of Custody Record	RA TECH - Big Spring St. d, Texas 79705 -4559 • Fax (432) 682-3946	ANAGER:	T - D - /	ICE HIO3 HICE ILITERED NUMBER O			(,32,)		(\hat{b}_0)		(15')	(\mathfrak{p}_{i})	A RECEIVED BY: (Signatural / 1 2 7 Date: -10-1	RECEIVED BY: (Sighature) Date:	RECEIVED BY: (Signaturo) Date:	RECEIVED BY: (Signature)	Lutact The
lysis Hequest of (1910 N. Midlanc (432) 662-	Openiting Congriny SITE M	164 PROJECT NAME	DATE TIME TIME MATRIX MATRIX MATRIX MATRIX MATRIX MATRIX MATRIX	indre 5 1/ 5 B-1	11000 5 V 5 5-2	licitis S V 56-2	(1) SB-3	110/05 S J S D-4	10/103 S V 585	icology 5 1 5 B-C.	1010 S V MW-1	(Signatury) Construction Con	(Signatury) Dato: Time:	(Signature) Date: Time:	TOPP: Condinal Louin	V WHEN RECEIVED: REMARKS:



10.00

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 11/19/08 Reporting Date: 11/26/08 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I~ LEA CO., NM Sampling Date: 11/17/08 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: ML Analyzed By: ZL

				EIHYL	IOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
ANALYSIS DA	TE	11/26/08	11/26/08	11/26/08	11/26/08
H16362-1	MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
· · · · · · · · · · · · · · · · · · ·					
					+
	м, най тар на стави и то то то то то так				
Quality Contro	1	0.048	0.049	0.047	0.147
True Value QC		0.050	0.050	0.050	0.150
% Recovery		96.0	98.0	94.0	98.0
Relative Perce	nt Difference	3.8	4.4	3.5	3.6

METHOD: EPA SW-846 8021B

TEXAS NELAP CERTIFICATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

em femist

11/26/07

Date

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 client for analyses All claims lines by the service of the service 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. Result relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cordinal Laboratories.



Sec.

Han and

2 44

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR STREET HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 11/19/08 Reporting Date: 11/24/08 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I ~ LEA CO., NM Sampling Date: 11/17/08 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: ML Analyzed By: HM/TR

	Na	Ca	Mg	ĸ	Conductivity	T-Alkalinity
LAB NUMBE SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(<i>u</i> S/c m)	(mgCaCO ₃ /L)
ANALYSIS DATE:	11/24/08	11/21/08	11/24/08	11/21/08	11/20/08	11/20/08
H16362-1 MONITOR WELL #1	662	240	87.5	10.0	4,060	236
				in anal 18 miles and and solar states and s		
Quality Control	NR	48.1	48.6	2.77	1,430	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	96.2	97.2	92.4	101	NR
Relative Percent Difference	NR	8.0	<0.1	10.3	0.1	NR

SM3500-Ca-D 3500-Mg E

METHODS:

8049

120.1 310.1

	CI	SO4	CO3	HCO3	pН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	11/21/08	11/21/08	11/20/08	11/20/08	11/20/08	11/19/08
H16362-1 MONITOR WELL #1	1,220	439	0	288	7.27	3,100
Quality Control	500	45.5	NR	1013	7.02	NR
True Value QC	500	40.0	NR	1000	7.00	NR
% Recovery	100	114	NR	101	100	NR
Relative Percent Difference	<0.1	1.6	NR	1.3	0.1	NR
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Morino Chemi

<u>11-25-68</u> Date

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 client for analyses. All claims industry interpretering income and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the appCable service. In his their shall climited to incidental or consequential damages, including, without limitation, business interruptions, loss of uso, or loss of profits incurred by client, its substitiaries, 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. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

101 East Martand - Hoube, Markor 88240 Tel (675) 383-2376 Company Name: RICE Operating Project Manager: Project Manager: Plack Conder Hack Conder Hack Conder (575) 393-9174 from #: (575) 393-9174 from #: (575) 393-9174 LAB # LAB # LAB # LAB USE ONLY Monito	Cardin Company Company Company Scient New Mexico Froject Name: EME 1-13 Leak FIELD CODE FIELD CODE	∞ # CONTRINERS 0 (G) 13/2 0 ∞ # CONTRINERS 0 0 0								-1471 7 12:00 APLING	MTBE 80218/602	× 81EX 805181002 EXECTED (232)		Total Metals Ag As Ba Cd Cr Pb Se Hg Fight 6010B/200.7						Hersindes 8081Av608	SS Moisture Content	× Cations (Ca, Mg, Na, K)	Chlorides
eiffaytshed by:	Date: Time: F	eceived by	┽┨╡	Th	+	Щª		╧	ie ا		- log		Suffs	╌┼╌╊╼	₹ Ke		2 2						
elinquished by:	11-19-2008 10:000 / 1	Provide the second of the seco		Las a sin			19/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/	Leve I	<u>3</u> <u>3</u> <u>6</u> <u>6</u>	5	REN R	IARK	e E E S S S	ail Re	Ves res res res	nne		Ad Orice	ditiona eswd	I COM	Nunt	Ser:	

and a second

1 . . 1 . . 1 . .

e" y Yex ce

and the second



Service -

COL.

1. 2

Ser.

8049

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR STREET HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 02/20/09 Reporting Date: 02/27/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I ~ LEA CO., NM Sampling Date: 02/17/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: CK Analyzed By: HM/TR

	Na	Са	Mg	к	Conductivity	T-Alkalinity
LAB NUMBI SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(<i>u</i> S/cm)	(mgCaCO ₃ /L)
ANALYSIS DATE:	02/24/09	02/24/09	02/24/09	02/24/09	02/20/09	02/20/09
H16931-1 MONITOR WELL #1	650	216	112	8.9	3,810	268
Quality Control	NR	48.1	51.0	2.74	1,432	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	96.2	102	91.5	101	NR
Relative Percent Difference	NR	<0.1	<0.1	2.2	0.8	NR

METHODS:

SM3500-Ca-D//3500-Mg E

310.1

120.1

	CI	SO₄	CO₃	HCO3	pН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	02/23/09	02/24/09	02/20/09	02/20/09	02/20/09	02/20/09
H16931-1 MONITOR WELL #1	1,200	449	0	327	7.17	2,830
Quality Control	500	41.6	NR	1000	7.07	NR
True Value QC	500	40.0	NR	1000	7.00	NR
% Recovery	100	104	NR	100	101	NR
Relative Percent Difference	<0.1	< 0.1	NR	<0.1	1.0	NR

METHODS 375.4 SM4500-CI-B 310.1 150.1 310.1 160.1 02/281 unl Date Chemist

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 client for 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 thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential 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 hereinder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples Identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratorios.



Sec. 18

10.0

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR HOBBS. NM 88240 FAX TO: (575) 397-1471

Receiving Date: 02/20/09 Reporting Date: 02/23/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I~ LEA CO., NM

Sampling Date: 02/17/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: CK Analyzed By: ZL

	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES
LAB NUMBEF SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
ANALYSIS DATE	02/20/09	02/20/09	02/20/09	02/20/09
H16931-1 MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
			0.050	
Quality Control	0.053	0.051	0.052	0.164
True Value QC	0.050	0.050	0.050	0.150
% Recovery	106	102	104	109
Relative Percent Difference	5.0	2.9	1.7	6.4

METHOD: EPA SW-846 8021 B

TEXAS NELAP CERTIFICATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

lene hemist

Jalastna

101 East Martand - Hobbs, New Action 81740	Tel (575) 333-2228 Fax (576) 333-2478	Inpany Name: RICE Operating Company RICE Operatin	oject Manager. Addres	Hack Conder 122 W Taylor Street	(dress: (Street, City, Zip)	122 W Taylor Street ~ Hobbs, New Mexico 88240 (575) 393-917	one #; Fax #:	(575) 393-9174 (575)397-1471	oject #: Project Name:	EME I-13 Leak	oject Location: T20S-R36E-Sec13 I ~ Lea County New Mexico			SE	FIELD CODE			/ Monitor Well #1 G 3 X					linquished by: Date: Time: Received by:	NUMNNAINNO 22009 9,44	linquished by: Date: Time: Received By: (Laborato	1'illa Maen	livered By: (Circle One) Sample Condition		
	atories, inc.	r. g Company	(Street, City, Zip)	- Hobbs, New Mexico 88240	Fax#:	4 (575)397-1471					Signature Rozanne Johnson (57,5)631-9310 ATTACING MULATION CALLER	PRESERVATIVE 1	IX METHOD SAMPLING	(1	(407) 1990 1990 1990	2000 400ml Liner Liner	IME 100E 100E 1942C 1942C 1942C 1942C 1972 100 ² 100 ²						Date: Time:		/ Staff) Date: / Time:	2 2/20/09 9:44	CHECKED BY:	(Initials) / / ///	
Page_1 CHAIN-OF-CUSTODY AND ANALYSIS REQ	LAB Order ID #	ANALYSIS REQUEST	(Circle or Specify Method No.)			2.00	2/5	336)	6⊢ 9 6))) pe	1 95	55 Extee 5 Ext	C) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	9" K 11 X 12 X 1	2 2 105,1 184 184 188 198 198 198 198 198 198 198 198 198	06/60 8/60 5 / 96 / 2 5 / 96 / 2 5 / 96 / 2 5 / 96 / 2 5 / 96 / 2 7 / 0 7 / 1 7 / 0 7 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0	0211 2002 2002 2002 2002 2002 2002 2002	116E 8 115X 8 11	X X X X X X X X X X X X X X X X X X X					Phone Results Yes No	Fax Results Yes No Additional Fax Number:	REMARKS:	Email Re hconder@riceswd.com	Iweinheimer@riceswd.com	<u>rozanne@valornet.com</u>	
of 1 DUEST											nrs (203)	но	, 103, 103, 103, 103, 103, 103, 103, 103	. au Sol	bevi bevi hTh	uno sa oss (IC)	anons vnions otal Di bioride um Am							· · · · · · · · · · · · · · · · · · ·					

the states

1.00 - 2.00 M

1. 6 . K

in start

8. S. R. B.

Jar Jarne

State of the second

開いたの

Le Sale Contra

and the second

21. 5 . A.



ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 WEST TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date:05/20/09Sampling DateReporting Date:05/26/09Sample TypeProject Number:NOT GIVENSample CondProject Name:EME I-13 LEAKSample ReceProject Location:T20S-R36E-SEC13 I ~ LEA CO., NMAnalyzed By:

Sampling Date: 05/19/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: ML Analyzed By: AB/CK/HM

CI	SO₄	TDS
(mg/L)	(mg/L)	(mg/L)
05/22/09	05/22/09	05/22/09
1,180	484	3,030
500	41.6	NR
500	40.0	NR
100	104	NR
2.0	1.7	0.3
4500-CI'B	375.4	160.1
	CI (mg/L) 05/22/09 1 1,180 	CI SO ₄ (mg/L) (mg/L) 05/22/09 05/22/09 1 1,180 484

Inn Shemist

25/27

Date

H17465 RICE

PLEASE NOTE: Llability 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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal writin thirty (30) days after competion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, toss 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. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A CAR AND

Sec. 2

ない

Sector Sector



See State

A. Sec.

- Fr - F

1

Service Service

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 05/20/09 Reporting Date: 05/22/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I~ LEA CO., NM Sampling Date: 05/19/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: ML Analyzed By: ZL

			ETHYL	TOTAL
	BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBEISAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
ANALYSIS DATE	05/22/09	05/22/09	05/22/09	05/22/09
H17465-1 MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
Quality Control	0.060	0.051	0.045	0.133
True Value QC	0.050	0.050	0.050	0.150
% Recovery	120	102	90.0	88.7
Relative Percent Difference	<1.0	9.5	2.2	3.0

METHOD: EPA SW-846 8021 B

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES. /

Mon hemist

05/26/09

Date

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 client for analyses. All claimst http://document.org/light/gence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable services. 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, arititates 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. Rosults relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Пли Арадиа Пли Ар	101 East Martank	d - Hobbs, New		je je	, p			•		ad 1			Ļ		CHA	N Z	Т, Ч	JSTC	λğ	AND	ANA	ILYS	IS R	EQU	EST		1
Control Note	mexeco Tei (575) 5 Fax (575) 3	232-2328 Cardl	T				A C		Ś		Ů					LAB	Orde	т D #							[1
Пли Астони Вени Сол, 201 Пли Астони Пли Поредисти Пли	Company Name: RICE Ope	rating Company		BILL T		ating	Com	Danv		ĝ	*		┝─				AN	ALY	SIS F	EQ	JEST		1				
Пли Корлан Пли Корлан Пли Корлан Пли Корлан 12.8 и тере Пли - Алан Мил Корлан 12.9 и тере Пли - Алан Мил Корлан 12.9 и тере Пли - Алан Мил Корлан 12.9 и тере Пли - Алан Мил Корлан 12.8 и тере Пли - Алан Мил Корлан 12.9 и тере Пли - Алан Мил Корлан 12.9 и тере Пли - Алан Мил Корлан 12.9 (20.9 · H - H - H - H - H - H - H - H - H - H	Project Manager.				Ă	dress:			(Stree	at, City,	Zip)		T				(Circl	SJOE	pecify	Meth	od No	· ~ :					
Дли Класси, Сл. Бал. Пли Класси, Сл. Бал. Пли Класси, Сл. Бал. Пли Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал. Класси, Сл. Бал.	Hack Con	der		122 W 1	Taylor 5	treet ~ I	fobbs,	New Me	xico 88	1240																	
12.1X Поре Балон - Toolar Allow Monto Bool 12.1X Поре Bandwood (CSD) 12.1X Поре Bandwood (CSD) <td>Address: (</td> <td>Street, City, Zip)</td> <td></td> <td></td> <td>đ</td> <td>ane#:</td> <td></td> <td></td> <td></td> <td>Fax</td> <td>**</td> <td></td> <td>Т</td> <td></td>	Address: (Street, City, Zip)			đ	ane#:				Fax	**		Т														
Половити и при и п	122 W Taytor 5	Street ~ Hobbs, New Mexico 88240		(575)	393-	9174	1			(2)	75)397	-1471				2.00											
Половин Половид <	Phone #:		Fax#:										<u> </u>			8/5(
Material Turn According Turn According Product	(575) 393-	-9174	(575)	397-1	471									3t J		010											
Product Leading: T2005-R266E Sec13 - Lea County New Moxico Terrer Market Market Leading: T2005-R266E Sec13 - Lea County New Moxico Terrer Market Ma	Project #.	Project Name: EME I-13 Leak					$\left \right $							1 494	1000	6не 9 бн											
Contract Contract <th< td=""><td>Project Location: T20S-R36</td><td>E-Sec131 ~ Lea County New Me</td><td>xico</td><td> </td><td>N3 /</td><td>moler.</td><td>un page</td><td>K</td><td>zamte.</td><td>Johnso</td><td>n (575)6. alorno</td><td>31-9310 † Com</td><td>T</td><td></td><td></td><td>92 dq 1 92 dq 1</td><td></td><td></td><td></td><td>92</td><td></td><td></td><td></td><td>(80</td><td></td><td></td><td>ราท</td></th<>	Project Location: T20S-R36	E-Sec131 ~ Lea County New Me	xico		N3 /	moler.	un page	K	zamte.	Johnso	n (575)6. alorno	31-9310 † Com	T			92 dq 1 92 dq 1				92				(80			ราท
Class Clas Class Class <thc< td=""><td></td><td></td><td>D</td><td>N</td><td>W</td><td></td><td>Ľ</td><td>PRI</td><td>SER</td><td>NIN NIN</td><td>E ISA</td><td>MPI IN</td><td>10</td><td></td><td>001</td><td>C9 C1</td><td></td><td></td><td></td><td>:9/:00</td><td></td><td></td><td>K)</td><td>ЭН.</td><td></td><td></td><td>oH 4</td></thc<>			D	N	W		Ľ	PRI	SER	NIN NIN	E ISA	MPI IN	10		001	C9 C1				:9/:00			K)	ЭН.			oH 4
Lus Field Contrainer Lus Field Contrainer Contrainer Contrainer Contrainer Contrainer Contrainer Contrainer Contrainer Contrainer Contreconer Contrainer <t< td=""><td></td><td></td><td></td><td>Je</td><td></td><td></td><td></td><td>┠</td><td>METH</td><td><u>e</u>[</td><td>\$<u> </u></td><td></td><td>, T</td><td>(119</td><td></td><td>) 68 2 68 2</td><td></td><td></td><td>vc sit</td><td>8510</td><td>809</td><td>000</td><td>I BN</td><td>203</td><td>sbilo</td><td></td><td>7 ~ e</td></t<>				Je				┠	METH	<u>e</u> [\$ <u> </u>		, T	(119) 68 2 68 2			vc sit	8510	809	000	I BN	203	sbilo		7 ~ e
Class Clas Class Class <thc< td=""><td>LAB#</td><td>FIELD CODE</td><td>dmo(;</td><td>NER</td><td></td><td></td><td></td><td>(AOV</td><td></td><td>(390H</td><td>(6</td><td>·</td><td>209/8</td><td>3/602</td><td></td><td><u>eA pA</u> A pA a</td><td>S9</td><td>səpi</td><td>20368</td><td>. Vol.</td><td>909/</td><td>H</td><td>inetne DM ,</td><td>*0S</td><td>S bev</td><td></td><td>əmiT b</td></thc<>	LAB#	FIELD CODE	dmo(;	NER				(AOV		(390H	(6	·	209/8	3/602		<u>eA pA</u> A pA a	S9	səpi	20368	. Vol.	909/	H	inetne DM ,	*0S	S bev		əmiT b
H174(5/ Inontrovient sr 1 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(LAB USE)		i) tab or ((CONTAI	AJTA	8	3900	ON ^ع ۲۲ (s مسم	*OSHE	E (1-11)54	JNC		1208 381	EX 8021	H 8520C	alataM tat Metals	inglov 91: Welov 91:	SUP Pestic	PAN 5447	mas swi	2808 2'83	D. TSST .00	S) snott	ID) snoi	serent ossid lete	səbirolr	nuotA m
Reserved Br. Conditioned Br. Conditioned Br. Conditioned Br. Conditioned Br. Reserved Br. Conditioned Br. Conditioned Br. Conditioned Br. Conditioned Br. Reserved Br. Conditioned Br. Conditioned Br. Conditioned Br. Conditioned Br. Reserved Br. Conditioned Br. Conditioned Br. Conditioned Br. Conditioned France Reserved Br. Conditioned Br. Conditioned France Conditioned France Conditioned France Reserved Br. Conditioned Br. Conditioned France Conditioned France Conditioned France Reserved Br. Conditioned Br. Conditioned France Conditioned France Conditioned France Sample - UPS - Bus - Conditioned Br. Conditioned Br. Conditioned Br. Conditioned Br.	1174/25-1	Monitor Well 44)) (# •	N >	V V	s	H H (N	лс н	N		.W	18) x	14	꼬	<u>11</u>)1	.э ж	9)d	B	W	NA	<u>× 1</u>	ю,	чΙ
Sampler UpS Sampler Conder Conder No Prometed By: Care of a state Care of a state Care of a state No Prometed By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No Delivered By: Care of a state Care of a state Care of a state No				·	1	1	1	4	\pm	-	<u>ه</u>		2		1	+	\pm		+		\pm	-	+	1			
Sampler Clicke One) Montered B: Clicke One) Montered B: Sampler - UPS - Bus - Other: - UPS - Bus - Other: - Montered B: - Montered B:					┢		F	\vdash	E	F				+	1	\vdash			┢				\vdash				
Repaired by: Date: Time: Prone Results No Repaired by: Date: Time: Results No Reprint Date: Time: Received By: Laboratory Start Startes Inter Reprint Date: Time: Received By: Laboratory Start No Date: Time: Received By: Laboratory No Date: Time: Results No Additional Fax Number: Date: Citcle Ore) Sample condition No Additional Fax Number: No Sample: US Sample condition No Additional Fax Number: No Sample Ore Sampler No Additional Fax Number: <td></td>																											
Reproduct of the first Date: Time: Phone Results No Reproduction of the first Time: Phone Results Ves No Reproduction of the first Date: Time: Phone Results Ves No Reproduction of the first Date: Time: Phone Results Ves No Reproduction of the first Date: Time: Phone Results Ves No Reproduction of the first Date: Time: Phone Results Ves No Reproduction of the first Date: Time: Results Ves No Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Number Reproduction of the first Additional Fax Number No Additional Fax Num																											
Rependent Dy: Date: Time: Phone Results Ves No Reparticiped Dy: 6-20-07 3/10 Date: Time: Phone Results Ves No Reparticiped Dy: 6-20-07 3/10 6-20-07 3/10 6-20-07 3/10 No Reparticiped Dy: 6-20-07 3/10 7/10 6-20-07 3/10 No Reparticiped Dy: 6-20-07 3/10 6-20-07 3/10 No Additional Fax Number: Reparticiped Dy: 7/10 6-20-07 3/10 6-20-07 3/10 No Reparticiped Dy: 7/10 6-20-07 3/10 6-20-07 3/10 Reparticiped Dy: 7/10 6-20-07 3/10 7/10 6-20-07 Reparticiped Dy: 7/10 6-20-07 3/10 7/10 6-20-07 Reparticiped Dy: 7/10 7/10 7/10 7/10 6-20-07 Reparticiped Dy: 7/10 7/10 7/10 7/10 6 Reparticiped Dy: 7/10 7/10 7/10 6 0 Reparticiped Dy: 7/10 7/10 7/10 1/10 0 Reparticiped Dy: 7/10 7/10 1/10 1/					-																						
Repeated by: Date: Time: Repeated by: Date: Time: Represented by: 6-20-07 3:/0 Represented by: Date: Time: Represented by: 6-20-07 3:/0 Represented by: Date: Time: Represented by: 6-20-07 3:/0 Represented by: Date: Time: Represented by: 6-20-07 3:/0 Received by: Date: Time: Representation 6-20-07 3:/0 8 No Additional Fax Number: Representation 6-20-07 3:/0 9:/0 6-20-07 3:/0 Representation 6-20-07 3:/0 8 No Additional Fax Number: Representation 8 0 9:/0 9:/0 10:/0 Delivered By: (Initials) 0 9:/0 9:/0 0 Sampler - UPS - Bus - Other: No Meat Initials) Meat					+					-						-											
Repeated by: Date: Time: Phone Results Yes No Rogarine Johnson 6-20-07 3/10 Rapelved by: Date: Time: Phone Results Yes No Reginduity: 1 6-20-07 3/10 10000 6-20-07 3/10 10000 10000 10000 Reginduity: 1 0 6-20-07 3/10 10000 10000 10000 10000 Reprinduity: 1 0 6-20-07 3/10 10000 10000 10000 10000 Reprinduity: 1 1 0 10000 10000 10000 10000 100000 Delivered By: (Circle One) 10000 10000 10000 10000 100000 100000 Delivered By: (Circle One) 10000 10000 10000 10000 100000 100000 Sample - UPS - Bus - Other: 10000 10000 10000 10000 10000 100000 No 10000 10000 10000 10000 10000 10000 10000 Sample - UPS - Bus - Other: 10000 10000 10000 10000 10000 100000 <td></td> <td></td> <td></td> <td>1</td> <td>╉</td> <td>+</td> <td>-</td> <td>_</td> <td></td> <td>-</td> <td></td> <td>-</td> <td>4</td> <td>+</td> <td>_</td> <td>-+</td> <td></td> <td></td> <td>-+</td> <td>\neg</td> <td></td> <td>\neg</td> <td></td> <td></td> <td></td> <td></td> <td></td>				1	╉	+	-	_		-		-	4	+	_	-+			-+	\neg		\neg					
Regentee dy: Time: Regentee dy: Time: Phone Results Ves No Regentee Joinsont 6-20-07 3 / 10 100 kms 100 kms 100 kms 100 kms Regentee Joinsont 6-20-07 3 / 10 6-20-07 3 / 10 100 kms 100 kms Regination 6-20-07 3 / 10 6-20-07 3 / 10 100 kms 100 kms Relinquished by: 10 kms 10 kms 100 kms 100 kms 100 kms 100 kms Delivered B: (circle One) 10 kms 100 kms 100 kms 100 kms 100 kms Sample condition Yes Xes 100 kms 100 kms 100 kms 100 kms Sample condition Yes Xes 100 kms 100 kms 100 kms Sample condition Yes Yes No Additional Fax Number: No 10 kms 10 kms 10 kms 10 kms No 10 kms 10 kms 10 kms 10 kms No Yes 10 kms 10 kms 10 kms No 10 kms 10 kms 10 kms 10 kms No 10 kms 10 kms 10 kms 10 kms No 10 kms	X			T	+		ŀ	+		4		_	4		4	-			-	\neg			_		_+		
Rozente Jongeon 6-20-07 3:10 M.M. M.	Reference	Data' Time'				╋	Į				_					_F		Ţ							_		
Rogerine Jorgeon/ Relinquished by: Date: Time: Received By Luture UUU/UUU Date: Time: Reditional Fax Number Relinquished by: Date: Time: Received By Laboratory Staff Date: Time: Additional Fax Number Relinquished by: Date: Time: Remarks: Remarks: Remarks: Remarks: Delivered By: (Tricle One) Sample Condition CheckED BY: CheckED BY: Remarks: Sample Condition Yes Most Most Most Most Most Sample - UPS - Bus Other: Most Most Most Most Most	R		Jan Bar		[F	`			= ,	me:			le re	surs	4	χes	ļ	g								
Control of the cont	Rozarine Johas	all 3-10-10	11 111	The state	3	11	Cirl		5-2	500	'n	ý	Fax	Resu	ts	_	Yes		Ŷ	Adc	litional	I Fax I	Mumb	1.0			
Delivered By: (Circle One) Sample Condition CHECKED BY: [weinheimer@riceswd.com Yoa Yoa Yoa Yoa Yoa Sampler - UPS - Bus - Other: No No No	(1) and (1)	ALLIND 5/20/09 16,10	Receive	P - CA	(Labi	in the	M	J K	$\frac{\partial f}{\partial f}$	in para	me: - 4.	Ĩ	RED	AARK	S: Em	all Ro	hcoi	ider(0 <u>10</u>	pwse	COT.	_					
Sampler - UPS - Bus - Other:	Delivered ty:	(Circle One)	Sample \$	Conditio	27 <u>8</u>	Intect		CHUCK CHUCK	ED BY.								Mei	ipei	ner	Price	Swd.	ECOL					
	Sampler -	UPS - Bus - Other:	~ ~			É		(Initiats)	1	10m	K								3	2		-1					

La B

調節

記言語

and the second

and the second

و با شروع وحصر شروع

Ha Mary

the state

A State of

and a second



ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 08/26/09 Reporting Date: 08/31/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I~ LEA CO., NM Sampling Date: 08/25/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: ML Analyzed By: ZL

LAB NUMBEI	R SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS D	ATE	08/27/09	08/27/09	08/27/09	08/27/09
H18081-1	MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
Quality Contro	DI	0.050	0.051	0.049	0.146
True Value Q	C	0.050	0.050	0.050	0.150
% Recovery		100	102	98.0	97.3
Relative Perc	ent Difference	2.0	<1.0	1.9	2.6

METHOD: EPA SW-846 8021

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

1hre Chemist

09/04/09

PLEASE NOTE: statilizent) Danages. Cardina's liability and client's exclusive remody for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All carins, including (histories indigence and any other cause whatsoover shall be deemed waived uncess made in writing and received by Cardinal whith thirty (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 profile incurred by client, its substituties, affiliates or successors when out of or related to the performance of services hereunder by Cardinal, regardless of whether such dains is based upon any of the above-classed reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced oncept in full with writen approval of Cardinal Laboratories.



ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 WEST TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

. .

Receiving Date: 08/26/09 Reporting Date: 09/01/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I ~ LEA CO., N.M. Sampling Date: 08/25/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: ML Analyzed By: HM

		CI ⁻	SO₄	TDS
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)
Analysis Date:		08/29/09	09/01/09	08/30/09
H18081-1	MONITOR WELL #1	1,120	366	2,950
Quality Control		500	37.3	NR
True Value QC		500	40.0	NR
% Recovery		100	93.2	NR
Relative Percen	t Difference	< 0.1	2.8	1.1
METHOD: Standa	rd Methods, EPA	4500-CI'B	375.4	160.1

Not accredited for chloride, sulfate and TDS.

Chemist

<u>D</u>9/841

Date

1 FASE NOTE: Linkline and Damagas. Cardina?s Unklike and clear's au

H18081 RICE

PLEASE NOTE: Liability and Damages. Cantinai's liability and client's exclusive remody for any daim arking, whether based in control or tan, shall be limited to the amount paid by client for analyses. All claims, including these for negligance and any other cause whethere will be deemed wakwed untass made in writing and received by Cardinal within thitry (30) days after completion of the applicative service. In no event shall Cardinal be liable for incidental or consequential damages, including, whether based in ecolored by Cardinal within thitry (30) days after completion of the applicative service. In no event shall Cardinal be liable for incidental or consequential damages, including, without Initiation, business interruptions, loss of use, or loss of profile incurred by clarit, its subsidiarios, affiliates or successore arking out or or related to the performance or services incurvates. The approximation of the applicative mathe only to the samples identified above. This report shell not be reproduced except in full with written approval of Cardinal Laboratories.

a martine

C. S.

String of the second

a an sann a sann a' sa



ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: HACK CONDER 122 W. TAYLOR HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 11/10/09 Reporting Date: 11/13/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I~ LEA CO., NM Sampling Date: 11/06/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: AB Analyzed By: ZL

LAB NUMBE SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	11/12/09	11/12/09	11/12/09	11/12/09
H18691-1 MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
	0.047	0.046	0.049	0 152
	0.050	0.050	0.049	0.152
% Recovery	94.0	92.0	98.0	101
Relative Percent Difference	<1.0	<1.0	<1.0	<1.0

METHOD: EPA SW-846 8021B

TEXAS NELAP CERTIFICATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES.

une Chemist

11/16/09 Date

PLEASE NOTE: Liability and Domages. Cardinal's liability and client's coclusive remedy for any clean ansing, whether based in contract or tart, shall be finited to the amount paid by client for analyses. All same, in ECO interpretations and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile 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. Result relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



LAB NO.

ANALYTICAL RESULTS FOR **RICE OPERATING COMPANY** ATTN: HACK CONDER **122 WEST TAYLOR** HOBBS, NM 88240 FAX TO: (575) 397-1471

Receiving Date: 11/10/09 Reporting Date: 11/13/09 Project Number: NOT GIVEN Project Name: EME I-13 LEAK Project Location: T20S-R36E-SEC13 I ~ LEA CO., N.M.

SAMPLE ID

Sampling Date: 11/08/09 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: AB Analyzed By: HM

CI	SO₄	TDS
(mg/L)	(mg/L)	(mg/L)

Analysis Date:	11/11/09	11/11/09	11/12/09
H18691-1 MONITOR WELL #1	1,220	364	2,700
			·······
Quality Control	500	34.9	NR
True Value QC	500	40.0	NR
% Recovery	100	87.2	NR
Relative Percent Difference	2.0	0.6	3.5
AETHOD: Standard Methods, EPA	4500-CIB	375.4	160.1

METHOD: Standard Methods, EPA Not accredited for Chloride, Sulfate and TDS.

Chemis

H18691 RICE

11/16/09 Date

PLEASE NOTE: Liability and Damages. Cerdinal's liability and client's exclusive remody for any claim arising, whether based in contract or tori, shall be limited to the amount paid by client for analyses. All claims, including those for negligance and any other cause wheteoever shall be deemed walved unless made in writing and received by Cardinal within thiny (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. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories

「豚」			ĺ	-							nue	0H ÞZ	; ~ e	emiT b	ounor	AmuT	T			<u></u>	1			T	3.000			nicanita Ci		annua ner.		
						-		<u></u>					,		6 9(Chioric	×															
5	51											8	pilo	S bev	tosei(] iedo]	×												a to pre-state spin			
- ⁻	l B					v					(60	3' HC	:00	'+OS	ы (СІ' :	eroinA steffu2	×				┝─				-							
	RE											Ń	'en	.9 ^{(M} ,	e)) e	noiteO	L											mber				
	7818													Hi triatri	იე ლ იე ლ	T.GO8	-											NN XR			E	
	AL		5	(j									808	W180	8 est	estici												hal Fe		ε		
	A C		N N											809/	Z808	S-80-												bittor		<u>д</u> .6	et.co	
6 00	ANI		REO B	/ INGO		_					52	9/30/	28	1007.8		BCW2	-				 							¥		ASB		
	ğ		518	pecil	-			9 122011 110							1-71	108	-	\square									ĝ	Ŷ		0 Lic		
	S TC	# Q	Ĕ	2										sepi	oites ^c	1CLP (der	nnek	
	ß)der	NA N										58	Votatile 88	uierov / imeč										_		es,	68		lcon		
	Ş	Ř		ະ					ßı	1 85	r 69 (2020	8 8 8	A BA 8	e tat siv	LCLPI														Ret	-iii) 6	
	Š						7.00	Z/801	09 6	H 9	S 94	CQ C	68	eA pA	6(2)) 20/2	N 1850T								_			ß			llam		
	ີວ							(5	:)) pi	put	atx3 8	001X1	L/9	001 XI	Nr.81	P Hat	\uparrow	Η									Resul	ults	KS:	80		
s		1				_								209/8	11208	XƏT8	×										one F	x Re	MAR			
e Hur and		(- 44 (k) - 16 (na an Is	T		er offer and				0	T	209/8	1208	38TM				_		_			_	en e	E.	E L	R R			_
_							471					L.				JIME	10:4													و		
							1-1-1				5)837- Diat	8AM		(8	100Z)	<u> Jtao</u>	11-6													0		
			-	19		5	75)3				on (57) valor	lu				INON									ĺ		Щ.		ë	15		
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			8	E C	240	58	3		X			E a	3	(340)			Ŀ							-			-			-20		
10		Ø.		(Stree	100 BE				Þ		enne.	SER	ц Ц		70	SH8M									-+		ate:		ite:	2-10		
	ØP		λ Σ		w Mex				Λ							ONH									\square		٥		õ	2)
19 19 19			du	and the second sec	B. NG					Z		┢	+		2 400A	HCL	8				2005-107M	-	_	_	-				e		ა ა >	a ,
1981		R	ů ,		Hot		_			\square		R	L		BĐ	วการ													Star			
御礼書		5	atin,	dress:	treat	one#	9174					h	4			AIR								_					ato	1	łΧ	
_		2	lå jä	R	ytor S	f	693-1	1				K	4	<u></u>		TIOS	Ļ				_		4	-+	4				Labo Labo	4		2
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		33	E E E		W Ta		75)	7-14				R	1				Ê			-	\neg	\neg	-	-+	╉		ž		2		5 J	4
U D)			ष्ट्र क्र		122		(2)	130				-	5	oaNi	NTN.		Ľ		-	_				\downarrow	_		, pear		200	Ĵ	le Con	E
	e	8						Fax #			2		(dwo(c) סג (כ	1m(0)	0										Rece		Rece		Semp	
											<i>f</i> iexid	Γ			-46,11 %						Π			I	T	Ī		5				1
							and the second				ew h	8																:01				{
	ļ	R I					2 40			,08k	N N			ய													•	06		100		
							20 88		BUUG:	131	uno			Ö														2.20	Time:		i	ġ
2			2				Mexe		N Pool	÷ Ľ	98 C			ED														1-11			Ę	5
_			npai			6	, New		£		ר י						₩ ₩											N	Date		()	9
	ASS.		Co			N N	Habba				131						or 🕅									ď	(21			ë ë	
			ting		ير	Set C	- 1988	174			Sec.						룦니오								h		1	D	\$			2
e II Gal	tand. 	(c) 383	Ta: Dera	臣	onde	55)	or Str	3-9			្រ ទី ខ្ល		MO.A.				륗			┥	╡	+	╈	+	\mathcal{A}	Å	Ľ,	V B	Age	5 1 1		
6	Cost Mos	Tcl (5) Fex (5)	N N N N N N N	Buer	ŭ ¥	1:	V Tayl	5) 35			teool N-R			B #) USE		4-16								N				ilshe	-	ور م	
lan ^a	101 EI	. –	RIC a	dec	Lac	tdress	12 4	hone i (575	120		720 120			2		ð	182.					l	I				I)	N	nbulie		nevite (
			Q	١ <u>۵</u>		١ <u>٢</u>		<u>n</u> .	<u>h</u>		ζ		ar an a	0	~		1										<u>z</u> V	ğ	ŭ		<u>ğ v</u>	ų/

S. at

Contraction of the

كالمتحاصين الأسا



.

" Watter

وموالية مرامية

Star Barr

Virginity in

1978 C

Ser Cal

the training

1. B. M.

E Bar

the second of

 $\mathcal{L} \subset \mathcal{L}$

調えるい

1 23 V

N. 9.5

3.18

Sec. 28. 48

Strate a

		Comments		Clear no odor						
		Sulfate		439	449	484	366	364		
		Total Xylenes		<0.003	<0.003	<0.003	<0.003	<0.003		
		Ethyl Benzene		<0.001	<0.001	<0.001	<0.001	<0.001		
		Toluene		<0.001	<0.001	<0.001	<0.001	<0.001		
Company ent	v Mexico	Benzene		<0.001	<0.001	<0.001	<0.001	<0.001		
Table 1 rating (1-13 V	ity, Nev	TDS		3100	2830	3030	2950	2700		
e Opei EME	a Coun	ō		1220	1200	1180	1120	1220		
Ric	Le	Sample	Date	11/17/08	02/17/09	05/19/09	08/22/09	11/06/09		
		Volume	Purged	6	6	6	9	9		
		Well	Volume	1.80	1.80	1.80	1.80	1.70		
		Total	Depth	43.22	43.20	43.20	43.20	43.20		
		Depth to	Water	32.05	31.98	31.94	32.18	32.27		
		ΜM		-	1	+	-		-	Ţ

S. S. S. S. S. S. S.

the fee of the sec

Lange State

State and

1. S.

1528 L.3.

W. W. W. A.

1. Con

1. C. 2. 2. 2.

8 + 4 - 4 - 8

2.00 tan

No Fred

a state

the state of the

1. c1 10 Le

an an

and the

A THE A

Graph 1 Rice Operating Company MW-1 EME I-13 Vent Lea County, New Mexico



APPENDIX F EME H-13 GROUNDWATER TABLE

「東京」

Ref 13

" Burne

12. 34

2. 1

12,20

Sec. 2

in The Part

1. A.

1. 1. 184 A

A State of

a and a constant

響い

175 305

•

			Comments		XXX	XX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	Clear	Clear/no odor	Clear/no odor	Clear	Clear/no odor									
			Sulfate		497	1020	920	622	370	44	90.8	418	358	376	641	358	286	351	307	412	308	292	287	302	300	329	340	484	317	286	258	272	204	
			Total Xylenes		<0.001	<0.001	<0.001	<0.001	0.001	<0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.003	<0.006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
			Ethyl Benzene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
			Toluene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	ompany	Mexico	senzene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	able 1 ating Co	ТС П- 13 IV, New	rds E		5180	5340	5600	4700	4180	3580	751	3510	3900	3890	5520	4880	4760	3620	4160	3240	3260	2940	3070	3800	3264	3311	3450	3750	3540	3370	3980	3270	3220	
ŀ	ce Oper	EIV Ba Count	Ū		1770	2600	2360	2000	1600	1500	177	1680	1590	1850	2610	1900	1450	1900	1600	1800	1430	1610	1640	1550	1550	1520	1520	1660	1460	1600	1540	1600	1700	
	ï	Ľ	Sample	Date	10/29/02	03/06/03	05/29/03	08/22/03	11/19/03	02/18/04	05/27/04	09/07/04	11/24/04	03/30/05	06/21/05	09/16/05	10/19/05	01/18/06	04/18/06	07/17/06	10/09/06	01/24/07	04/02/07	07/10/07	10/01/07	01/22/08	05/07/08	08/13/08	11/17/08	02/17/09	05/19/09	08/25/09	11/06/09	
			Volume	Purged	5.25	5.10	5.10	5.04	5.00	5.00	5.00	5.14	5.40	25.0	10.0	xx	6.0	8.0	8.0	10.0	10.0	8.0	8.0	8.0	7.0	0.7	0.7	2.0	0.7	0.7	0.7	7.0	2.0	
			Well	Volume	1.72	1.71	1.21	1.68	1.60	1.67	1.65	1.71	1.80	1.91	1.95	xx	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
			Total	Depth	43.94	43.90	43.91	43.90	43.91	43.90	43.90	44.10	44.10	44.10	44.10	XXX	44.10	44.10	44.10	44.10	44.10	44.32	44.32	44.32	44.32	44.32	44.32	44.32	44.32	44.37	44.37	44.37	44.37	
			Depth to	Water	33.19	33.18	33.20	33.40	33.35	33.41	33.56	33.40	32.85	32.19	31.93	XXX	31.70	31.59	31.66	31.75	31.77	31.72	31.68	31.69	31.75	31.87	31.84	31.83	31.74	31.67	31.67	31.83	31.91	
			MM		+	-	-	-	-	-	-	 _	-	-	-	-	-	-	-	-	-	-	-	-	۲	ŧ	+	-	1	+	-	-	1	-

Sec. States

and the second

and the second s

N. C. S.

Santa and

の一部の

Provide State

ي المجر والد

and a start

286 23 24

Ser Ball and

2. 3 B

in the second

-11 N 10

Sale a sta

Graph 1 Rice Operating Company MW-1 EME H-13 Lea County, New Mexico



Start a line がない A. 2. 4. 4 W. Strates Berne Berne B. Same and a and the second Loan I ake 14.00 に語り **李**逸 1. N. のない 1. 2 M

				Comments		XXX	XXX	XXX	Clear	Pumping	Pumping	Pumping	Clear	Turbid to	clear/no odor							
				Sulfate		264	237	562	284	300	231	291	348	306	325	393	317	299	251	270	227	
				Total Xylenes		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.003	<0.006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
				Ethyl Benzene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
		2		Toluene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	Company 3	Well MW-	/ Mexico	Benzene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
able 2	AE H-1:	Aonitor	ty, New	TDS [3560	4120	2710	3720	2890	3690	3770	3189	3083	3030	3710	3580	3360	3220	3680	3160	
	ce Oper EN	adient N	a Coun	Ū		1670	1420	1690	1430	1660	1470	1440	1480	1440	1360	1560	1520	1600	1540	1660	1600	
	Ť	Upgr	Le	Sample	Date	03/27/06	04/18/06	07/17/06	10/09/06	01/24/07	04/02/07	07/10/07	10/01/07	01/22/08	05/07/08	08/13/08	11/17/08	02/17/09	05/19/09	08/25/09	11/06/09	
				Volume	Purged	8.00	8.00	10.00	10.00	6.00	8.00	8.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
				Well	Volume	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.90	1.90	1.90	1.90	2.00	2.00	2.00	2.00	1.90	
				Total	Depth	43.10	43.10	43.10	43.10	43.03	43.03	43.03	43.03	43.03	43.03	43.03	43.03	43.07	43.07	43.07	43.07	
				Depth to	Water	30.69	30.66	30.80	30.85	30.78	30.75	30.79	30.85	31.00	30.98	30.86	30.76	30.73	30.72	30.88	31.00	
			ľ	Mδ		~	N	N	2	N	N	2	N	N	N	2	2	N	ŝ	2	2	~

Rice Operating Company MW-2 EME H-13 Lea County, New Mexico



「「「「「 No. 1 45 - 24 - 4 Mile -1988 A. いたいという 「日本 and Later E area an the second and the and a Angel (C. P. 12. 20.0 E. and の変更 C. S. March

Table 3

1. S. S. S. S.

		_				-													-	
		Comments		XXX	XXX	XXX	Clear	Pumping	Pumping	Pumping	Clear	Turbid to	clear/no odor							
		Sulfate		472	426	557	393	398	242	392	332	328	368	425	321	302	275	254	232	
		Total Xylenes	•	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.003	<0.006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
		Ethyl Benzene	,	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
	۳- <i>۱</i> -3	Toluene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
company 3	r Well MW	Benzene		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
rating C ME H-1:	Monito Itv. New	TDS		3480	3560	3035	2990	2820	3290	3420	3257	3225	3880	3530	3240	3280	4070	4300	3220	
ice Ope El	gradient sa Coun	ō		1490	1390	1510	1380	1570	1410	1450	1440	1520	1500	1520	1520	1660	1600	1520	1650	
Œ	Down(Le	Sample	Date	03/27/06	04/18/06	07/17/06	10/09/06	01/24/07	04/02/07	07/10/07	10/01/07	01/22/08	05/07/08	08/13/08	11/17/08	02/17/09	05/19/09	08/25/09	11/06/09	
		Volume	Purged	8.00	10.00	10.00	10.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	
		Well	Volume	2.30	2.30	2.20	2.20	2.20	2.30	2.20	2.20	2.30	2.30	2.20	2.20	2.30	2.30	2.20	2.20	
		Total	Depth	46.00	46.00	46.00	46.00	46.00	46.00	46.00	46.00	45.98	45.98	45.98	45.98	46.05	46.05	46.05	46.05	
		Depth to	Water	31.89	31.85	32.08	32.04	31.96	31.93	31.95	32.02	31.88	31.85	32.08	31.98	31.90	31.90	31.90	32.15	
<u></u>		MW		ю	ო	ო	ε	ო	ო	ო	e	ო	ო	ო	ო	ю	ε	ო	က	ო

Rice Operating Company MW-3 EME H-13 Lea County, New Mexico



APPENDIX G GROUNDWATER DATABASE

S. S. S.

Ser Tally

204 B 20

Same and

Enter a

and the

a Carton

Ser all

B. Marine

4.2 0 8 mm

2. 2.3

and the second

教堂

S. C.

Water Well Data Average Depth to Groundwater (ft) RICE OPERATING - EME jct. I-13, Lea County, New Mexico

	19 S	outh	3	5 East	
6 61	5	4	3	2	1
58	63	70			63
7	8	9 20	10	11	12
51	18		53		
18	17 26	16	15	14	13
	30		26	27	27
19	20	21	22	23	24
100			27		20
30	29	28	27	26	25
31	32	33	34	35	36

	19 :	South	:	36 East	
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

		19 S	outh	37	'East	
6	50	5	4 39	3 41	2	1
						34
7	43	8 42	9	10	11	12 63
				43	22	
18		17	16	15	14	13
53		65	39	46	20	46
19		20	21	22	23	24
48			33	38		48
30	20	29	28 30	27	26	25
	N	lonum	ent	29		_
31		32 29	33	34	35	36
24			32	22		

	20 S	outh		35 East	t
6 56	5 <mark>64</mark>	4	3	2	1
7	8	9	10	11	12 49
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31 65	32	33 89	34	35	36

	20 \$	South		36 East	
6	5	4	3	2	1
32	28			92	40
7	8	9	10	11	12
	33	38		32	29
18	17	16	15	14	13 31
34				45	SITE
19	20	21	22	23	24
30	29	28	27	26 106	25
				170	
31	32	33	34	35	36
	170			122	

	20 South 37 East						
6	37	5	38	4 22	3	2	1
7	36	8	35	9	10	11	12
18		17		16	15	14	13 78
19 35		20		21	22	23	24
30		29		28 40	27	26	25
31		32		33	34	35	36

21 South 34 East

	21	South		35 East	t
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

21 South So East	21	South	36 East
------------------	----	-------	---------

6	5	4	3	2	1
7	8	9	10 200	11	12
18 106	17	16 195	15	14	13
19	20	21	22	23 130 150	24
30	29	28	27	26 150	25 148
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6) Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

31 ROC site wells

http://octane.nmt.edu/waterquality/

2. 2. 9. 1C

diana.

Ser well

S. Salar

Bride Barry

1990 C

1. 32 2.05

A Part - Ser

1 - E - E

24 C. 24

anipage -

to Special d

1. 2. 1.

1. 1 1 Mar 1

Section	12 General In	formation Abo	out: Sample 1197
Section/ Township/Range	12 / 20 S / 36 E	Lat/Long	32.5878 / -103.3074
Elevation	0	Depth	0
Date Collected	5/15/1991	Chlorides	24000
Collector / Point of Collection	SEO / DP	Use	Domestic
Formation		TDS	0

Melanie located this well in Unit letter 'C' which is outside of the 1/2 mi. radius.

Section 7	7 General In	formation Ab	out: Sample 6369
Section/ Township/Range	07 / 20 S / 37 E	Lat/Long	32.5878 / -103.2902
Elevation	3553	Depth	90
Date Collected	11/9/1979	Chlorides	1268
Collector / Point of Collection	SEO / DP	Use	Stock
Formation	OGALLALA	TDS	0

Melanie was unable to locate this well.

Section	7 General In	formation Abo	out: Sample 5313
Section/ Township/Range	07 / 20 S / 37 E	Lat/Long	32.5878 / -103.2902
Elevation	3553	Depth	90
Date Collected	2/13/1985	Chlorides	2680
Collector / Point of Collection	SEO / DP	Use	Stock
Formation	OGALLALA	TDS	0

Melanie was unable to locate this well.