

1R - 427-171

REPORTS

DATE:

1-26-10



TETRA TECH

CERTIFIED MAIL
RETURN RECEIPT 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

RECEIVED OGD
2010 FEB - 1 A 11:38

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

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



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.



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



TETRA TECH

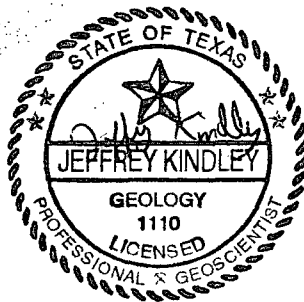
elevated groundwater chloride concentrations at the site are likely a regional degradation and not from the former junction box.

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 or 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.

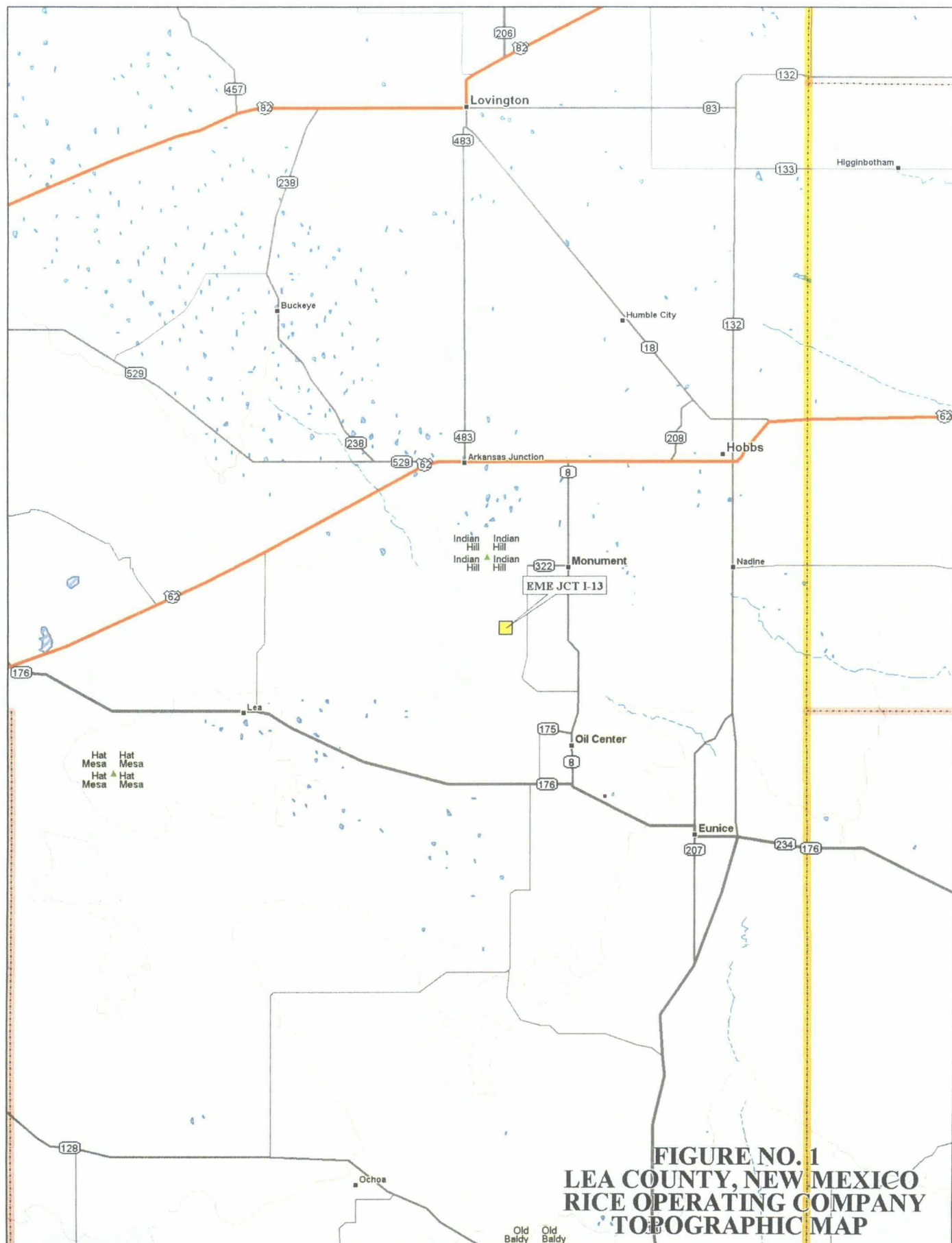
Jeffrey Kindley, P.G.
Senior Environmental Geologist

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



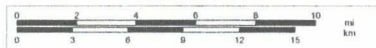
FIGURES

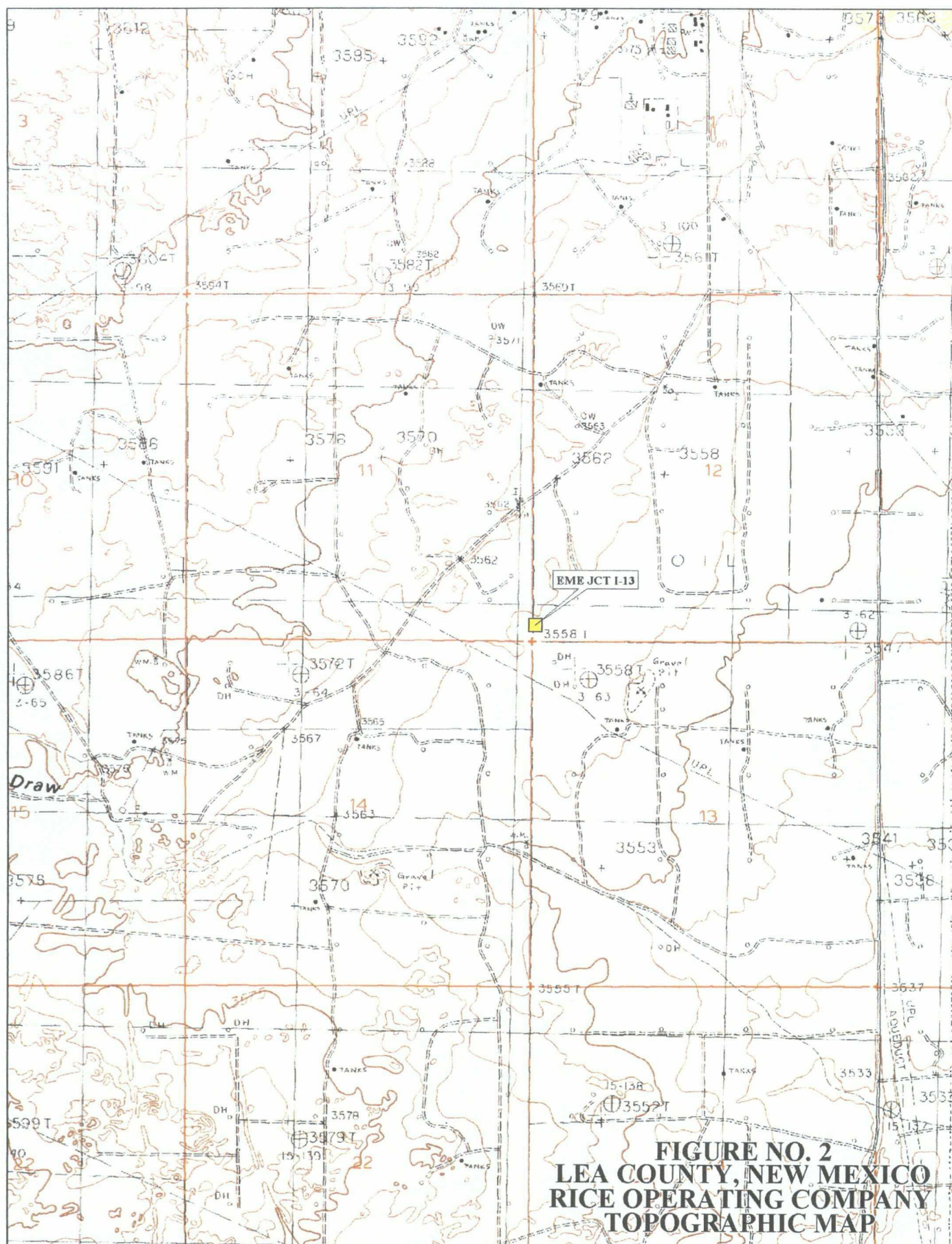
100-1000000



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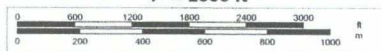
Scale 1 : 400,000
 1" = 6.31 mi





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Scale 1 : 24,000
1" = 2000 ft





DEPTH	FIELD CI	LAB CI
5	287	-
10	462	-
15	603	688
20	411	-
25	288	-

SOME
VEGETATION

DEPTH	FIELD CI	LAB CI
5	236	-
10	393	-
15	237	-
20	620	-
25	767	752

LEASE ROAD

3" POLY LINE

FORMER I-13 JCT BOX

GOOD VEGETATION

DEPTH	FIELD CI	LAB CI
5	242	-
10	225	-
15	447	-
20	533	736
25	417	-

EXCAVATION

SB-5

DEPTH	FIELD CI	LAB CI
5	295	-
10	403	-
15	224	-
20	420	416
25	345	-

SB-1

DEPTH	FIELD CI	LAB CI
5	265	-
10	359	-
15	615	-
20	676	976
25	655	-

RAMP

DEPTH	FIELD CI	LAB CI
5	226	-
10	623	912
15	512	-
20	393	-
25	279	272

SEPARATOR



TANK

TANKS

DEPTH	FIELD CI	LAB CI
5	243	-
10	546	-
15	671	752
20	596	-
25	335	-

GOOD VEGETATION

MW-1

GOOD VEGETATION

MONITOR WELL LOCATION
SOIL BORING LOCATIONS

FIGURE NO. 3

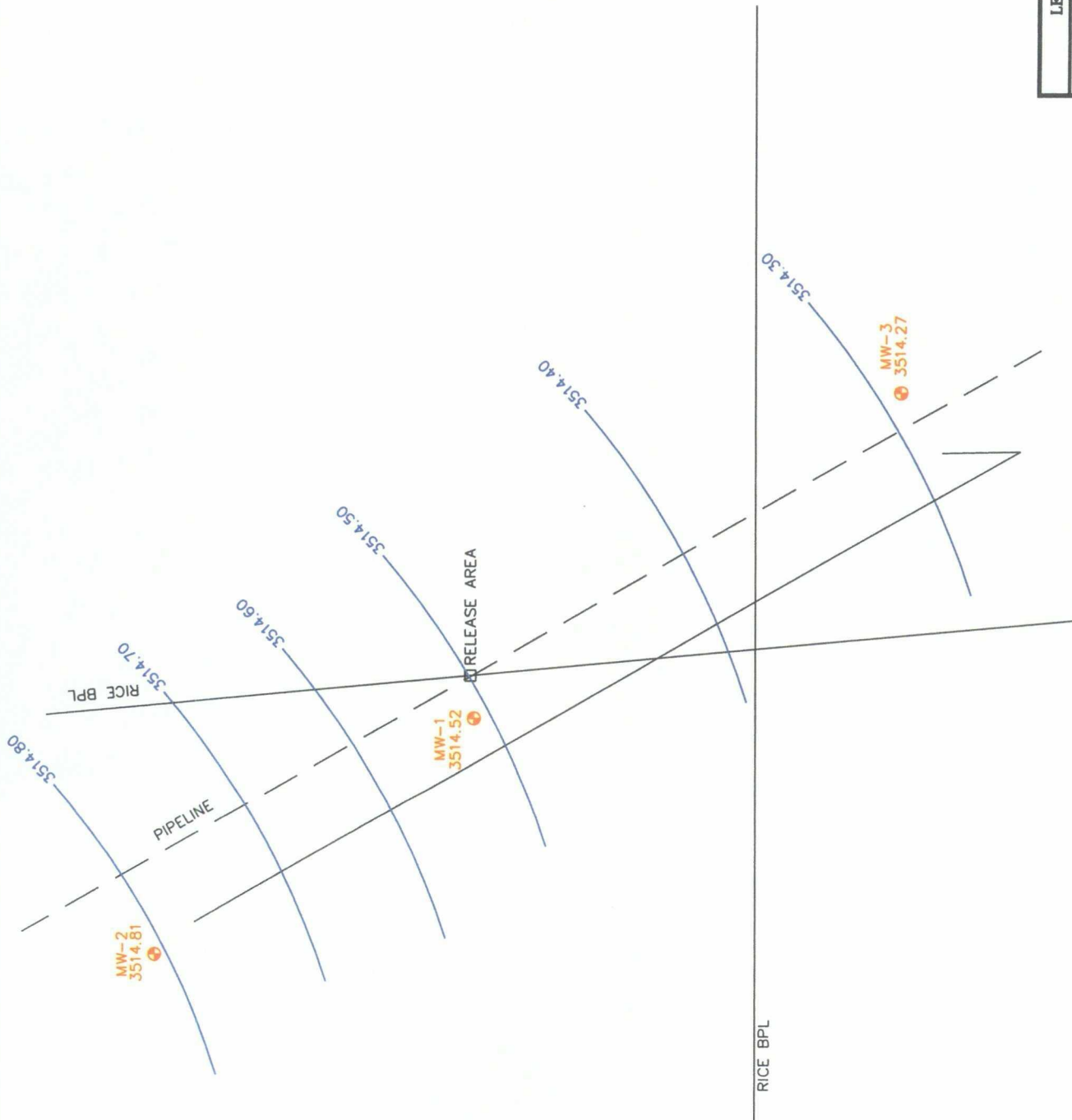
LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
EME JCT. I-13
SITE MAP

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 4/21/08
DRAWN BY: RC
FILE: C:\WORK\3463
EME JCT. I-13

NOT TO SCALE



MONITOR WELL LOCATIONS
CONTOUR INTERVAL = 0.10'

SCALE: 1" = 250'
0 250'

DWN. BY: JJ
FILE: 03-03-3307
SITE MAP

FIGURE NO. 4

LEA COUNTY, NEW MEXICO
RICE OPERATING COMPANY
EME H-13 LEAK GROUNDWATER GRADIENT MAP GAUGED ON 11/17/08
TETRA TECH, INC. MIDLAND, TEXAS

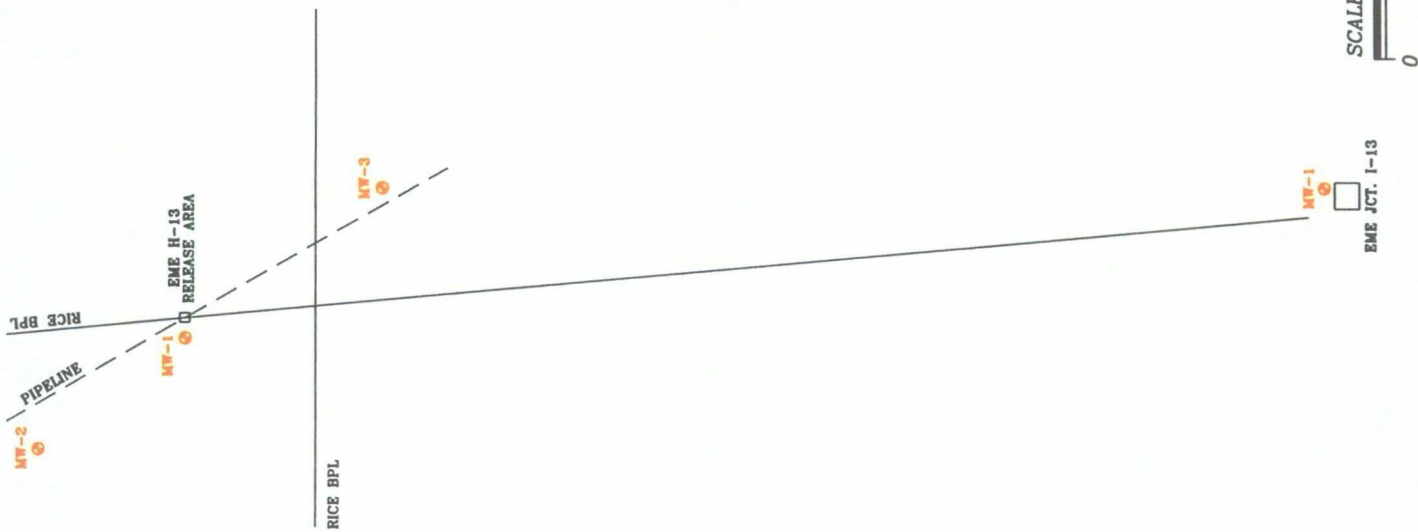


FIGURE NO. 5

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
EME I-13/H-13
SITE MAP

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 5/9/06
OWN. BY: JJ
FILE: C:\NICK\2307
SITE MAP

APPENDIX A
JUNCTION BOX DISCLOSURE REPORT

**RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT**

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
EME	I-13	I	13	20S	36E	Lea	eliminated--no box		

LAND TYPE: BLM _____ STATE X FEE LANDOWNER _____ OTHER _____

Depth to Groundwater 35 feet NMOC SITE ASSESSMENT RANKING SCORE: 20

Date Started 8/13/2004 Date Completed 9/10/2004 OCD Witness No

Soil Excavated 400 cubic yards Excavation Length 30 Width 30 Depth 12 feet

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

FINAL ANALYTICAL RESULTS: Sample Date 8/26/2004 Sample Depth 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 NMOC guidelines.

CHLORIDE FIELD TESTS

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

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

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-detected throughout the 30 x 30 x 12-ft-deep excavation and lab results confirmed TPH concentrations well below NMOC guidelines. 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 spoils 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. NMOC has been 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.

SITE SUPERVISOR Joe Gatts SIGNATURE [Signature] COMPANY RICE Operating Company

REPORT ASSEMBLED BY Kristin Farris Pope SIGNATURE [Signature]

DATE 11/24/2004 TITLE Project Scientist

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

APPENDIX B
SOIL BORING LOGS

SAMPLE LOG

Boring/Well: SB-1
 Project Number: 3463
 Client: Rice Operating Company
 Site Location: Lea County, New Mexico
 Total Depth 30 feet
 Date Drilled: 10/10/08

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	265	-	Tan fine grain well sorted sand
5-10	359	-	Tan fine grain well sorted sand with medium grain sand
10-15	615	-	Tan/buff calcareous sand
15-20	676	976	Tan/buff calcareous sand
20-25	655	-	Tan medium grain sand (moist)
25-30	-	-	Tan medium grain sand (wet)

Total Depth is 30 feet Groundwater encountered at 30 feet.

SAMPLE LOG

Boring/Well: SB-2
Project Number: 3463
Client: Rice Operating Company
Site Location: Lea County, New Mexico
Total Depth 30 feet
Date 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	-	Tan/buff calcareous sand
15-20	393	-	Tan/buff calcareous sand
20-25	279	272	Tan medium grain sand (moist)
25-30	-	-	Tan medium grain sand (wet)

Total Depth is 30 feet

Groundwater encountered at 30 feet.

Boring/Well: SB-3
Project Number: 3463
Client: Rice Operating Company
Site Location: Lea County, New Mexico
Total Depth 30 feet
Date Drilled: 10/10/08

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	236	-	Dark brown clay
5-10	393	-	Tan fine grain well sorted sand
10-15	237	-	Tan fine grain calcareous sand
15-20	620	-	Tan fine grain calcareous sand
20-25	767	752	Tan medium grain sand (moist)
25-30	-	-	Tan medium grain sand (wet)

Total Depth is 30 feet

SAMPLE LOG

Boring/Well: SB-4
 Project Number: 3463
 Client: Rice Operating Company
 Site Location: Lea County, New Mexico
 Total Depth 30 feet
 Date Drilled: 10/10/08

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	242	-	Tan fine grain sand
5-10	225	-	Tan fine grain sand
10-15	447	-	Tan fine grain calcareous sand
15-20	533	736	Tan fine grain calcareous sand
20-25	417	-	Tan medium grain sand
25-30	-	-	Tan medium grain sand

Total Depth is 30 feet
 Groundwater encountered at 30 feet.

SAMPLE LOG

Boring/Well: SB-5
 Project Number: 3463
 Client: Rice Operating Company
 Site Location: Lea County, New Mexico
 Total Depth: 30 feet
 Date Drilled: 10/10/08

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	295	-	Tan fine grain sand (well sorted)
5-10	403	-	Tan/buff calcareous sand
10-15	224	-	Tan/buff calcareous sand
15-20	420	416	Tan/buff calcareous sand
20-25	345	-	Tan medium grain sand
25-30	-	-	Tan medium grain sand

Total Depth is 30 feet Groundwater encountered at 30 feet.

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

DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	287	-	Tan fine grain sand (well sorted)
5-10	462	-	Tan/buff calcareous sand
10-15	603	688	Tan/buff calcareous sand
15-20	411	-	Tan/buff calcareous sand
20-25	288	-	Tan medium grain sand
25-30	-	-	Tan medium grain sand

Total Depth is 30 feet Groundwater encountered at 30 feet.

SAMPLE LOG

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

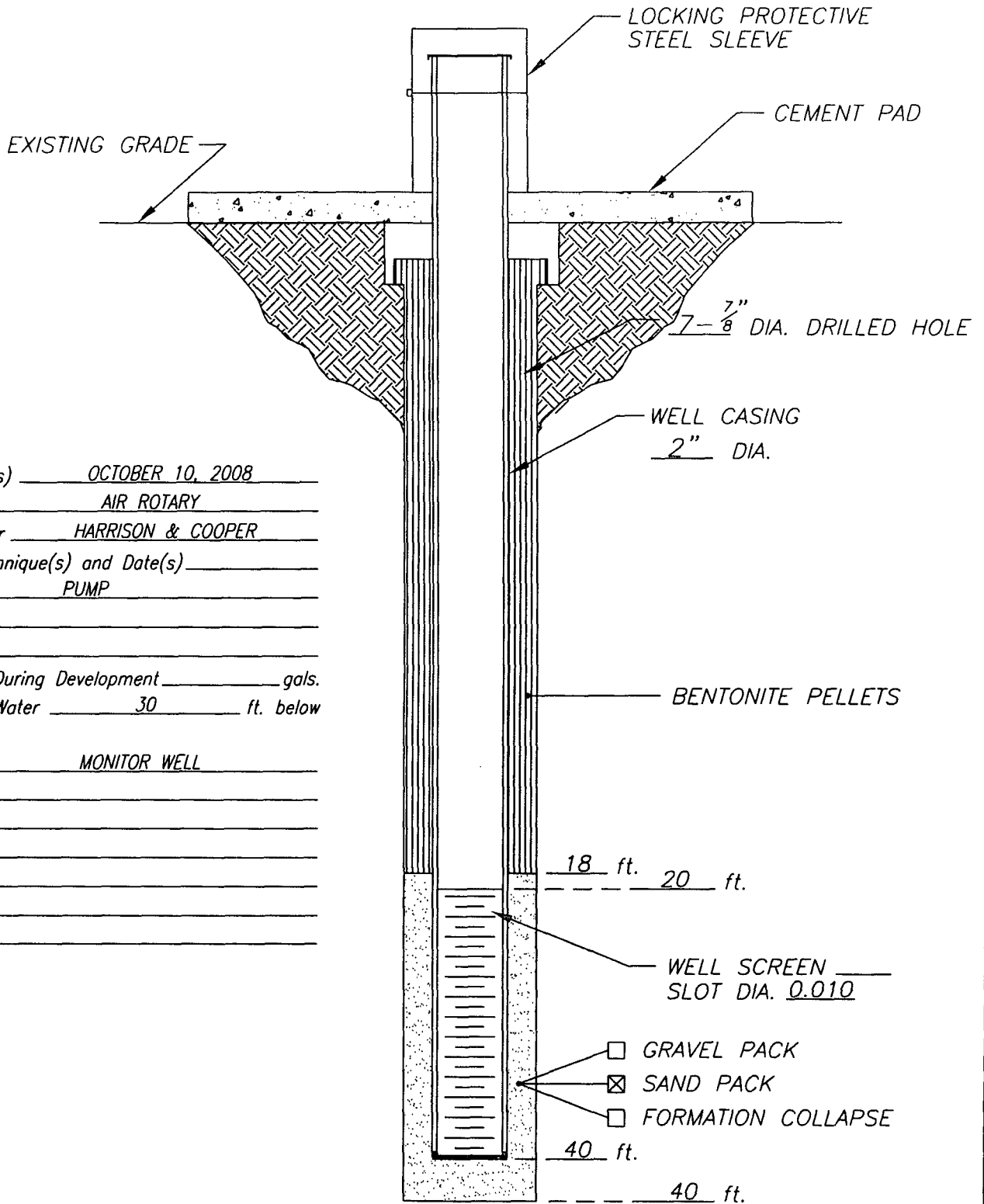
DEPTH (Ft)	Chlorides (Field)	Chlorides (Lab)	SAMPLE DESCRIPTION
0-5	243	-	Tan fine grain sand
5-10	546	-	Tan fine grain calcareous sand
10-15	671	752	Tan fine grain calcareous sand
15-20	596	-	Tan medium grain sand
20-25	335	-	Tan medium grain sand
25-30	-	-	Tan medium grain sand (wet)
30-35	-	-	Tan medium grain sand
35-40	-	-	Tan medium grain clayey sand

Total Depth is 40 feet

Groundwater encountered at 30 feet.

APPENDIX C
MONITOR WELL COMPLETION DIAGRAM

WELL CONSTRUCTION LOG



Installation Date(s) OCTOBER 10, 2008

Drilling Method AIR ROTARY

Drilling Contractor HARRISON & COOPER

Development Technique(s) and Date(s) _____
PUMP

Water Removed During Development _____ gals.

Static Depth to Water 30 ft. below
Ground Level

Well Purpose MONITOR WELL

Remarks _____

DATE: OCTOBER 10, 2008

TETRA TECH, INC.
MIDLAND, TEXAS

CLIENT: RICE OPERATING COMPANY

PROJECT: EME JCT. 1-13

LOCATION: LEA COUNTY, NEW MEXICO

WELL NO.

MW-1

APPENDIX D
LABORATORY ANALYTICAL



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

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

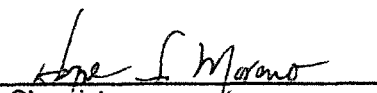
Receiving Date: 10/10/08
Reporting Date: 10/15/08
Project Number: 3464
Project Name: RICE EME I-13
Project Location: NOT GIVEN

Analysis Date: 10/14/08
Sampling Date: 10/10/08
Sample Type: SOIL
Sample Condition: INTACT
Sample Received By: AB
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl ⁻ (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 Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods	4500-Cl ⁻ B
--------------------------	------------------------

Note: Analyses performed on 1:4 w:v aqueous extracts.


Chemist

10-16-08
Date

H16095 RICE

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 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.

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

ANALYSIS REQUEST
(Circle or Specify Method No.)



TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: <u>Rio Grande</u>		SITE MANAGER: <u>Jeff Kinley</u>	
PROJECT NO.: <u>3464</u>		PROJECT NAME: <u>Rio Grande I-13</u>	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
1110095	10/10/03		SB-1 (20')
-2	10/10/03		SB-2 (10')
-3	10/10/03		SB-2 (25')
-4	10/10/03		SB-3 (25')
-5	10/10/03		SB-4 (20')
-6	10/10/03		SB-5 (20')
-7	10/10/03		SB-6 (15')
-8	10/10/03		MW-1 (15')
RELINQUISHED BY: (Signature) <u>Jeff Kinley</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
RELINQUISHED BY: (Signature) <u>Jeff Kinley</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
RELINQUISHED BY: (Signature) <u>Jeff Kinley</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
RECEIVING LABORATORY: <u>Cardinal Labs</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
ADDRESS: <u>Cardinal Labs</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
CITY: <u>Midland</u> STATE: <u>NM</u> ZIP: <u>89001</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
CONTACT: <u>Cardinal Labs</u> PHONE: <u>505-833-1111</u>		RECEIVED BY: (Signature) <u>Jeff Kinley</u>	
SAMPLE CONDITION WHEN RECEIVED: <u>Intact</u>		REMARKS: <u>Intact</u>	

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

10/13/03 Lara will pick up!



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

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

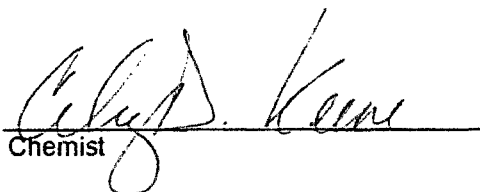
Receiving Date: 11/19/08
Reporting Date: 11/26/08
Project Number: NOT GIVEN
Project Name: EME I-13 LEAK
Project Location: T20S-R36E-SEC13 I- LEA CO., NM

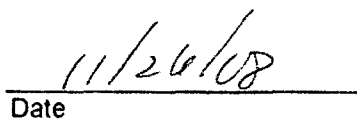
Sampling Date: 11/17/08
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: ZL

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		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
Quality Control		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 Percent 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.


Chemist


Date

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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

LAB NUMBE SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (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
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

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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	Cl (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (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-Cl-B	375.4	310.1	310.1	150.1	160.1
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Chemist

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ANALYTICAL RESULTS FOR
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ATTN: HACK CONDER
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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

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (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	8049	120.1	310.1
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	Cl (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (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:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Chemist

Date

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FAX TO: (575) 397-1471

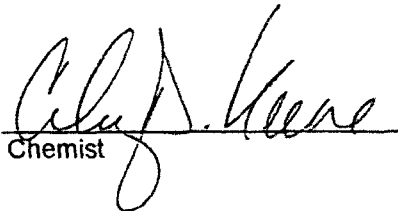
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Reporting Date: 02/23/09
Project Number: NOT GIVEN
Project Name: EME I-13 LEAK
Project Location: T20S-R36E-SEC13 I~ LEA CO., NM

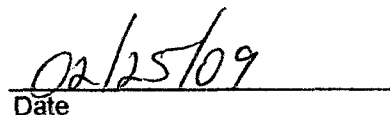
Sampling Date: 02/17/09
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: CK
Analyzed By: ZL

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (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
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.


Chemist


Date

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

Receiving Date: 05/20/09
Reporting Date: 05/26/09
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: AB/CK/HM

LAB NO.	SAMPLE ID	Cl ⁻ (mg/L)	SO ₄ (mg/L)	TDS (mg/L)
Analysis Date:		05/22/09	05/22/09	05/22/09
H17465-1	MONITOR WELL #1	1,180	484	3,030
Quality Control		500	41.6	NR
True Value QC		500	40.0	NR
% Recovery		100	104	NR
Relative Percent Difference		2.0	1.7	0.3

METHOD: Standard Methods, EPA	4500-Cl B	375.4	160.1
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Chemist

Date 05/27/09

H17465 RICE

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HOBBS, NM 88240
FAX TO: (575) 397-1471

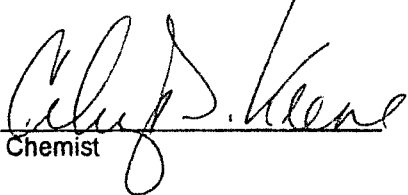
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Reporting Date: 05/22/09
Project Number: NOT GIVEN
Project Name: EME I-13 LEAK
Project Location: T20S-R36E-SEC13 I~ LEA CO., NM

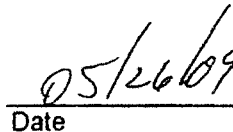
Sampling Date: 05/19/09
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: ZL

LAB NUMBER SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (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.


Cheryl S. Keene
Chemist


Date

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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 NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		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 Control		0.050	0.051	0.049	0.148
True Value QC		0.050	0.050	0.050	0.150
% Recovery		100	102	98.0	97.3
Relative Percent 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.


Chemist

09/04/09
Date

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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.

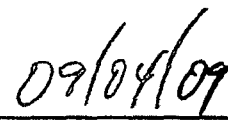
Sampling Date: 08/25/09
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl ⁻ (mg/L)	SO ₄ (mg/L)	TDS (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 Percent Difference		< 0.1	2.8	1.1

METHOD: Standard Methods, EPA	4500-Cl ⁻ B	375.4	160.1
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Not accredited for chloride, sulfate and TDS.


Chemist


Date

H18081 RICE

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Cardinal Laboratories, Inc. 101 East Mainland - Hobbs, New Mexico 88240 Tel (575) 393-2328 Fax (575) 393-2476		CHAIN-OF-CUSTODY AND ANALYSIS REQUEST LAB Order ID # _____																																																																								
Company Name: RICE Operating Company Project Manager: Hack Conder Address: 122 W Taylor Street - Hobbs, New Mexico 88240 Phone #: (575) 393-9174 Fax #: (575) 393-9174		BILL TO Company: RICE Operating Company Address: 122 W Taylor Street - Hobbs, New Mexico 88240 Phone #: (575) 393-9174 Fax #: (575) 393-9174																																																																								
Project Location: T20S-R36E-Sec13 I ~ Lea County New Mexico Project Name: EME I-13 Leak		Analyst: Rozanne Johnson Rozanne@valornet.com																																																																								
LAB # (LAB USE ONLY)	FIELD CODE Monitor Well #1	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th rowspan="2">CONTAINERS</th> <th colspan="4">MATRIX</th> <th colspan="4">PRESERVATIVE METHOD</th> <th rowspan="2">DATE (2009)</th> <th rowspan="2">TIME</th> </tr> <tr> <th>WATER</th> <th>SOIL</th> <th>AIR</th> <th>SLUDGE</th> <th>HCL (2 kmf VOA)</th> <th>HNO₃</th> <th>NaHSO₄</th> <th>H₂SO₄</th> <th>ICE (1-11/2 hr HDPE)</th> </tr> <tr> <td>G 3</td> <td>X</td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td>1</td> <td>8-26 11:30</td> </tr> </table>	CONTAINERS	MATRIX				PRESERVATIVE METHOD				DATE (2009)	TIME	WATER	SOIL	AIR	SLUDGE	HCL (2 kmf VOA)	HNO ₃	NaHSO ₄	H ₂ SO ₄	ICE (1-11/2 hr HDPE)	G 3	X				2				1	8-26 11:30	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>TPH 418, 1/TX1005 / TX1005 Extended (C35)</td> <td></td> </tr> <tr> <td>PAH 8270C</td> <td></td> </tr> <tr> <td>Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7</td> <td></td> </tr> <tr> <td>TCLP Metals Ag As Ba Cd Cr Pb Se Hg</td> <td></td> </tr> <tr> <td>TCLP Volatiles</td> <td></td> </tr> <tr> <td>TCLP Semi Volatiles</td> <td></td> </tr> <tr> <td>TCLP Pesticides</td> <td></td> </tr> <tr> <td>RCI</td> <td></td> </tr> <tr> <td>GC/MS Vol. 8260B/624</td> <td></td> </tr> <tr> <td>GC/MS Semi. Vol. 8270C/625</td> <td></td> </tr> <tr> <td>PCBs 8082/608</td> <td></td> </tr> <tr> <td>Pesticides 8081A/608</td> <td></td> </tr> <tr> <td>BOD, TSS, pH</td> <td></td> </tr> <tr> <td>Moisture Content</td> <td></td> </tr> <tr> <td>Cations (Ca, Mg, Na, K)</td> <td></td> </tr> <tr> <td>Anions (Cl, SO₄, CO₃, HCO₃)</td> <td></td> </tr> <tr> <td>Sulfates</td> <td></td> </tr> <tr> <td>Total Dissolved Solids</td> <td></td> </tr> <tr> <td>Chlorides</td> <td></td> </tr> <tr> <td>Turn Around Time ~ 24 Hours</td> <td></td> </tr> </table>	TPH 418, 1/TX1005 / TX1005 Extended (C35)		PAH 8270C		Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7		TCLP Metals Ag As Ba Cd Cr Pb Se Hg		TCLP Volatiles		TCLP Semi Volatiles		TCLP Pesticides		RCI		GC/MS Vol. 8260B/624		GC/MS Semi. Vol. 8270C/625		PCBs 8082/608		Pesticides 8081A/608		BOD, TSS, pH		Moisture Content		Cations (Ca, Mg, Na, K)		Anions (Cl, SO ₄ , CO ₃ , HCO ₃)		Sulfates		Total Dissolved Solids		Chlorides		Turn Around Time ~ 24 Hours	
CONTAINERS	MATRIX				PRESERVATIVE METHOD				DATE (2009)	TIME																																																																
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Relinquished by: Rozanne Johnson Relinquished by: Mattie N. Vining Delivered By: Mattie N. Vining		REMARKS: Phone Results Yes No Fax Results Yes No Additional Fax Number: No																																																																								
Sampler - UPS - Bus - Other (Circle One)		Checked By: (Initials)																																																																								



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FAX TO: (575) 397-1471

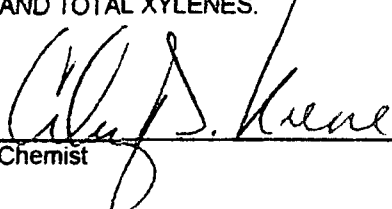
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Reporting Date: 11/13/09
Project Number: NOT GIVEN
Project Name: EME I-13 LEAK
Project Location: T20S-R36E-SEC13 I- LEA CO., NM

Sampling Date: 11/06/09
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: AB
Analyzed By: ZL

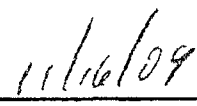
LAB NUMBE SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE	11/12/09	11/12/09	11/12/09	11/12/09
H18691-1 MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
Quality Control	0.047	0.046	0.049	0.152
True Value QC	0.050	0.050	0.050	0.150
% Recovery	94.0	92.0	98.0	101
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.



Chemist



Date



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

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

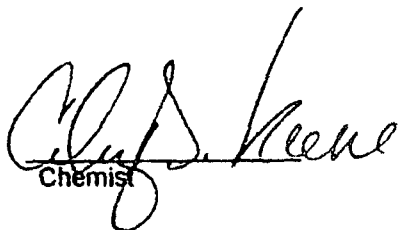
Receiving Date: 11/10/09
Reporting Date: 11/13/09
Project Number: NOT GIVEN
Project Name: EME I-13 LEAK
Project Location: T20S-R36E-SEC13 I ~ LEA CO., N.M.

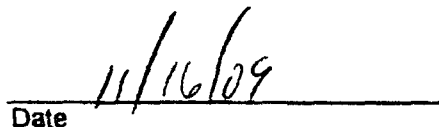
Sampling Date: 11/08/09
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: AB
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl ⁻ (mg/L)	SO ₄ (mg/L)	TDS (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

METHOD: Standard Methods, EPA	4500-ClB	375.4	160.1
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Not accredited for Chloride, Sulfate and TDS.


Chemist


Date

H18691 RICE

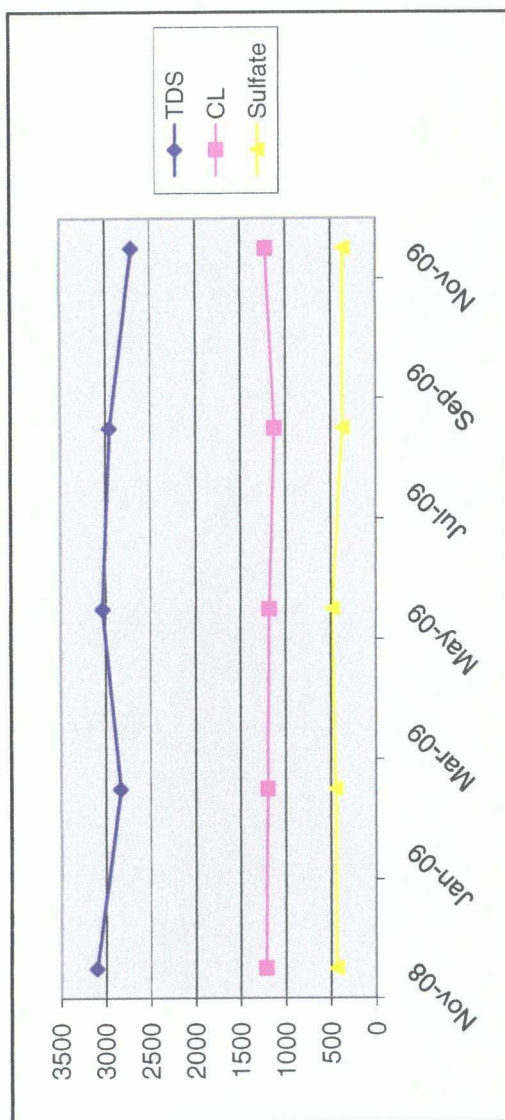
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived 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 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.

APPENDIX E
EME I-13 GROUNDWATER TABLE

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

[illegible]

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



APPENDIX F
EME H-13 GROUNDWATER TABLE

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

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

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

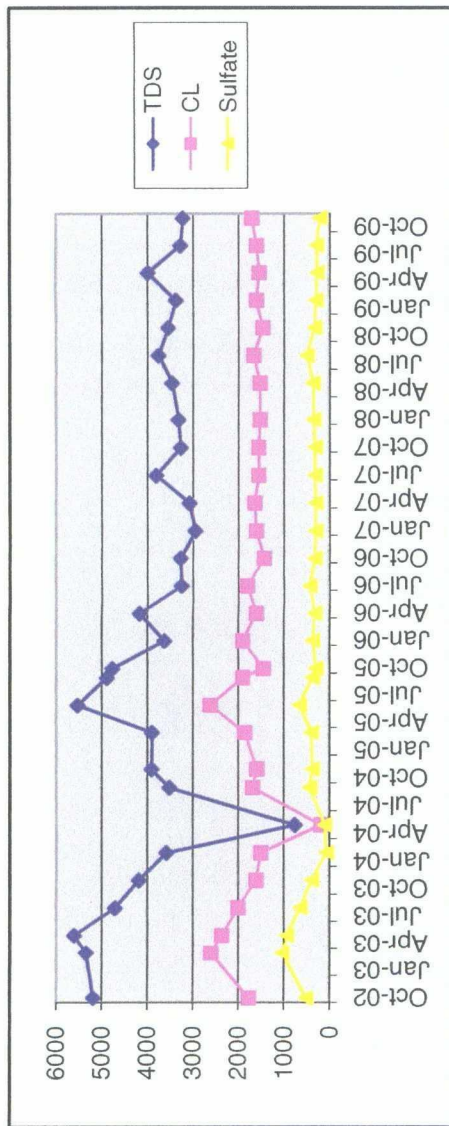


Table 2

Rice Operating Company

EME H-13

Upgradient Monitor Well MW-2

Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	30.69	43.10	2.00	8.00	03/27/06	1670	3560	<0.001	<0.001	<0.001	<0.001	264	xxx
2	30.66	43.10	2.00	8.00	04/18/06	1420	4120	<0.001	<0.001	<0.001	<0.001	237	xxx
2	30.80	43.10	2.00	10.00	07/17/06	1690	2710	<0.001	<0.001	<0.001	<0.001	562	xxx
2	30.85	43.10	2.00	10.00	10/09/06	1430	3720	<0.001	<0.001	<0.001	<0.001	284	Clear
2	30.78	43.03	2.00	6.00	01/24/07	1660	2890	<0.001	<0.001	<0.001	<0.001	300	Pumping
2	30.75	43.03	2.00	8.00	04/02/07	1470	3690	<0.001	<0.001	<0.001	<0.001	231	Pumping
2	30.79	43.03	2.00	8.00	07/10/07	1440	3770	<0.001	<0.001	<0.001	<0.002	291	Pumping
2	30.85	43.03	1.90	7.00	10/01/07	1480	3189	<0.001	<0.001	<0.001	<0.003	348	Clear
2	31.00	43.03	1.90	7.00	01/22/08	1440	3083	<0.001	<0.001	<0.001	<0.003	306	Clear
2	30.98	43.03	1.90	7.00	05/07/08	1360	3030	<0.002	<0.002	<0.002	<0.006	325	Clear
2	30.86	43.03	1.90	7.00	08/13/08	1560	3710	<0.001	<0.001	<0.001	<0.003	393	Clear
2	30.76	43.03	2.00	7.00	11/17/08	1520	3580	<0.001	<0.001	<0.001	<0.003	317	Clear
2	30.73	43.07	2.00	7.00	02/17/09	1600	3360	<0.001	<0.001	<0.001	<0.003	299	Clear
2	30.72	43.07	2.00	7.00	05/19/09	1540	3220	<0.001	<0.001	<0.001	<0.003	251	Clear
2	30.88	43.07	2.00	7.00	08/25/09	1660	3680	<0.001	<0.001	<0.001	<0.003	270	Clear
2	31.00	43.07	1.90	7.00	11/06/09	1600	3160	<0.001	<0.001	<0.001	<0.003	227	Turbid to clear/no odor

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

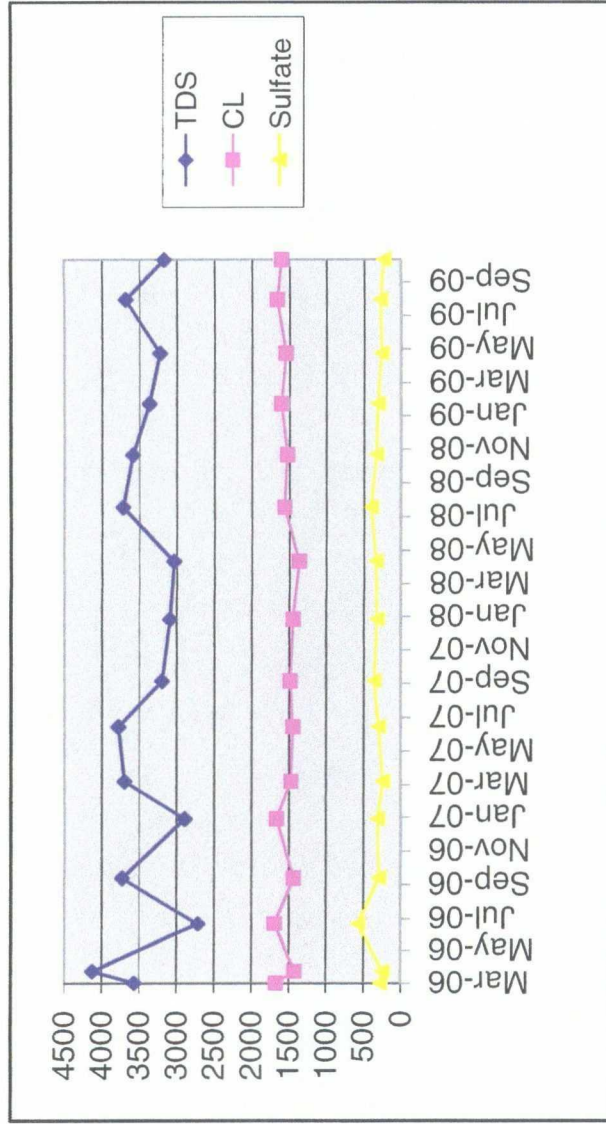


Table 3

Rice Operating Company

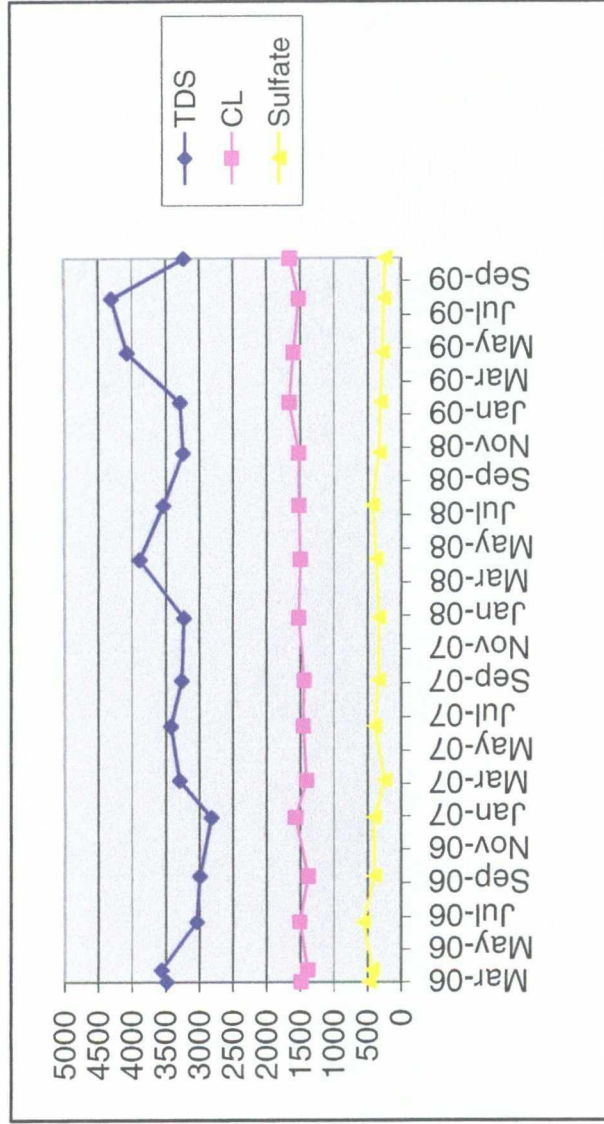
EME H-13

Downgradient Monitor Well MW-3

Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	31.89	46.00	2.30	8.00	03/27/06	1490	3480	<0.001	<0.001	<0.001	<0.001	472	xxx
3	31.85	46.00	2.30	10.00	04/18/06	1390	3560	<0.001	<0.001	<0.001	<0.001	426	xxx
3	32.08	46.00	2.20	10.00	07/17/06	1510	3035	<0.001	<0.001	<0.001	<0.001	557	xxx
3	32.04	46.00	2.20	10.00	10/09/06	1380	2990	<0.001	<0.001	<0.001	<0.001	393	Clear
3	31.96	46.00	2.20	8.00	01/24/07	1570	2820	<0.001	<0.001	<0.001	<0.001	398	Pumping
3	31.93	46.00	2.30	8.00	04/02/07	1410	3290	<0.001	<0.001	<0.001	<0.001	242	Pumping
3	31.95	46.00	2.20	8.00	07/10/07	1450	3420	<0.001	<0.001	<0.001	<0.002	392	Pumping
3	32.02	46.00	2.20	8.00	10/01/07	1440	3257	<0.001	<0.001	<0.001	<0.003	332	Clear
3	31.88	45.98	2.30	8.00	01/22/08	1520	3225	<0.001	<0.001	<0.001	<0.003	328	Clear
3	31.85	45.98	2.30	8.00	05/07/08	1500	3880	<0.002	<0.002	<0.002	<0.006	368	Clear
3	32.08	45.98	2.20	8.00	08/13/08	1520	3530	<0.001	<0.001	<0.001	<0.003	425	Clear
3	31.98	45.98	2.20	8.00	11/17/08	1520	3240	<0.001	<0.001	<0.001	<0.003	321	Clear
3	31.90	46.05	2.30	8.00	02/17/09	1660	3280	<0.001	<0.001	<0.001	<0.003	302	Clear
3	31.90	46.05	2.30	8.00	05/19/09	1600	4070	<0.001	<0.001	<0.001	<0.003	275	Clear
3	31.90	46.05	2.20	8.00	08/25/09	1520	4300	<0.001	<0.001	<0.001	<0.003	254	Clear
3	32.15	46.05	2.20	8.00	11/06/09	1650	3220	<0.001	<0.001	<0.001	<0.003	232	Turbid to clear/no odor

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



APPENDIX G
GROUNDWATER DATABASE

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

19 South			35 East		
6	61	5	4	3	2
58	63	70			63
7	8	9	20	10	11
51	18			53	
18	17	26	16	15	14
	30			26	27
19	20	21	22	23	24
			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 South			37 East		
6	50	5	4	39	3
7	43	8	42	9	10
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
31	32	29	33	29	34
24		32	32	22	

20 South			35 East		
6	56	5	64	4	3
64					
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	65	32	33	34	35
		89			

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

20 South			37 East		
6	37	5	38	4	22
7	36	8	35	9	10
18	17	16	15	14	13
19	20	21	22	23	24
35					78
30	29	28	27	26	25
31	32	33	34	35	36
		40			
		198			

21 South			34 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

21 South			35 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

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

- 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/>

Section 12 General Information About: 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 General Information About: 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 Information About: 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.