

AP - 48

# ANNUAL MONITORING REPORT

YEAR(S):  
2007



# Highlander Environmental Corp.

Midland, Texas

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March 7, 2008

Mr. Wayne Price  
New Mexico Energy, Minerals, & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: 2007 Annual Groundwater Summary Report & Project Status Report, Rice Operating Company, Justis Saltwater Disposal System (SWD) Jct. L-1, Unit L, Section 1, T-25-S, R-37-E, Lea County, New Mexico, NMOCD CASE #1R0423-0 (AP-48)**

Dear Mr. Price:

Highlander Environmental Corp. (Highlander) submits the following 2007 Annual Groundwater Summary Report for the Rice Operating Company (ROC), Jct. L-1 site (AP-48), located in the Justis Salt Water Disposal System.

## Background

As part of the RICE Operating Company (ROC) Junction Box Upgrade Workplan, the original Justis L-1 junction box was removed and replaced with a new water tight junction box located 50 feet south of the old box. Once the junction box was removed, evaluation of the surrounding and subsurface soils was initiated. Delineation was conducted with a backhoe. Chloride testing and PID field screening were performed at regular intervals. The final excavation measured 20 feet x 22 feet x 12 feet deep. PID concentrations were minimal and laboratory confirmed TPH concentrations were well below NMOCD regulatory guidelines. Chloride concentrations, however, did not appear to decline with depth.

On 12/29/2003, a soil boring was placed into the center of the excavation and advanced to a depth of 80' below ground surface, apparently encountering a saturated zone at 75' below ground surface. The borehole was plugged and a 1.5 foot thick clay barrier was placed into the excavation at 6 feet below ground surface. The remainder of the excavation was backfilled with excavated soils. No TPH impact to groundwater was indicated. On February 24, 2004, ROC submitted a Junction Box Disclosure Form to the NMOCD.

On June 15, 2004, Highlander submitted a work plan for a confirmation borehole and possible monitor well placement at the site. The NMOCD responded with requested revisions to the workplan and on November 3, 2004, Highlander submitted a revised workplan to address NMOCD concerns. The workplan was approved by the NMOCD on November 4, 2004. Highlander supervised the installation of Monitor Well (MW-1) on December 19, 2004. The well was purged and sampled on December 21, 2004. On January 14, 2005, Rice submitted a Notification of Groundwater Impact to the NMOCD. Groundwater has been sampled and analyzed on a quarterly basis. Traces of benzene and ethylbenzene found in the original sampling have not been evident in subsequent sampling events.

On May 5, 2005, Daniel Sanchez with the NMOCD requested a Rule 19, Stage I Abatement Plan for this site. On July 12, 2005 a Stage I Abatement Plan was submitted to the NMOCD. The Stage I Abatement Plan approval was received, dated February 23, 2006.

### **Stage 1 Abatement Plan**

As part of the Stage 1 Abatement Plan two additional monitor wells were proposed for the site. These two monitor wells (MW-2 and MW-3) were installed on March 21, 2006. MW-2 was placed down-gradient of MW-1 and MW-3 was placed up-gradient. An oil well location and open reserve pit, were located up-gradient of MW-1, necessitating the placement of MW-3 up-gradient of the open reserve pit. The wells were developed and sampled on March 28, 2006. MW-3 exhibited apparent background chloride concentrations of 96 mg/L. The down-gradient monitor well, (MW-2) displayed similar qualities to the monitor well placed at the removed junction box site (MW-1), with a chloride concentration of 564 mg/L and total dissolved solids of 1,730 mg/L. However, since the March 2006 sampling, monitor well MW-1 has had a significant increase in chlorides (up to 2,250 mg/L) and TDS (up to 7,305) while MW-2 has remained relatively stable.

Also as part of the Stage I Abatement Plan, a water well database search was performed to encompass a ½ mile radius around the site. The database search revealed one well in Section 1 and 3 wells in adjoining sections to this site. The field inspection revealed processing plant wells up-gradient of the site, one inaccessible well at the "Targa" booster or compressor station (4/10 mile south) and one inactive domestic well with no access (1/2 mile south). An open reserve pit located 135' up-gradient was sampled and had a chloride concentration of 42,286 mg/L.

ROC submitted a report titled "Results of Stage 1 Implementation and Request for



Suspension from Rule 19 Requirements", Dated August 10, 2006 to the NMOCD. On September 27, 2006, ROC received a response from the NMOCD. In a telephone conference with the NMOCD, it was discussed that the plan should be re-issued as a Stage 1/Stage 2 Abatement Plan for continued monitoring. Additionally, the NMOCD verbally approved the placement of one additional down-gradient monitoring well. As approved, on October 9, 2006, one additional monitor well (MW-4) was installed down-gradient and constructed according to EPA and industry standards.

A meeting was held with the NMOCD on February 21, 2007, to determine if chloride concentrations in monitor well MW-1 is from an offsite source. At that meeting, Wayne Price requested that an additional monitor well be installed. On April 17, 2007, monitor well MW-5 was installed between MW-1 and a reserve pit located upgradient. The well was constructed according to EPA and industry standards.

### **Stage1/Stage2 Abatement Plan**

On December 12, 2006, a Stage 1/Stage 2 Abatement Plan was submitted to the NMOCD. Based upon the results of the Stage I Abatement Plan implementation, it appeared that the water quality at the original junction box site is improving over time. The Stage 1/Stage 2 Plan proposed to continue to monitor all four wells on a quarterly basis to ensure continued improvement of groundwater quality.

As part of the Stage 1/Stage 2 Abatement Plan, a Corrective Action Plan (CAP) for final soil remediation was presented. In order to complete horizontal delineation of the soil impact, soil borings will be placed beyond the edges of the existing clay barrier and soil samples will be collected for field chloride testing. Once the results of the delineation are completed, the data will be evaluated to determine if further excavation and extension of clay barrier is warranted. If warranted, the site will be excavated down to a depth of approximately 6' and the existing clay barrier will be extended, prior to backfilling with excavated material. NMOCD approval of this Stage1/Stage2 Abatement Plan is pending.

### **Monitor Well Sampling**

The monitor wells were sampled on a quarterly basis. Prior to sampling, the monitor wells were gauged and approximately three casing volumes of water were purged from the wells prior to sampling. The pump and associated tubing were decontaminated with a laboratory grade detergent and rinsed with deionized water. Cumulative water level measurements and purge volumes for the monitor wells are included in the Tables Section of this report.

The wells were also inspected for the presence of phase-separated hydrocarbons (PSH). Groundwater samples were collected as soon as possible after the groundwater returned to its static level. Groundwater samples were collected using clean disposable polyethylene bailers and disposable line. The samples were transferred into labeled and preserved containers provided by the laboratory. The samples were delivered under proper



chain-of-custody control to Environmental Labs of Texas, Inc., Odessa, Texas and Cardinal Lab of Hobbs, New Mexico. The groundwater samples were analyzed for major anions, by methods 310.1, 9253 and 375.4, cations by method 6010B, Total Dissolved Solids (TDS) by method 160.1 and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) by method EPA 8021B. Copies of the laboratory reports are enclosed in Appendix A.

### Monitor Well Sample Results

The analysis of monitor well, MW-1, has shown an increase of chlorides (and TDS) ranging from 519 mg/L in the first quarter to 2,250 mg/L in the last quarter of 2007. Monitor well MW-5 located upgradient of MW-1 has chloride concentrations that ranged from 1,619 mg/L to 1,940 mg/L for the year. The chloride and TDS concentrations in monitor wells MW-3, and MW-4 were below WQCC standards and remained relatively stable throughout the year. The chloride concentration in MW-2 steadily declined from 584 mg/L in March to 396 mg/L in November. All monitor wells were sampled on a quarterly basis. The most recent sampling was performed on all five monitor wells on November 14, 2007. During this sampling event, traces of toluene, ethylbenzene, and xylenes were found in upgradient monitor well MW-3. However, the levels were below the NMOCD guidelines. No BTEX was found in any of the remaining monitor wells for the year. Cumulative analytical data is summarized in the Table Section of this report.

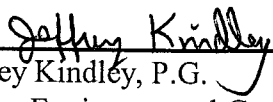
### Conclusions

1. In 2007, there were no BTEX constituents at or above the New Mexico Water Quality Control Commission (WQCC) standards. However, detectable amounts of toluene, ethylbenzene, and xylenes were found in upgradient monitor well MW-3 in the 4<sup>th</sup> quarter monitoring event.
2. Chloride and total dissolved solid (TDS) concentrations have increased throughout the year in monitor well MW-1, but remained below WQCC standards and were relatively stable in MW-3 and MW-4. The chloride concentration in MW-2 steadily declined from 584 mg/L in March to 396 mg/L in November.
3. Monitor well MW-5 was installed upgradient of MW-1 in April 2007 to determine if chloride concentrations in MW-1 could be coming from an offsite reserve pit located upgradient. Chloride levels in monitor well MW-5 were elevated indicating the reserve pit as a possible offsite source.
4. Quarterly monitoring at this site will continue and an annual report will be prepared and submitted to the NMOCD in the first quarter of 2009.
5. In order to complete horizontal delineation of the soil impact, soil borings will be placed beyond the edges of the existing clay barrier and soil samples will be collected for field chloride testing. Once the results of the delineation are completed, the data will be evaluated to determine if further excavation and

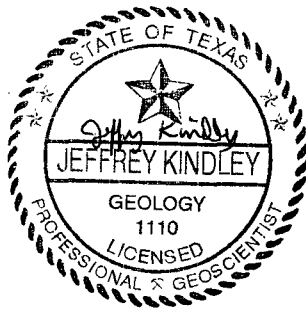


extension of clay barrier is warranted. If warranted, the site will be excavated down to a depth of approximately 6' and the existing clay barrier will be extended, prior to backfilling with excavated material.

Respectfully Submitted,  
HIGHLANDER ENVIRONMENTAL CORP.

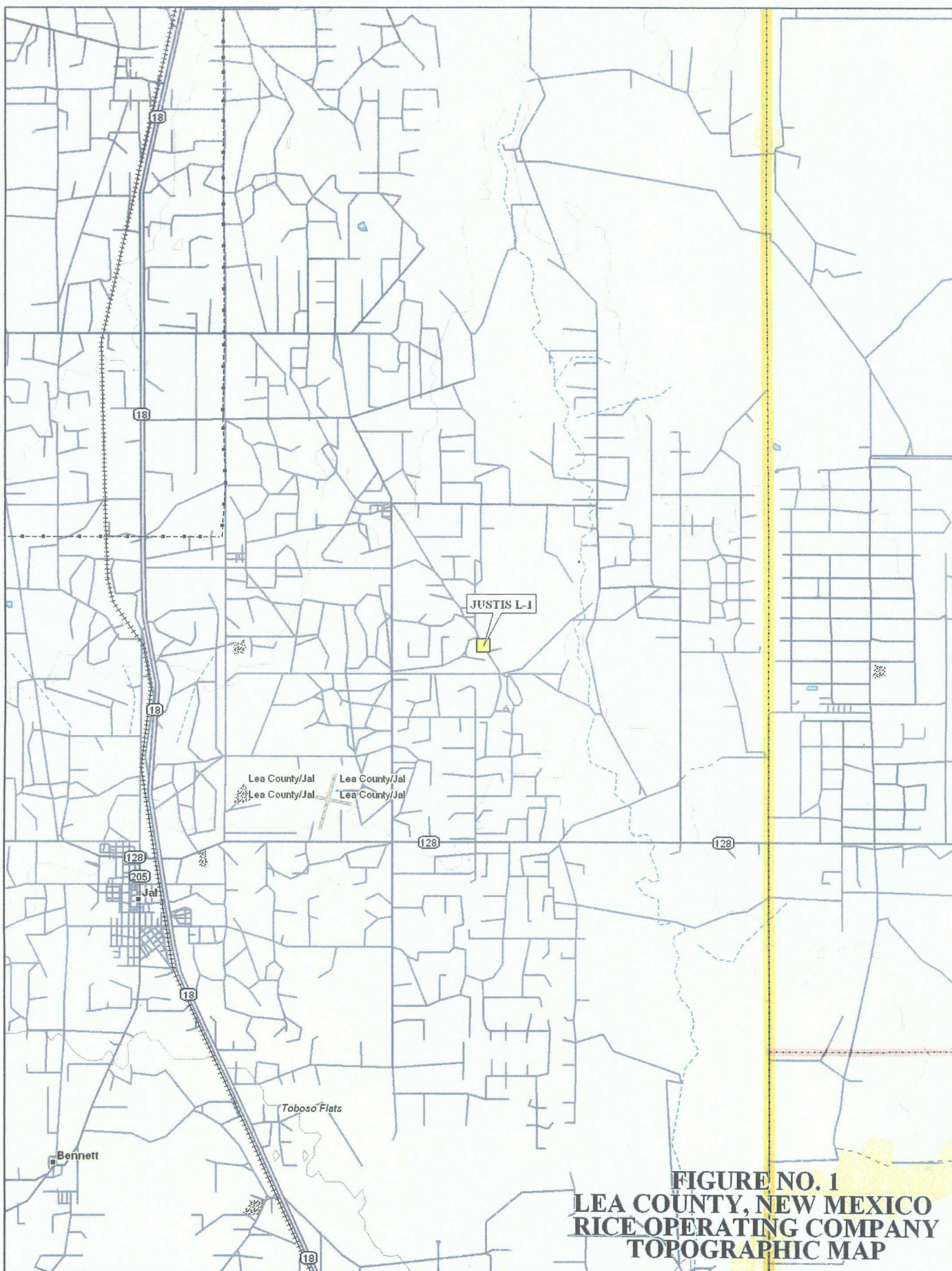
  
\_\_\_\_\_  
Jeffrey Kindley, P.G.  
Senior Environmental Geologist

cc: ROC, Edward Hansen – NMOCD  
Enclosures: Figures, Tables, Laboratory Analysis



## FIGURES



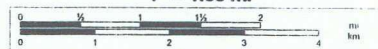


**FIGURE NO. 1  
LEA COUNTY, NEW MEXICO  
RICE OPERATING COMPANY  
TOPOGRAPHIC MAP**

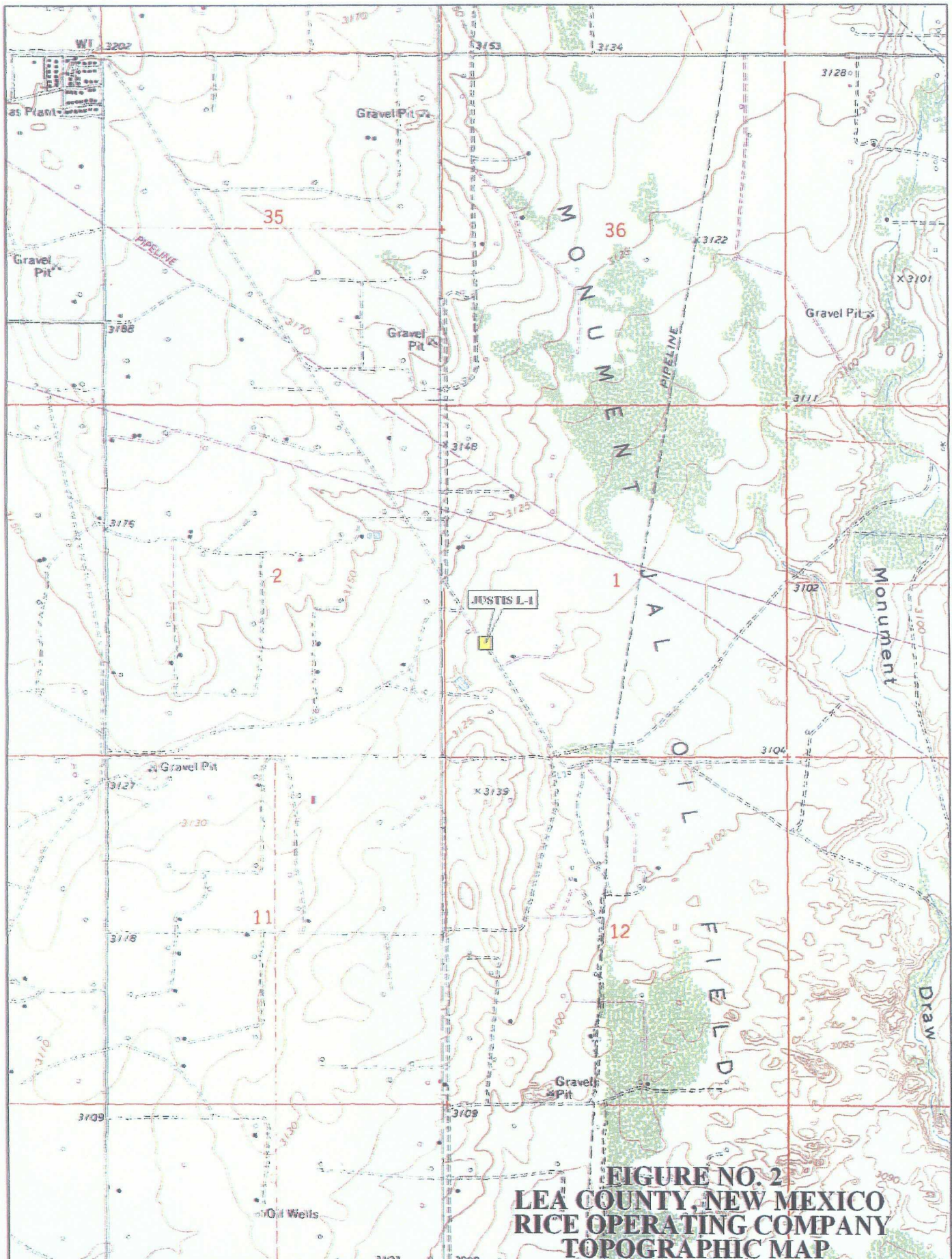


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www.delorme.com

Scale 1 : 100,000  
1" = 1.58 mi







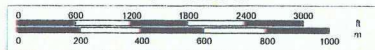
**FIGURE NO. 2**  
**LEA COUNTY, NEW MEXICO**  
**RICE OPERATING COMPANY**  
**TOPOGRAPHIC MAP**



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[www.delorme.com](http://www.delorme.com)

Scale 1 : 24,000

1" = 2000 ft





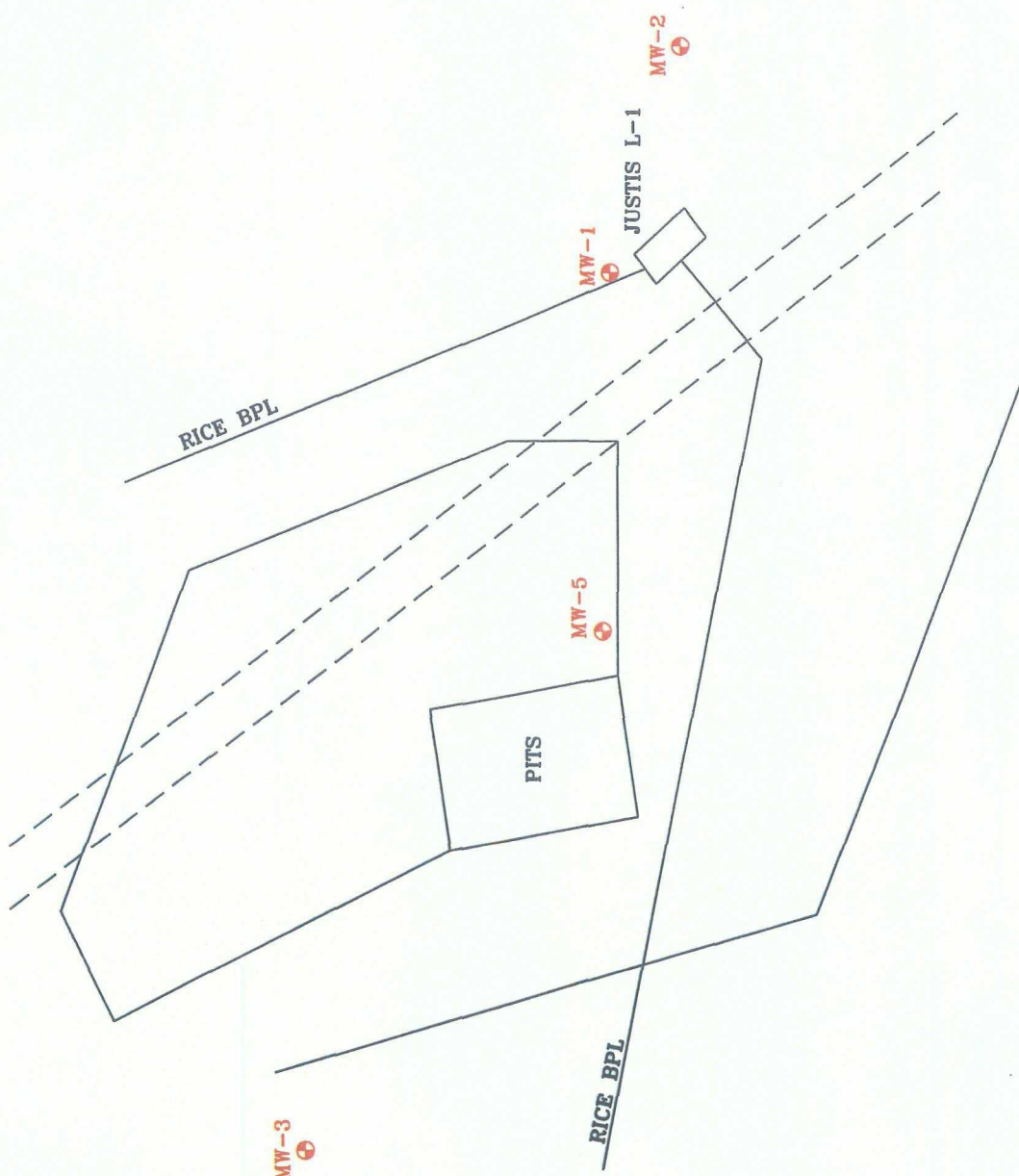


FIGURE NO. 3

LEA COUNTY, NEW MEXICO
RICE OPERATING COMPANY
JUSTIS L-1
SITE MAP
HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE:	1/22/08
DWN. BY:	RC
FILE:	C:\VOC\1983
	SITE MAP

SCALE: 1" = 83'

MONITOR WELL LOCATIONS

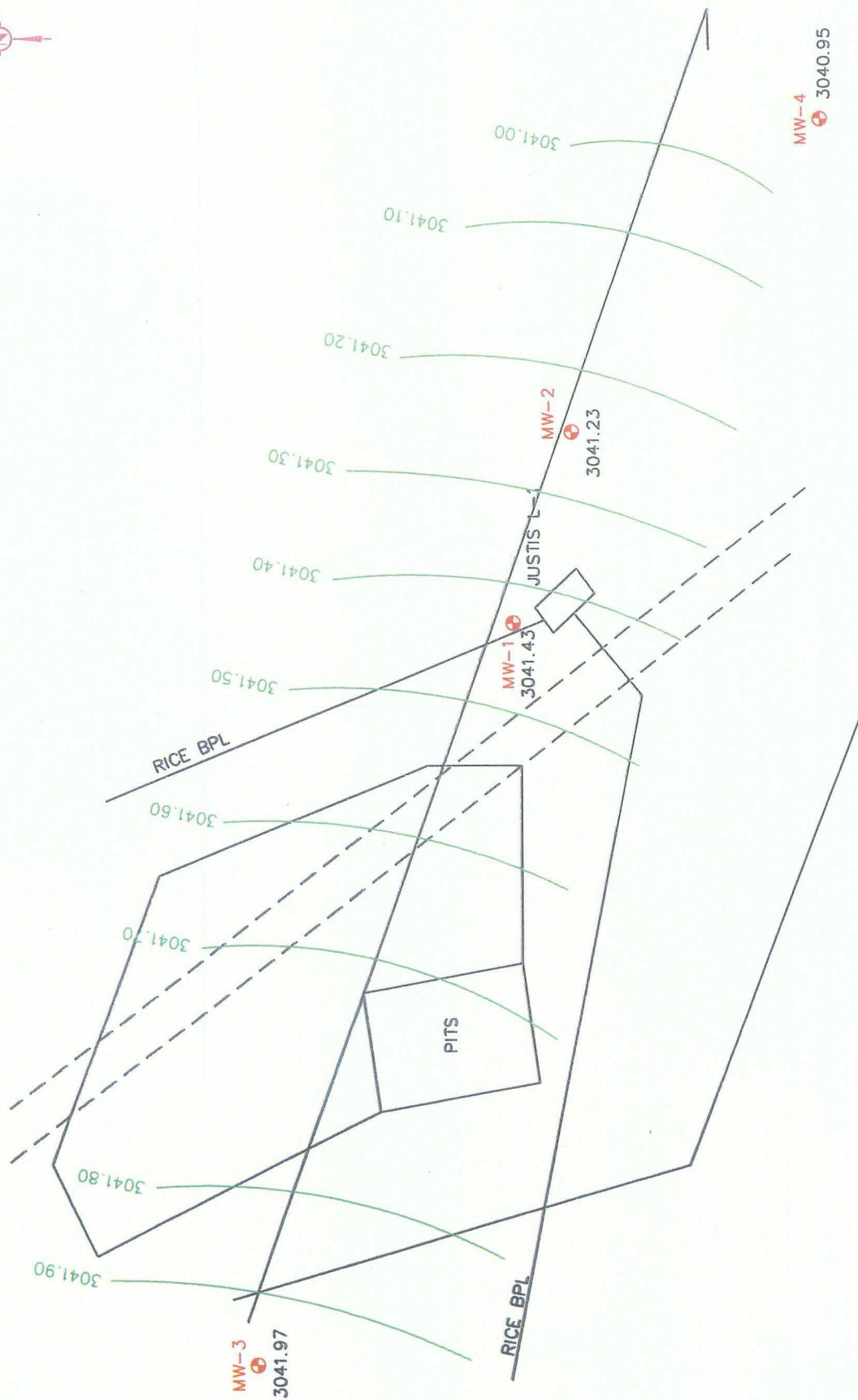


FIGURE NO. 4

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY  
JUSTIS L-1

GROUNDWATER GRADIENT MAP  
GAUGED ON 3-16-07

HIGHLANDER ENVIRONMENTAL CORP.  
MIDLAND, TEXAS

DWN. BY:  
RC  
FILE:  
C:\NCE\3142  
SITE MAP

SCALE: 1" = 83'  
0 83'

C.I. = 0.10'

MONITOR WELL LOCATIONS

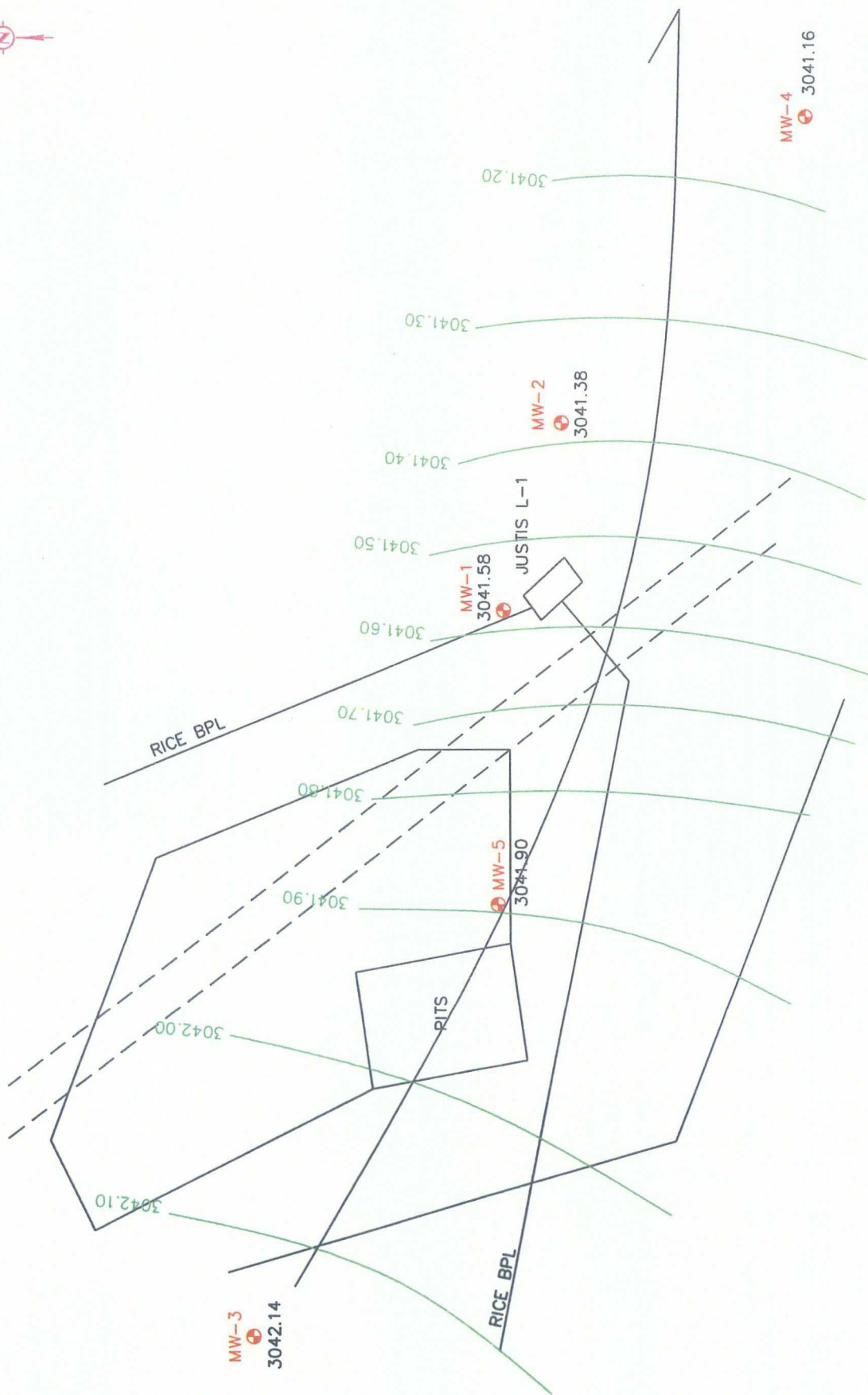


FIGURE NO. 5

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY  
JUSTIS L-1

GROUNDWATER GRADIENT MAP  
GAUGED ON 5-15-07

HIGHLANDER ENVIRONMENTAL CORP.  
MIDLAND, TEXAS

DWN. BY:  
RC  
FILE:  
DATE: 03/14/02  
SITE MAP

SCALE: 1" = 83'  
0 83'

C.I. = 0.10'

MONITOR WELL LOCATIONS



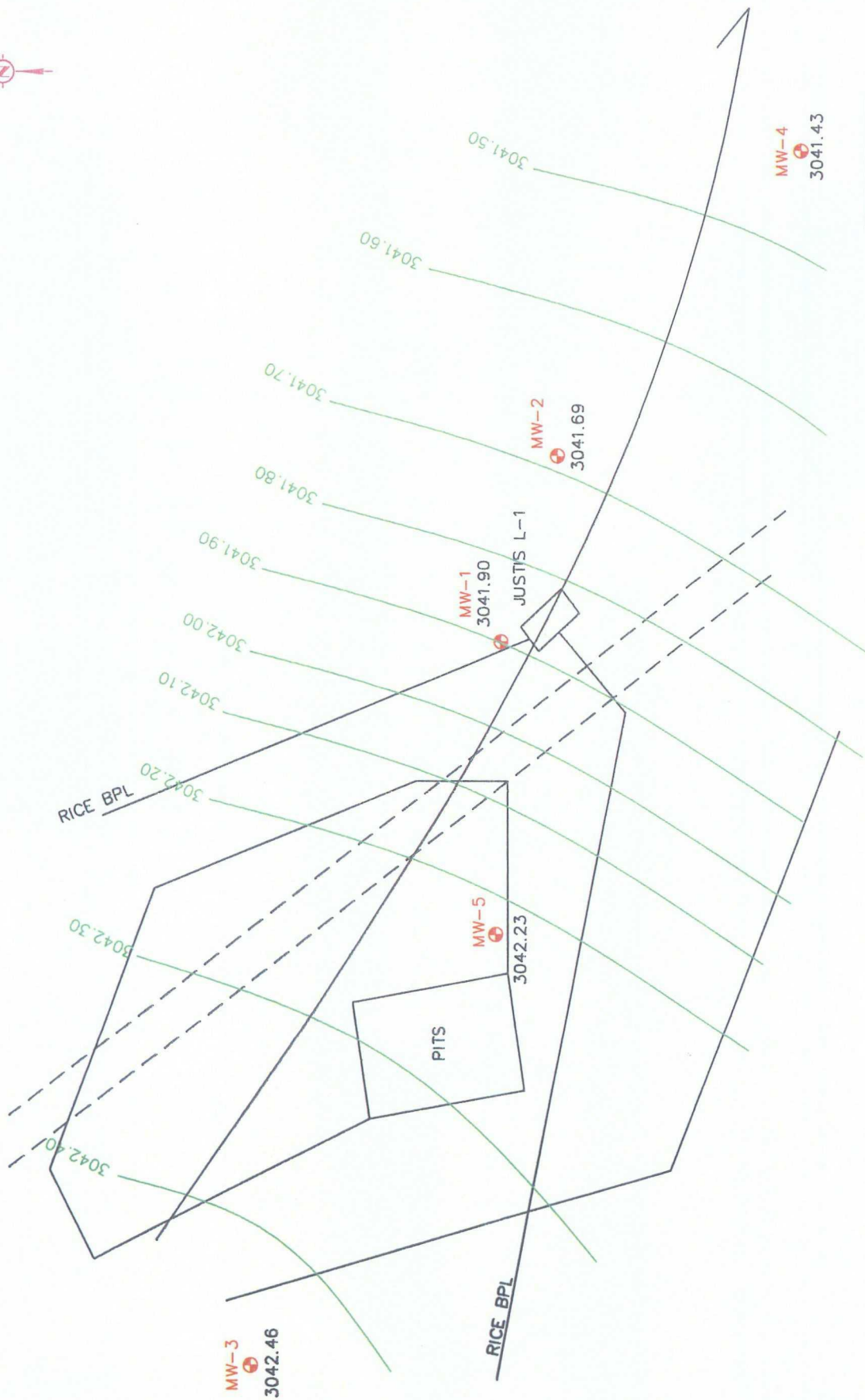


FIGURE NO. 6

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY

JUSTIS L-1

GROUNDWATER GRADIENT MAP

GAUGED ON 8-29-07

HIGHLANDER ENVIRONMENTAL CORP.

MIDLAND, TEXAS

DWN. BY:

RC

FILE:

ENVES03142

SITE MAP

SCALE: 1" = 83'



C.I. = 0.10'

MONITOR WELL LOCATIONS

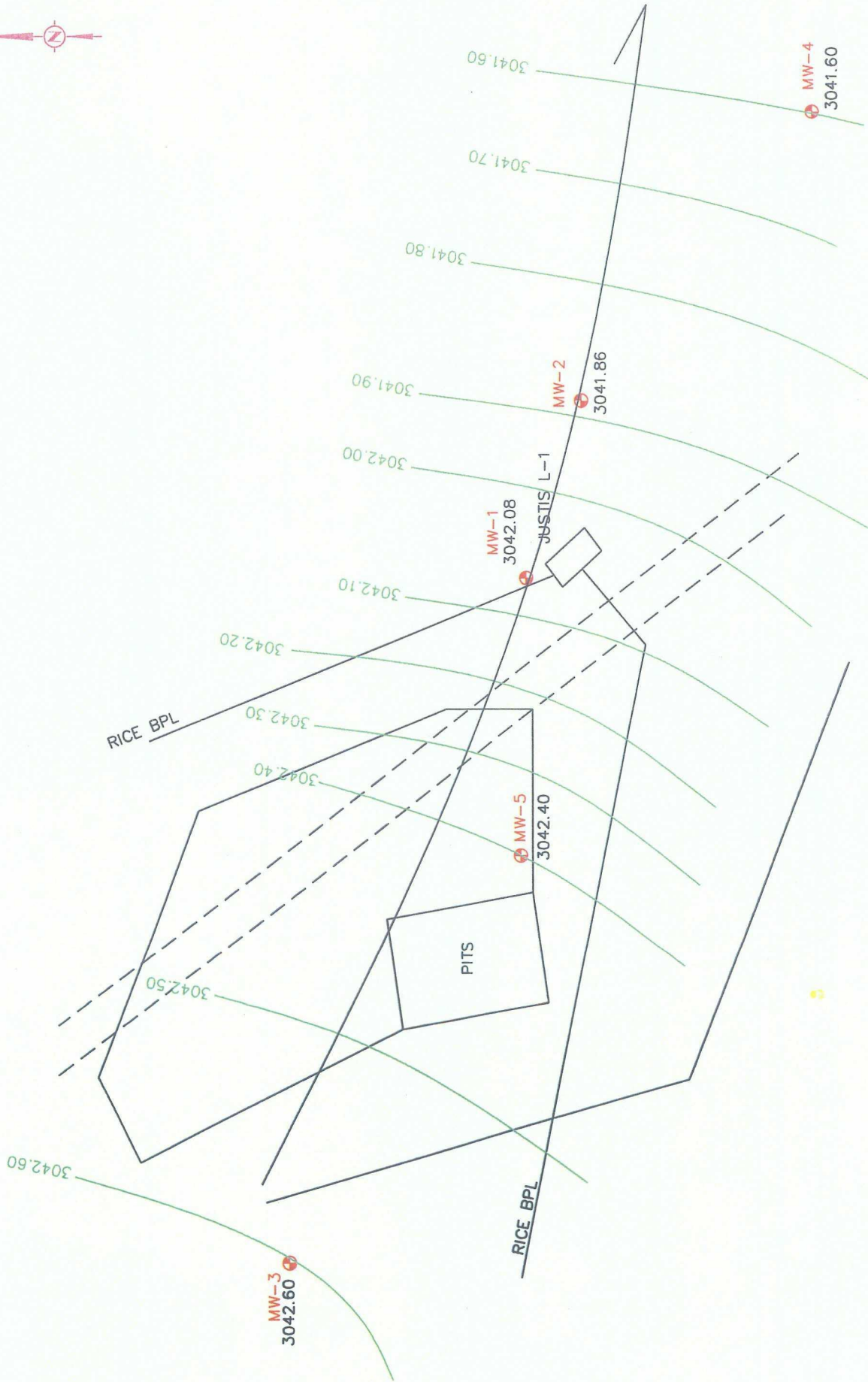


FIGURE NO. 7

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY  
JUSTIS L-1

GROUNDWATER GRADIENT MAP  
GAUGED ON 11-14-07

HIGHLANDER ENVIRONMENTAL CORP.  
MIDLAND, TEXAS

DRAWN BY: RC  
FILE: C:\PROJECTS\2142  
SITE MAP

SCALE: 1" = 83'  
0 83'

C.I. = 0.10'

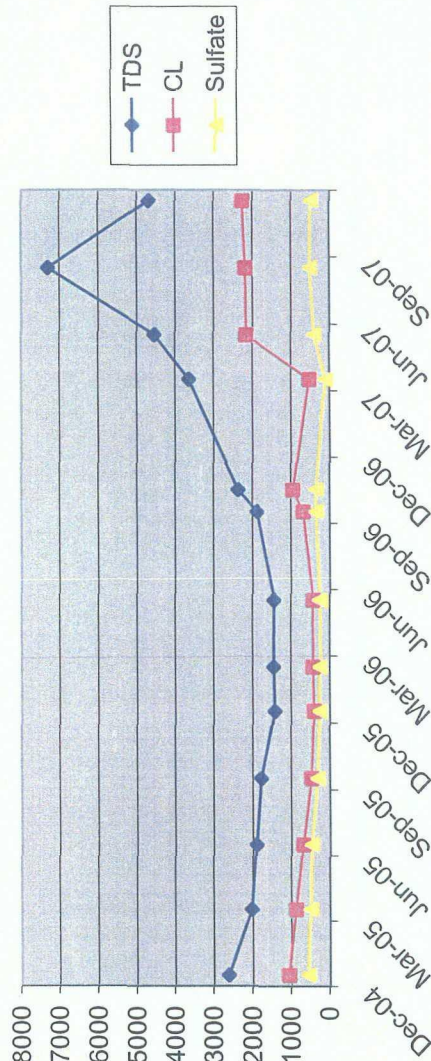
MONITOR WELL LOCATIONS

## TABLES



Rice Engineering Operating  
Justice L-1  
Lea County, New Mexico

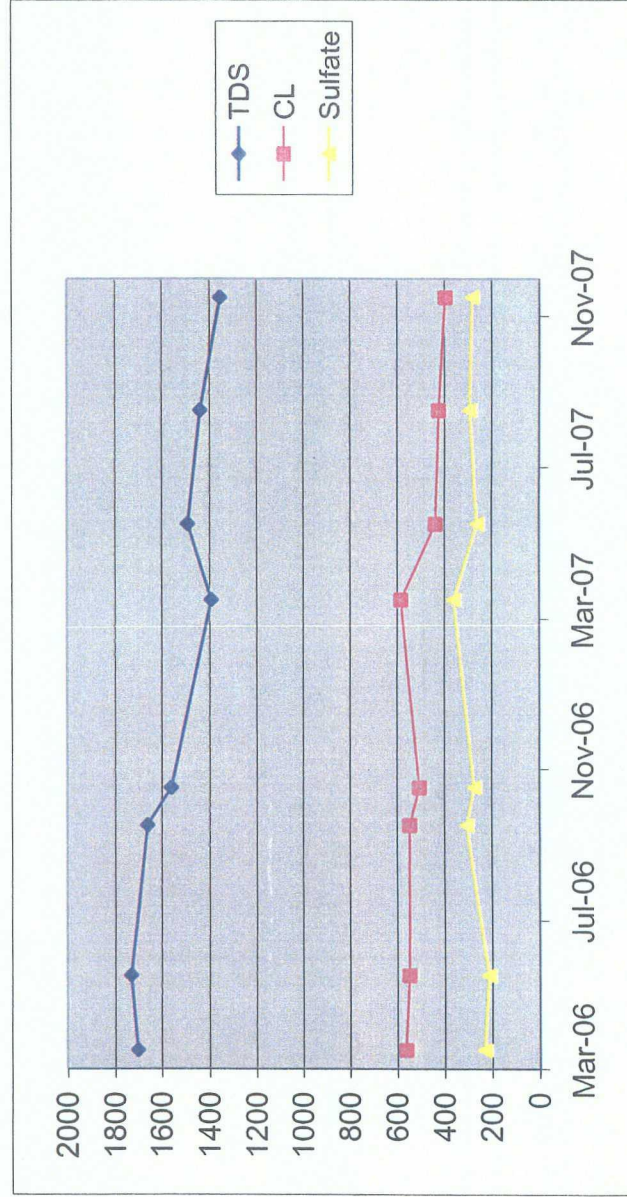
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	78.43	92.00	XXX	20	12/21/04	1060	2620	0.0158	<0.001	0.00209	<0.001	550	
1	78.19	92.00	XXX	20	03/29/05	873	2020	0.000904	<0.001	<0.001	<0.001	502	
1	78.11	92.00	XXX	20	06/16/05	684	1900	<0.001	<0.001	<0.001	<0.001	468	
1	77.95	92.00	XXX	2.5	09/15/05	464	1770	<0.001	<0.001	<0.001	<0.001	307	
1	77.80	92.00	2.30	8	12/05/05	390	1410	<0.001	<0.001	<0.001	0.000666	245	
1	77.56	92.00	2.30	8	02/27/06	413	1440	<0.001	<0.001	<0.001	<0.001	236	
1	77.51	92.00	2.30	10	05/24/06	420	1430	<0.001	<0.001	<0.001	<0.001	246	
1	77.25	92.00	2.40	10	09/14/06	672	1870	<0.001	<0.001	<0.001	<0.001	339	Clear no odor
1	77.12	92.00	2.40	10	10/30/06	943	2360	<0.001	<0.001	<0.001	<0.001	339	Clear no odor
1	76.95	91.85	2.40	10	03/16/07	519	3630	<0.001	<0.001	<0.001	<0.001	112	Clear no odor
1	76.80	91.85	2.40	10	05/15/07	2160	4530	<0.001	<0.001	<0.001	<0.001	397	Clear no odor
1	76.48	91.85	2.50	10	08/29/07	2179	7305	<0.002	<0.002	<0.002	<0.002	500	Clear no odor
1	76.3	91.85	2.50	10	11/14/07	2250	4679	<0.002	<0.002	<0.002	<0.002	477	Clear no odor





Rice Engineering Operating  
Justice L-1  
Lea County, New Mexico

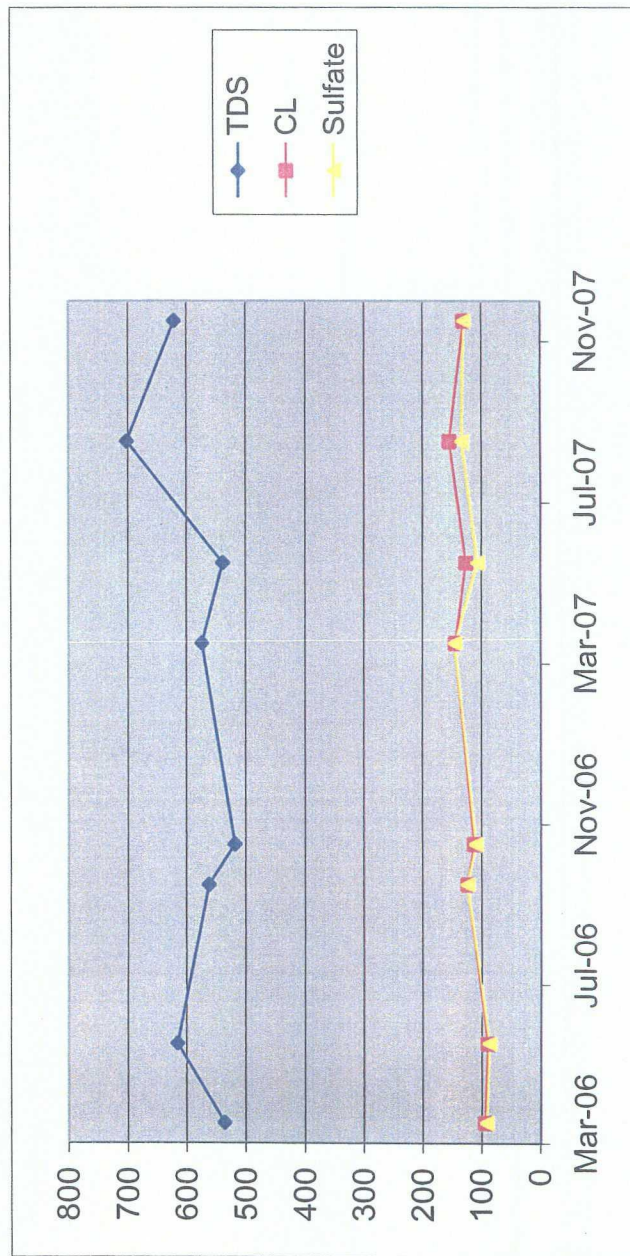
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	77.72	93.05	2.50	12	03/28/06	564	1700	<0.001	<0.001	<0.001	<0.001	233	
2	77.48	93.05	2.50	15	05/24/06	549	1730	<0.001	<0.001	<0.001	<0.001	215	
2	77.23	93.05	2.50	10	09/14/06	546	1660	<0.001	<0.001	<0.001	<0.001	306	
2	77.11	93.05	2.60	10	10/30/06	505	1560	<0.001	<0.001	<0.001	<0.001	275	Clear no odor
2	76.93	92.88	2.60	10	03/16/07	584	1392	<0.001	<0.001	<0.001	<0.001	362	Clear no odor
2	76.78	92.88	2.60	10	05/15/07	437	1490	<0.001	<0.001	<0.001	<0.001	262	Clear no odor
2	76.47	92.88	2.60	10	08/29/07	424	1438	<0.002	<0.002	<0.002	<0.002	295	Clear no odor
2	76.30	92.88	2.70	10	11/14/07	396	1353	<0.002	<0.002	<0.002	<0.006	283	Clear no odor



Rice Engineering Operating  
Justice L-1

Lea County, New Mexico

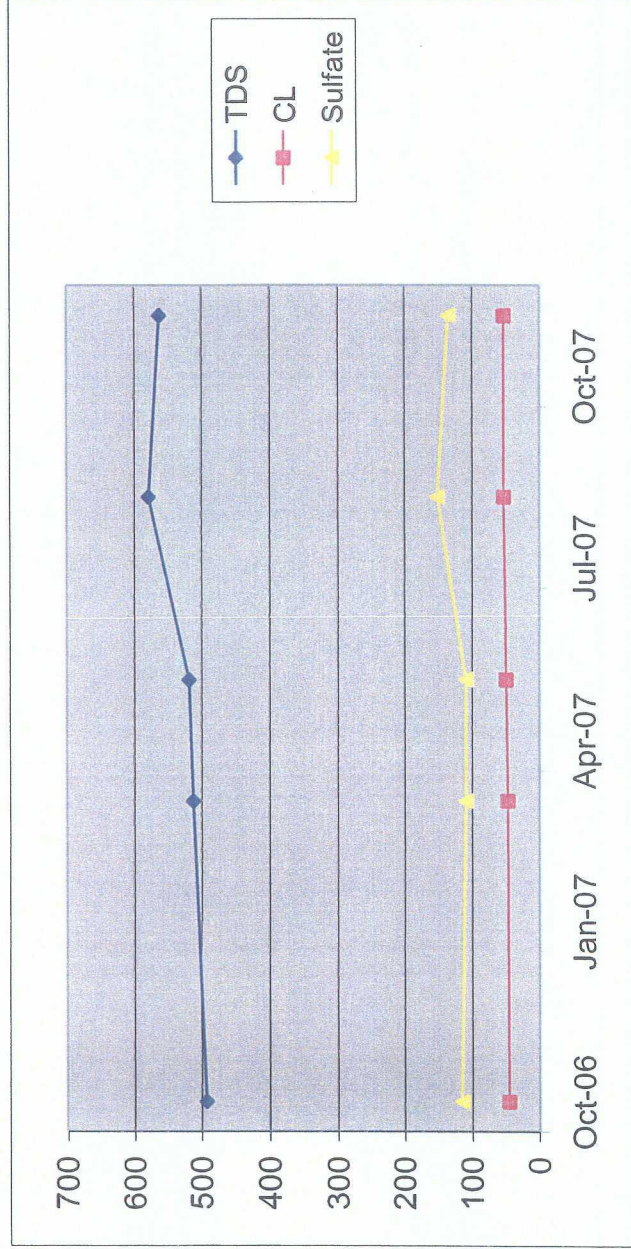
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	78.21	93.00	2.40	12	03/28/06	96.3	536	<0.001	<0.001	<0.001	<0.001	93.4	
3	77.99	93.00	2.40	10	05/24/06	91.4	616	<0.001	<0.001	<0.001	<0.001	88.3	
3	77.99	93.00	2.40	10	09/14/06	125	562	<0.001	<0.001	<0.001	<0.001	125	
3	77.61	93.00	2.50	10	10/30/06	114	518	<0.001	<0.001	<0.001	<0.001	111	Clear no odor
3	77.47	92.84	2.50	10	03/16/07	146	574	<0.001	<0.001	<0.001	<0.001	146	Clear no odor
3	77.30	92.84	2.50	10	05/15/07	128	538	<0.001	<0.001	<0.001	<0.001	108	Clear no odor
3	76.98	92.84	2.50	10	08/29/07	156	702	<0.002	<0.002	<0.002	<0.002	134	Clear no odor
3	76.84	92.84	2.60	10	11/14/07	132	621	<0.002	0.002	0.003	0.007	131	Clear no odor





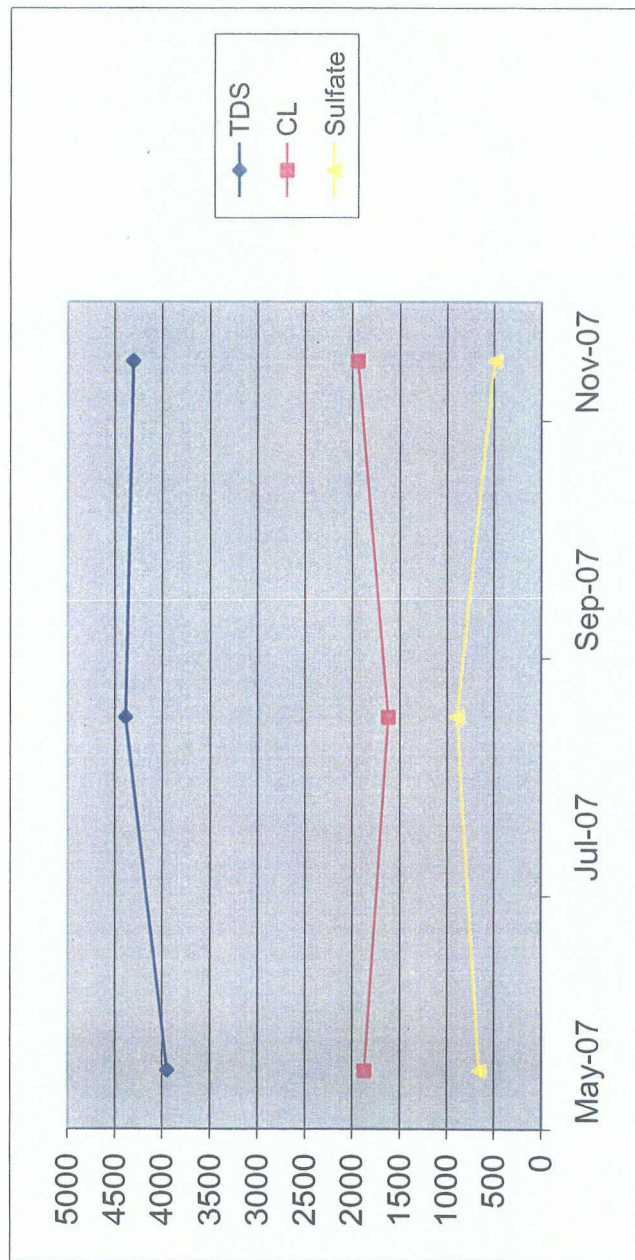
Rice Engineering Operating  
Justice L-1  
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	78.44	91.24	2.00	10	10/30/06	44.2	492	<0.001	<0.001	<0.001	<0.001	115	Clear no odor
4	78.32	90.62	2.00	10	03/16/07	45.8	512	<0.001	<0.001	<0.001	<0.001	109	Clear no odor
4	78.11	90.62	2.00	8	05/15/07	48.0	518	<0.001	<0.001	<0.001	<0.001	109	Clear no odor
4	77.84	90.62	2.00	8	08/29/07	52.0	578	<0.002	<0.002	<0.002	<0.002	151	Clear no odor
4	77.67	90.62	2.10	8	11/14/07	52	562	<0.002	<0.002	<0.002	<0.002	135	Clear no odor

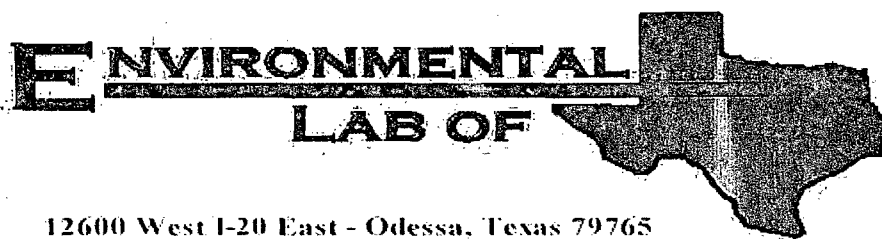


Rice Engineering Operating  
Justice L-1  
Lea County, New Mexico

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	75.94	87.20	1.80	8	05/15/07	1870	3950	<0.001	<0.001	<0.001	<0.001	655	Clear no odor
5	75.61	87.20	1.90	8	08/29/07	1619	4386	<0.002	<0.002	<0.002	<0.002	894	Clear no odor
5	75.44	87.20	1.90	8	11/14/07	1940	4306	<0.002	<0.002	<0.002	<0.002	490	Clear no odor



## APPENDIX A



12600 West I-20 East - Odessa, Texas 79765

A Xenco Laboratories Company

## Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: Justis Jct. L-1 Vent

Project Number: None Given

Location: T25S R37E Sec1L Lea County, NM

Lab Order Number: 7C20016

Report Date: 04/05/07



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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well #1	7C20016-01	Water	03/16/07 12:40	03-20-2007 13:45
Monitor Well #2	7C20016-02	Water	03/16/07 11:30	03-20-2007 13:45
Monitor Well #3	7C20016-03	Water	03/16/07 09:35	03-20-2007 13:45
Monitor Well #4	7C20016-04	Water	03/16/07 10:40	03-20-2007 13:45

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (7C20016-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EC72814	03/28/07	03/28/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		103 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.0 %	80-120		"	"	"	"	
<b>Monitor Well #2 (7C20016-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	EC72814	03/28/07	03/28/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		101 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.8 %	80-120		"	"	"	"	
<b>Monitor Well #3 (7C20016-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	EC72814	03/28/07	03/28/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.2 %	80-120		"	"	"	"	
<b>Monitor Well #4 (7C20016-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	EC72814	03/28/07	03/28/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		97.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.4 %	80-120		"	"	"	"	

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Page 2 of 10

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (7C20016-01) Water</b>									
Total Alkalinity	300	2.00	mg/L	1	EC72808	03/28/07	03/28/07	EPA 310.1M	
Chloride	519	25.0	"	50	EC72304	03/22/07	03/23/07	EPA 300.0	
Total Dissolved Solids	3630	10.0	"	1	EC72210	03/21/07	03/22/07	EPA 160.1	
Sulfate	112	25.0	"	50	EC72304	03/22/07	03/23/07	EPA 300.0	
<b>Monitor Well #2 (7C20016-02) Water</b>									
Total Alkalinity	240	2.00	mg/L	1	EC72808	03/28/07	03/28/07	EPA 310.1M	
Chloride	584	12.5	"	25	EC72304	03/22/07	03/23/07	EPA 300.0	
Total Dissolved Solids	1390	10.0	"	1	EC72210	03/21/07	03/22/07	EPA 160.1	
Sulfate	362	12.5	"	25	EC72304	03/22/07	03/23/07	EPA 300.0	
<b>Monitor Well #3 (7C20016-03) Water</b>									
Total Alkalinity	172	2.00	mg/L	1	EC72808	03/28/07	03/28/07	EPA 310.1M	
Chloride	146	5.00	"	10	EC72304	03/22/07	03/23/07	EPA 300.0	
Total Dissolved Solids	574	10.0	"	1	EC72210	03/21/07	03/22/07	EPA 160.1	
Sulfate	146	5.00	"	10	EC72304	03/22/07	03/23/07	EPA 300.0	
<b>Monitor Well #4 (7C20016-04) Water</b>									
Total Alkalinity	268	2.00	mg/L	1	EC72808	03/28/07	03/28/07	EPA 310.1M	
Chloride	45.8	5.00	"	10	EC72304	03/22/07	03/23/07	EPA 300.0	
Total Dissolved Solids	512	10.0	"	1	EC72210	03/21/07	03/22/07	EPA 160.1	
Sulfate	109	5.00	"	10	EC72304	03/22/07	03/23/07	EPA 300.0	

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Page 3 of 10

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (7C20016-01) Water</b>									
Calcium	652	8.10	mg/L	100	EC73011	03/30/07	03/30/07	EPA 6010B	
Magnesium	241	1.80	"	50	"	"	"	"	
Potassium	11.4	0.600	"	10	"	"	"	"	
Sodium	336	4.30	"	100	"	"	"	"	
<b>Monitor Well #2 (7C20016-02) Water</b>									
Calcium	162	4.05	mg/L	50	EC73011	03/30/07	03/30/07	EPA 6010B	
Magnesium	48.1	0.360	"	10	"	"	"	"	
Potassium	6.65	0.600	"	"	"	"	"	"	
Sodium	253	2.15	"	50	"	"	"	"	
<b>Monitor Well #3 (7C20016-03) Water</b>									
Calcium	85.0	4.05	mg/L	50	EC73011	03/30/07	03/30/07	EPA 6010B	
Magnesium	27.8	0.360	"	10	"	"	"	"	
Potassium	2.92	0.600	"	"	"	"	"	"	
Sodium	50.2	0.430	"	"	"	"	"	"	
<b>Monitor Well #4 (7C20016-04) Water</b>									
Calcium	86.5	4.05	mg/L	50	EC73011	03/30/07	03/30/07	EPA 6010B	
Magnesium	26.7	0.360	"	10	"	"	"	"	
Potassium	2.58	0.600	"	"	"	"	"	"	
Sodium	46.3	0.430	"	"	"	"	"	"	

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Page 4 of 10

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC72814 - EPA 5030C (GC)**

**Blank (EC72814-BLK1)**

Prepared & Analyzed: 03/28/07

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	47.4		ug/l	50.0		94.8	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	50.0		84.4	80-120			

**LCS (EC72814-BS1)**

Prepared & Analyzed: 03/28/07

Benzene	0.0513	0.00100	mg/L	0.0500		103	80-120			
Toluene	0.0493	0.00100	"	0.0500		98.6	80-120			
Ethylbenzene	0.0500	0.00100	"	0.0500		100	80-120			
Xylene (p/m)	0.0943	0.00100	"	0.100		94.3	80-120			
Xylene (o)	0.0511	0.00100	"	0.0500		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	49.9		ug/l	50.0		99.8	80-120			
Surrogate: 4-Bromofluorobenzene	44.7		"	50.0		89.4	80-120			

**Calibration Check (EC72814-CCV1)**

Prepared: 03/28/07 Analyzed: 03/29/07

Benzene	50.9		ug/l	50.0		102	80-120			
Toluene	49.5		"	50.0		99.0	80-120			
Ethylbenzene	50.4		"	50.0		101	80-120			
Xylene (p/m)	93.8		"	100		93.8	80-120			
Xylene (o)	52.6		"	50.0		105	80-120			
Surrogate: a,a,a-Trifluorotoluene	51.0		"	50.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	47.9		"	50.0		95.8	80-120			

**Matrix Spike (EC72814-MS1)**

Source: 7C20014-02

Prepared: 03/28/07 Analyzed: 03/29/07

Benzene	0.0523	0.00100	mg/L	0.0500	ND	105	80-120			
Toluene	0.0500	0.00100	"	0.0500	ND	100	80-120			
Ethylbenzene	0.0524	0.00100	"	0.0500	ND	105	80-120			
Xylene (p/m)	0.0955	0.00100	"	0.100	ND	95.5	80-120			
Xylene (o)	0.0533	0.00100	"	0.0500	ND	107	80-120			
Surrogate: a,a,a-Trifluorotoluene	52.9		ug/l	50.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	46.7		"	50.0		93.4	80-120			

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC72814 - EPA 5030C (GC)**

**Matrix Spike Dup (EC72814-MSD1)**

Source: 7C20014-02

Prepared: 03/28/07 Analyzed: 03/29/07

Benzene	0.0527	0.00100	mg/L	0.0500	ND	105	80-120	0.00	20	
Toluene	0.0502	0.00100	"	0.0500	ND	100	80-120	0.00	20	
Ethylbenzene	0.0515	0.00100	"	0.0500	ND	103	80-120	1.92	20	
Xylene (p/m)	0.0950	0.00100	"	0.100	ND	95.0	80-120	0.525	20	
Xylene (o)	0.0528	0.00100	"	0.0500	ND	106	80-120	0.939	20	
Surrogate: a,a,a-Trifluorotoluene	52.5		ug/l	50.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	44.6		"	50.0		89.2	80-120			

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Page 6 of 10

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC72210 - General Preparation (WetChem)**

**Blank (EC72210-BLK1)**

Prepared: 03/21/07 Analyzed: 03/22/07

Total Dissolved Solids ND 10.0 mg/L

**Duplicate (EC72210-DUP1)**

Source: 7C21003-01

Prepared: 03/21/07 Analyzed: 03/22/07

Total Dissolved Solids 442 10.0 mg/L 462 4.42 20

**Duplicate (EC72210-DUP2)**

Source: 7C20016-03

Prepared: 03/21/07 Analyzed: 03/22/07

Total Dissolved Solids 566 10.0 mg/L 574 1.40 20

**Batch EC72304 - General Preparation (WetChem)**

**Blank (EC72304-BLK1)**

Prepared: 03/22/07 Analyzed: 03/23/07

Sulfate ND 0.500 mg/L

Chloride ND 0.500 "

**LCS (EC72304-BS1)**

Prepared: 03/22/07 Analyzed: 03/23/07

Sulfate 9.16 0.500 mg/L 10.0 91.6 80-120

Chloride 8.95 0.500 " 10.0 89.5 80-120

**Calibration Check (EC72304-CCV1)**

Prepared: 03/22/07 Analyzed: 03/23/07

Sulfate 10.3 mg/L 10.0 103 80-120

Chloride 9.20 " 10.0 92.0 80-120

**Duplicate (EC72304-DUP1)**

Source: 7C19004-62

Prepared: 03/22/07 Analyzed: 03/23/07

Chloride 90.3 5.00 mg/L 92.6 2.52 20

Sulfate 244 5.00 " 245 0.409 20

**Duplicate (EC72304-DUP2)**

Source: 7C20014-03

Prepared: 03/22/07 Analyzed: 03/23/07

Sulfate 212 5.00 mg/L 211 0.473 20

Chloride 41.0 5.00 " 40.8 0.489 20

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Page 7 of 10



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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC72304 - General Preparation (WetChem)**

<b>Matrix Spike (EC72304-MS1)</b>		<b>Source: 7C19004-62</b>		<b>Prepared: 03/22/07 Analyzed: 03/23/07</b>						
Chloride	220	5.00	mg/L	100	92.6	127	80-120			MI
Sulfate	389	5.00	"	100	245	144	80-120			MI
<b>Matrix Spike (EC72304-MS2)</b>		<b>Source: 7C20014-03</b>		<b>Prepared: 03/22/07 Analyzed: 03/23/07</b>						
Chloride	171	5.00	mg/L	100	40.8	130	80-120			MI
Sulfate	364	5.00	"	100	211	153	80-120			MI

**Batch EC72808 - General Preparation (WetChem)**

<b>Blank (EC72808-BLK1)</b>				<b>Prepared &amp; Analyzed: 03/28/07</b>						
Total Alkalinity	ND	2.00	mg/L							
<b>LCS (EC72808-BS1)</b>				<b>Prepared &amp; Analyzed: 03/28/07</b>						
Bicarbonate Alkalinity	176	2.00	mg/L	200		88.0	85-115			
<b>Duplicate (EC72808-DUP1)</b>		<b>Source: 7C20014-01</b>		<b>Prepared &amp; Analyzed: 03/28/07</b>						
Total Alkalinity	200	2.00	mg/L		210			4.88	20	
<b>Reference (EC72808-SRM1)</b>				<b>Prepared &amp; Analyzed: 03/28/07</b>						
Total Alkalinity	246		mg/L	250		98.4	90-110			

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Page 8 of 10

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC73011 - 6010B/No Digestion**

**Blank (EC73011-BLK1)**

Prepared & Analyzed: 03/30/07

Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360	"							
Potassium	ND	0.0600	"							
Sodium	ND	0.0430	"							

**Calibration Check (EC73011-CCV1)**

Prepared & Analyzed: 03/30/07

Calcium	2.29		mg/L	2.00		114	85-115			
Magnesium	1.89		"	2.00		94.5	85-115			
Potassium	1.78		"	2.00		89.0	85-115			
Sodium	1.77		"	2.00		88.5	85-115			

**Duplicate (EC73011-DUP1)**

Source: 7C20014-02

Prepared & Analyzed: 03/30/07

Calcium	49.8	0.810	mg/L		58.0			15.2	20	
Magnesium	25.0	0.360	"		28.9			14.5	20	
Potassium	4.29	0.600	"		4.66			8.27	20	
Sodium	51.4	0.430	"		60.1			15.6	20	

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Page 9 of 10

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### Notes and Definitions

MI The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date:

4/5/2007

Brent Barron, Laboratory Director/Corp. Technical Director  
Celey D. Keene, Org. Tech Director  
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer  
Jeanne Mc Murrey, Inorg. Tech Director

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Page 10 of 10



# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Rice Operating  
 Date/ Time: 03-20-07 @ 1345  
 Lab ID #: 7C20016  
 Initials: JMM

### Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	(Yes)	No	2.0 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	(Yes)	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

### Variance Documentation

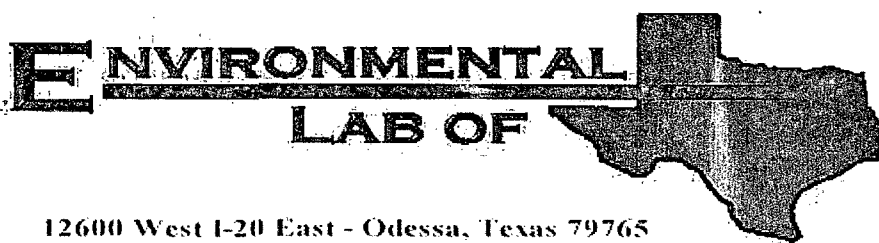
Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event



12600 West I-20 East - Odessa, Texas 79765

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## Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: Justis Jct. L-1 Vent

Project Number: None Given

Location: T25S R37E Sec1L ~ Lea County New Mexico

Lab Order Number: 7E17007

Report Date: 05/24/07

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well # 1	7E17007-01	Water	05/15/07 13:40	05-17-2007 14:30
Monitor Well # 2	7E17007-02	Water	05/15/07 12:25	05-17-2007 14:30
Monitor Well # 3	7E17007-03	Water	05/15/07 10:25	05-17-2007 14:30
Monitor Well # 4	7E17007-04	Water	05/15/07 11:30	05-17-2007 14:30
Monitor Well # 5	7E17007-05	Water	05/15/07 14:35	05-17-2007 14:30



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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well # 1 (7E17007-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE72206	05/22/07	05/23/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	80-120		"	"	"	"	
<b>Monitor Well # 2 (7E17007-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE72206	05/22/07	05/23/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.6 %	80-120		"	"	"	"	
<b>Monitor Well # 3 (7E17007-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE72206	05/22/07	05/23/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		104 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-120		"	"	"	"	
<b>Monitor Well # 4 (7E17007-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE72206	05/22/07	05/23/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	80-120		"	"	"	"	

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Page 2 of 11

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well # 5 (7E17007-05) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE72206	05/22/07	05/24/07	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		112 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	80-120		"	"	"	"	

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Page 3 of 11

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122 W. Taylor  
Hobbs NM, 88240

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well # 1 (7E17007-01) Water</b>									
Total Alkalinity	270	2.00	mg/L	1	EE71808	05/18/07	06/22/07	EPA 310.1M	
Chloride	2160	50.0	"	100	EE72203	05/22/07	05/22/07	EPA 300.0	
Total Dissolved Solids	4530	10.0	"	1	EE72202	05/18/07	05/22/07	EPA 160.1	
Sulfate	397	50.0	"	100	EE72203	05/22/07	05/22/07	EPA 300.0	
<b>Monitor Well # 2 (7E17007-02) Water</b>									
Total Alkalinity	268	2.00	mg/L	1	EE71808	05/18/07	06/22/07	EPA 310.1M	
Chloride	437	10.0	"	20	EE72203	05/22/07	05/22/07	EPA 300.0	
Total Dissolved Solids	1490	10.0	"	1	EE72202	05/18/07	05/22/07	EPA 160.1	
Sulfate	262	10.0	"	20	EE72203	05/22/07	05/22/07	EPA 300.0	
<b>Monitor Well # 3 (7E17007-03) Water</b>									
Total Alkalinity	176	2.00	mg/L	1	EE71808	05/18/07	06/22/07	EPA 310.1M	
Chloride	128	5.00	"	10	EE72203	05/22/07	05/22/07	EPA 300.0	
Total Dissolved Solids	538	10.0	"	1	EE72202	05/18/07	05/22/07	EPA 160.1	
Sulfate	108	5.00	"	10	EE72203	05/22/07	05/22/07	EPA 300.0	
<b>Monitor Well # 4 (7E17007-04) Water</b>									
Total Alkalinity	252	2.00	mg/L	1	EE71808	05/18/07	06/22/07	EPA 310.1M	
Chloride	48.0	5.00	"	10	EE72203	05/22/07	05/22/07	EPA 300.0	
Total Dissolved Solids	518	10.0	"	1	EE72202	05/18/07	05/22/07	EPA 160.1	
Sulfate	109	5.00	"	10	EE72203	05/22/07	05/22/07	EPA 300.0	
<b>Monitor Well # 5 (7E17007-05) Water</b>									
Total Alkalinity	280	2.00	mg/L	1	EE71808	05/18/07	06/22/07	EPA 310.1M	
Chloride	1870	50.0	"	100	EE72203	05/22/07	05/22/07	EPA 300.0	
Total Dissolved Solids	3950	10.0	"	1	EE72202	05/18/07	05/22/07	EPA 160.1	
Sulfate	655	50.0	"	100	EE72203	05/22/07	05/22/07	EPA 300.0	

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Page 4 of 11

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

Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Total Metals by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well # 1 (7E17007-01) Water</b>									
Calcium	606	8.10	mg/L	100	EE72205	05/22/07	05/22/07	EPA 6010B	
Magnesium	248	1.80	"	50	"	"	"	"	
Potassium	12.4	0.600	"	10	"	"	"	"	
Sodium	360	4.30	"	100	"	"	"	"	
<b>Monitor Well # 2 (7E17007-02) Water</b>									
Calcium	147	4.05	mg/L	50	EE72205	05/22/07	05/22/07	EPA 6010B	
Magnesium	49.1	1.80	"	"	"	"	"	"	
Potassium	7.47	0.600	"	10	"	"	"	"	
Sodium	278	2.15	"	50	"	"	"	"	
<b>Monitor Well # 3 (7E17007-03) Water</b>									
Calcium	77.3	4.05	mg/L	50	EE72205	05/22/07	05/22/07	EPA 6010B	
Magnesium	25.6	0.360	"	10	"	"	"	"	
Potassium	4.30	0.600	"	"	"	"	"	"	
Sodium	53.2	2.15	"	50	"	"	"	"	
<b>Monitor Well # 4 (7E17007-04) Water</b>									
Calcium	73.7	4.05	mg/L	50	EE72205	05/22/07	05/22/07	EPA 6010B	
Magnesium	24.3	0.360	"	10	"	"	"	"	
Potassium	3.78	0.600	"	"	"	"	"	"	
Sodium	50.5	2.15	"	50	"	"	"	"	
<b>Monitor Well # 5 (7E17007-05) Water</b>									
Calcium	171	8.10	mg/L	100	EE72205	05/22/07	05/22/07	EPA 6010B	
Magnesium	72.8	1.80	"	50	"	"	"	"	
Potassium	11.2	0.600	"	10	"	"	"	"	
Sodium	1080	21.5	"	500	"	"	"	"	

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Page 5 of 11

Rice Operating Co.  
122 W. Taylor  
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Project: Justis Jct. L-1 Vent  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE72206 - EPA 5030C (GC)**

**Blank (EE72206-BLK1)**

Prepared: 05/22/07 Analyzed: 05/23/07

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	49.3		ug/l	50.0		98.6	80-120			
Surrogate: 4-Bromofluorobenzene	51.9		"	50.0		104	80-120			

**LCS (EE72206-BS1)**

Prepared: 05/22/07 Analyzed: 05/23/07

Benzene	0.0507	0.00100	mg/L	0.0500		101	80-120			
Toluene	0.0533	0.00100	"	0.0500		107	80-120			
Ethylbenzene	0.0534	0.00100	"	0.0500		107	80-120			
Xylene (p/m)	0.109	0.00100	"	0.100		109	80-120			
Xylene (o)	0.0554	0.00100	"	0.0500		111	80-120			
Surrogate: a,a,a-Trifluorotoluene	48.3		ug/l	50.0		96.6	80-120			
Surrogate: 4-Bromofluorobenzene	52.9		"	50.0		106	80-120			

**Calibration Check (EE72206-CCV1)**

Prepared: 05/22/07 Analyzed: 05/24/07

Benzene	0.0530		mg/L	0.0500		106	80-120			
Toluene	0.0557		"	0.0500		111	80-120			
Ethylbenzene	0.0552		"	0.0500		110	80-120			
Xylene (p/m)	0.110		"	0.100		110	80-120			
Xylene (o)	0.0585		"	0.0500		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	51.5		ug/l	50.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	53.9		"	50.0		108	80-120			

**Matrix Spike (EE72206-MS1)**

Source: 7E15010-07

Prepared: 05/22/07 Analyzed: 05/24/07

Benzene	0.0515	0.00100	mg/L	0.0500	ND	103	80-120			
Toluene	0.0544	0.00100	"	0.0500	ND	109	80-120			
Ethylbenzene	0.0513	0.00100	"	0.0500	ND	103	80-120			
Xylene (p/m)	0.108	0.00100	"	0.100	ND	108	80-120			
Xylene (o)	0.0566	0.00100	"	0.0500	ND	113	80-120			
Surrogate: a,a,a-Trifluorotoluene	50.5		ug/l	50.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	50.5		"	50.0		101	80-120			

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Page 6 of 11

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122 W. Taylor  
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Project: Justis Jct. L-1 Vent  
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Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE72206 - EPA 5030C (GC)</b>										
<b>Matrix Spike Dup (EE72206-MSD1)</b>		<b>Source: 7E15010-07</b>			<b>Prepared: 05/22/07 Analyzed: 05/24/07</b>					
Benzene	0.0512	0.00100	mg/L	0.0500	ND	102	80-120	0.976	20	
Toluene	0.0542	0.00100	"	0.0500	ND	108	80-120	0.922	20	
Ethylbenzene	0.0551	0.00100	"	0.0500	ND	110	80-120	6.57	20	
Xylene (p/m)	0.111	0.00100	"	0.100	ND	111	80-120	2.74	20	
Xylene (o)	0.0581	0.00100	"	0.0500	ND	116	80-120	2.62	20	
Surrogate: a,a,a-Trifluorotoluene	48.3		ug/l	50.0		96.6	80-120			
Surrogate: 4-Bromofluorobenzene	53.8		"	50.0		108	80-120			

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Page 7 of 11

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122 W. Taylor  
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Project: Justis Jct. L-1 Vent  
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Fax: (505) 397-1471

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE71808 - General Preparation (WetChem)</b>										
<b>Blank (EE71808-BLK1)</b>										
Prepared: 05/18/07 Analyzed: 06/22/07										
Total Alkalinity	ND	2.00	mg/L							
<b>LCS (EE71808-BS1)</b>										
Prepared: 05/18/07 Analyzed: 06/22/07										
Total Alkalinity	0.00	2.00	mg/L				85-115			
Bicarbonate Alkalinity	174	2.00	"	200		87.0	85-115			
<b>Duplicate (EE71808-DUP1)</b>										
Source: 7E17003-01 Prepared: 05/18/07 Analyzed: 06/22/07										
Total Alkalinity	220	2.00	mg/L		222			0.905	20	
<b>Reference (EE71808-SRM1)</b>										
Prepared: 05/18/07 Analyzed: 06/22/07										
Total Alkalinity	254		mg/L	250		102	90-110			
<b>Batch EE72202 - General Preparation (WetChem)</b>										
<b>Blank (EE72202-BLK1)</b>										
Prepared: 05/18/07 Analyzed: 05/22/07										
Total Dissolved Solids	ND	10.0	mg/L							
<b>Duplicate (EE72202-DUP1)</b>										
Source: 7E17003-01 Prepared: 05/18/07 Analyzed: 05/22/07										
Total Dissolved Solids	516	10.0	mg/L		498			3.55	20	
<b>Duplicate (EE72202-DUP2)</b>										
Source: 7E17007-03 Prepared: 05/18/07 Analyzed: 05/22/07										
Total Dissolved Solids	530	10.0	mg/L		538			1.50	20	
<b>Batch EE72203 - General Preparation (WetChem)</b>										
<b>Blank (EE72203-BLK1)</b>										
Prepared & Analyzed: 05/22/07										
Sulfate	ND	0.500	mg/L							
Chloride	ND	0.500	"							

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Page 8 of 11

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE72203 - General Preparation (WetChem)**

**LCS (EE72203-BS1)**

Prepared & Analyzed: 05/22/07

Chloride	9.56	0.500	mg/L	10.0		95.6	80-120			
Sulfate	9.69	0.500	"	10.0		96.9	80-120			

**Calibration Check (EE72203-CCV1)**

Prepared & Analyzed: 05/22/07

Chloride	9.88		mg/L	10.0		98.8	80-120			
Sulfate	9.23		"	10.0		92.3	80-120			

**Duplicate (EE72203-DUP1)**

Source: 7E17003-01

Prepared & Analyzed: 05/22/07

Chloride	64.2	12.5	mg/L		62.4			2.84	20	
Sulfate	104	12.5	"		101			2.93	20	

**Duplicate (EE72203-DUP2)**

Source: 7E17007-03

Prepared & Analyzed: 05/22/07

Chloride	128	5.00	mg/L		128			0.00	20	
Sulfate	107	5.00	"		108			0.930	20	

**Matrix Spike (EE72203-MS1)**

Source: 7E17003-01

Prepared & Analyzed: 05/22/07

Sulfate	334	12.5	mg/L	250	101	93.2	80-120			
Chloride	314	12.5	"	250	62.4	101	80-120			

**Matrix Spike (EE72203-MS2)**

Source: 7E17007-03

Prepared & Analyzed: 05/22/07

Sulfate	207	5.00	mg/L	100	108	99.0	80-120			
Chloride	228	5.00	"	100	128	100	80-120			

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Page 9 of 11



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122 W. Taylor  
Hobbs NM, 88240

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**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE72205 - 6010B/No Digestion**

**Blank (EE72205-BLK1)**

Prepared & Analyzed: 05/22/07

Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360	"							
Potassium	ND	0.0600	"							
Sodium	ND	0.0430	"							

**Calibration Check (EE72205-CCV1)**

Prepared & Analyzed: 05/22/07

Calcium	2.01		mg/L	2.00		100	85-115			
Magnesium	2.07		"	2.00		104	85-115			
Potassium	1.76		"	2.00		88.0	85-115			
Sodium	2.14		"	2.00		107	85-115			

**Duplicate (EE72205-DUP1)**

Source: 7E17003-01

Prepared & Analyzed: 05/22/07

Calcium	27.2	0.810	mg/L		27.6			1.46	20	
Magnesium	18.1	0.360	"		18.9			4.32	20	
Potassium	14.3	0.600	"		9.42			41.1	20	
Sodium	85.3	2.15	"		80.7			5.54	20	

R

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Page 10 of 11

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

Project: Justis Jct. L-1 Vent  
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Fax: (505) 397-1471

### Notes and Definitions

R The RPD exceeded the method control limit. The individual analyte QA/QC recoveries, however, were within acceptance limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

5/24/2007

Brent Barron, Laboratory Director/Corp. Technical Director  
Celey D. Keene, Org. Tech Director  
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer  
Jeanne Mc Murrey, Inorg. Tech Director

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If you have received this material in error, please notify us immediately at 432-563-1800.

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Page 11 of 11



**Environmental Lab of Texas**  
Variance/ Corrective Action Report- Sample Log-In

Client: Rice  
Date/ Time: 5-17-07 2:30  
Lab ID #: 7E17007  
Initials: AL

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>0.0</u> °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by ELOT?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13	Samples properly preserved?	<u>Yes</u>	No	See Below	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	Not Applicable	
#20	VOC samples have zero headspace?	<u>Yes</u>	No	Not Applicable	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_


Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

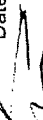
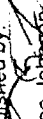
- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

# Cardinal Laboratories, Inc.

101 East Marland - Hobbs, New  
Mexico 88240  
Tel (505) 393-2326  
Fax (505) 393-2476

Company Name: <b>RICE Operating Company</b>		BILL TO Company: <b>RICE Operating Company</b>		PO#
Project Manager: <b>Kristin Farris-Pope, Project Scientist</b>		Address: 122 W Taylor Street ~ Hobbs, New Mexico 88240		(Street, City, Zip)
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240		Phone #: (505) 393-9174		Fax #: (505) 397-1471
Phone #: (505) 393-9174		Fax #: (505) 397-1471		
Project #:		Project Name: <b>Justis Junction L-1 Vent</b>		
Project Location: <b>T25S-R37E-Sec1 L ~ Lea County - New Mexico</b>		Sampler Signature: 		Rozanne Johnson (505) 631-9310 rozanne@valornet.com

[illegible]

Relinquished by:  Rozanne Johnson	Date: _____	Time: 4:05
Relinquished by: _____	Date: _____	Time: _____
Delivered By: (Circle One)	Received by: _____ Date: _____ Time: _____ Received By: (Laboratory Staff) <i>Steph S. Moore</i> 03/24/09 4:05	
UPS - Bus - Other:  Sampler	Sample Condition Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/>	CHECKED BY: _____ (Initials) <i>SSM</i>

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

## ANALYSIS REQUEST

(Circle or Specify Method No.)

[illegible]

Phone Results	Yes	No	
Fax Results	Yes	No	Additional Fax Number:

REMARKS:

Email Results to: kpope@riceswd.com  
rozanne@valornet.com



# ARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 DEECIWOOD • ABILENE, TX 79603

PHONE (505) 393 2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: KRISTIN FARRIS-POPE  
122 W. TAYLOR STREET  
HOBBS, NM 88240  
FAX TO: (505) 397-1471

Receiving Date: 08/29/07  
Reporting Date: 09/05/07  
Project Owner: NOT GIVEN  
Project Name: JUSTIS JUNCTION L-1 VENT  
Project Location: T25S-R37E-SEC1 L-LEA COUNTY, NM

Sampling Date: 08/29/07  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: HM/KS

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:		09/05/07	09/04/07	09/04/07	09/05/07	08/30/07	09/04/07
H13196-1	MONITOR WELL #1	484	645	250	9.65	7,310	116
H13196-2	MONITOR WELL #2	295	99.8	41.1	6.43	2,250	164
H13196-3	MONITOR WELL #3	78	79.8	28.2	5.45	1,021	132
H13196-4	MONITOR WELL #4	73	50.6	25.8	5.34	835	168
H13196-5	MONITOR WELL #5	1320	133	50.8	6.18	6,780	208
Quality Control		NR	50.6	53.2	1.87	1423	NR
True Value QC		NR	50.0	50.0	2.00	1413	NR
% Recovery		NR	101	106	93.6	101	NR
Relative Percent Difference		NR	< 0.1	3.1	2.1	< 0.1	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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		Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		09/04/07	09/05/07	09/04/07	09/04/07	08/30/07	09/04/07
H13196-1	MONITOR WELL #1	2,179	500	0	142	6.93	7,305
H13196-2	MONITOR WELL #2	424	295	0	200	7.41	1,438
H13196-3	MONITOR WELL #3	156	134	0	161	7.45	702
H13196-4	MONITOR WELL #4	52	151	0	205	7.32	578
H13196-5	MONITOR WELL #5	1,619	894	0	254	7.45	4,386
Quality Control		500	24.0	NR	1025	6.97	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		100	96.1	NR	102	99.6	NR
Relative Percent Difference		< 0.1	8.2	NR	6.1	0.1	NR

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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*[Signature]*  
Chemist

09-05-c2  
Date

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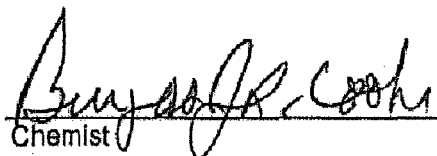
ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: KRISTIN FARRIS-POPE  
122 W. TAYLOR  
HOBBS, NM 88240  
FAX TO: (505) 397-1471

Receiving Date: 08/29/07  
Reporting Date: 09/04/07  
Project Number: NOT GIVEN  
Project Name: JUSTIS JUNCTION L-1 VENT  
Project Location: T25S-R37E-SEC1 L ~ LEA CO., NM

Sampling Date: 08/29/07  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: CK

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		08/30/07	08/30/07	08/30/07	08/30/07
H13196-1	MONITOR WELL #1	<0.002	<0.002	<0.002	<0.006
H13196-2	MONITOR WELL #2	<0.002	<0.002	<0.002	<0.006
H13196-3	MONITOR WELL #3	<0.002	<0.002	<0.002	<0.006
H13196-4	MONITOR WELL #4	<0.002	<0.002	<0.002	<0.006
H13196-5	MONITOR WELL #5	<0.002	<0.002	<0.002	<0.006
Quality Control		0.086	0.082	0.082	0.252
True Value QC		0.100	0.100	0.100	0.300
% Recovery		86.0	82.3	82.4	84.0
Relative Percent Difference		6.0	2.6	1.8	0.7

METHOD: EPA SW-846 8021 B

  
Chemist

9/4/07  
Date

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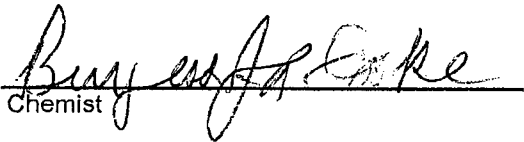
ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: KRISTIN FARRIS-POPE  
122 W. TAYLOR DTREET  
HOBBS, NM 88240  
FAX TO: (575) 397-1471

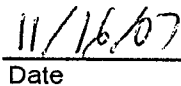
Receiving Date: 11/15/07  
Reporting Date: 11/16/07  
Project Number: NOT GIVEN  
Project Name: JUSTIS JUNCTION L-1 VENT  
Project Location: T25S R37E SEC1 L ~ LEA COUNTY, NM

Sampling Date: 11/14/07  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: SB  
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		11/15/07	11/15/07	11/15/07	11/15/07
H13718-1	MONITOR WELL #1	<0.002	<0.002	<0.002	<0.006
H13718-2	MONITOR WELL #2	<0.002	<0.002	<0.002	<0.006
H13718-3	MONITOR WELL #3	<0.002	0.002	0.003	0.007
H13718-4	MONITOR WELL #4	<0.002	<0.002	<0.002	<0.006
H13718-5	MONITOR WELL #5	<0.002	<0.002	<0.002	<0.006
Quality Control		0.101	0.096	0.099	0.298
True Value QC		0.100	0.100	0.100	0.300
% Recovery		101	95.9	98.6	99.2
Relative Percent Difference		8.6	2.9	2.3	2.4

METHOD: EPA SW-846 8260

  
Chemist

  
Date

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

Receiving Date: 11/15/07  
Reporting Date: 11/26/07  
Project Number: NOT GIVEN  
Project Name: JUSTIS JUNCTION L-1 VENT  
Project Location: T25S-R37E-SEC1 L~LEA COUNTY, NM

Sampling Date: 11/14/07  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: SB  
Analyzed By: HM/KS

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:		11/21/07	11/21/07	11/21/07	11/21/07	11/20/07	11/20/07
H13718-1	MONITOR WELL #1	560	639	262	13.8	7,550	244
H13718-2	MONITOR WELL #2	281	132	38.7	6.08	2,160	256
H13718-3	MONITOR WELL #3	71	86.5	29.0	4.20	961	172
H13718-4	MONITOR WELL #4	71	75.8	25.8	3.80	832	240
H13718-5	MONITOR WELL #5	475	592	230	11.7	6,820	232
Quality Control		NR	51.5	50.8	2.89	1,409	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	103	102	96.3	99.7	NR
Relative Percent Difference		NR	4.6	1.6	2.1	0.4	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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		Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> <sup>-</sup> (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		11/20/07	11/21/07	11/20/07	11/20/07	11/20/07	11/20/07
H13718-1	MONITOR WELL #1	2,250	477	0	298	6.89	4,679
H13718-2	MONITOR WELL #2	396	283	0	312	7.38	1,353
H13718-3	MONITOR WELL #3	132	131	0	210	7.52	621
H13718-4	MONITOR WELL #4	52	135	0	293	7.49	562
H13718-5	MONITOR WELL #5	1,940	490	0	283	6.96	4,306
Quality Control		500	22.8	NR	988	7.06	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		100	91.1	NR	98.8	101	NR
Relative Percent Difference		< 0.1	6.3	NR	1.2	0.1	NR

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Kristin L. Pope  
Chemist

11/26/07  
Date

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