1R - 423-06

GENERAL CORRESPONDENCE

YEAR(S):

2007

Highlander Environmental Corp.

Midland, Texas

CERTIFIED MAIL
RETURN RECIEPT NO. 7004 1160 0000 4843 0008

RECEIVED
DEC - 5 2006
Environmental Bureau
Oil Conservation Division

November 27, 2006

Mr. Wayne Price
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

RE: **INVESTIGATION & CHARACTERIZATION WORK PLAN**
E-1 VENT, JUSTIS SWD SYSTEM, UNIT "E", SEC. 1, T25S, R37E
Lea County, New Mexico, NMOCD Case Number 1R0423-06

Mr. Price:

RICE Operating Company (ROC) has retained Highlander Environmental Corp. (Highlander) to address potential environmental concerns at the above-referenced site. ROC is the service provider (agent) for the Justis SWD System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. In general, project funding is not forthcoming until NMOCD approves the work plan. Therefore, your timely review of this submission is requested.

For all environmental projects, ROC will choose a path forward that:

- protects public health,
- provides the greatest net environmental benefit,
- complies with NMOCD Rules, and
- is supported by good science.

Each site shall have three submissions or a combination of:

1. This Investigation and Characterization Plan (ICP) is a proposal for data gathering and site characterization and assessment.

2. Upon evaluating the data and results from the ICP, a recommended remedy will be submitted in a Corrective Action Plan (CAP).

3. Finally, after implementing the remedy, a closure report with final documentation will be submitted.

BACKGROUND & PREVIOUS WORK

The E-1 vent was composed of three boxes at the same location. As the boxes did not have individual names, they were collectively referred to as the E-1 vent. As part of the ROC Junction Box Upgrade Workplan, starting on November 11, 2003, the junction boxes were removed and the Site was investigated vertically and horizontally with a backhoe. The Site was excavated to the approximate dimensions of 20' x 20' x 12'. TPH impact was noted to a depth of at least 12' below ground surface (bgs). The bottom hole chloride concentration was 904 mg/kg at 12' below the ground surface, and a 4-wall composite sample had a concentration of 1280 mg/kg.

The excavated soil was landfarmed onsite and replaced into the excavation to a depth of 6' below ground surface (bgs). At 6' bgs, a 1.5' thick compacted clay barrier was installed to inhibit further chloride migration. The remaining soils were backfilled on top of the clay barrier and contoured to the surrounding surface. A new junction box was installed 100' north of the old site.

On March 17, 2004, a hollow-stem auger unit was utilized to conduct one soil boring at the former junction box site. Groundwater was encountered at a depth of 89.3' bgs. VOC's ceased at a depth of approximately 25' bgs. The chloride concentrations did not decline with depth. The site was disclosed to the NMOCD as a potential groundwater impact site on March 19, 2004. Additionally, ROC submitted a Junction Box Disclosure Report to the NMOCD dated April 5, 2004. A copy of the Junction Box Disclosure Report is included in Appendix A. A copy of the soil boring log and laboratory analysis are included in Appendix B.

INVESTIGATION & CHARACTERIZATION PLAN

As discussed above, existing site data suggest a potential for impairment of groundwater quality. Therefore the work elements described below are designed to assist ROC in selecting an appropriate vadose zone remedy and, if necessary, a groundwater remedy.

Task 1 Collect Regional Hydrogeologic Data

A water well inventory will be performed to encompass a ½ mile radius around the leak site. The inventory will include a review of water well records on the New Mexico Office of the State Engineer W.A.T.E.R.S. database and United States Geologic Survey (USGS) website. Any water wells denoted on the USGS 7.5 minute topographic quadrangle map within the search radius will be inspected. If viable wells are located, they will be evaluated for the possible incorporation of water level measurements and groundwater monitoring.

Task 2 Evaluate Concentrations of Constituents of Concern in Soil (and Ground Water)

Highlander proposes to install one monitoring well at the former junction box site for further evaluation. The monitor well will be placed appropriately to evaluate groundwater impact. The monitor well will be constructed according to EPA and industry standards.

Following installation, the well will be developed either by bailing with a rig or hand bailer, or pumping with an electric submersible pump to remove fine grained sediment disturbed during drilling and to ensure collection of representative groundwater samples. Water removed from the well will be disposed of in the Justis SWD System.

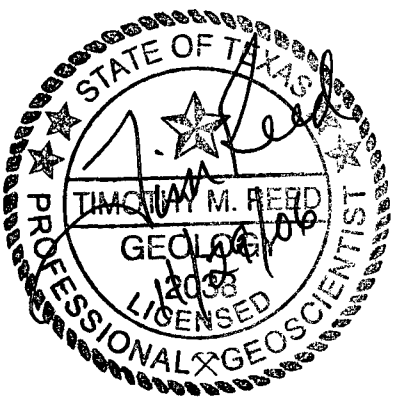
The monitoring well will be inspected for the presence of phase-separated hydrocarbons (PSH) and, if present, a sample will be collected and analyzed by gas chromatography (GC) to determine composition and origin. The well will be properly purged and sampled with a clean, dedicated, polyethylene bailer and disposable line. Groundwater samples will be submitted to a laboratory for analysis of Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) by method EPA 8021B, and chloride by method 300.0.

Task 3 Evaluate Flux from the Vadose Zone to Ground Water

As part of the ICP, the residual impact to vadose zone soils will be evaluated to determine what, if any remediation/isolation techniques will be required at the Site.

The information gathered from tasks 1-3 will be evaluated and utilized to design a groundwater remedy, if needed. If the evaluation demonstrates that residual constituents pose no threat to groundwater quality, only a vadose zone remedy will be proposed. Such recommendations and findings will be presented to NMOCD in a subsequent Corrective Action Plan (CAP). When evaluating any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

Should you have any questions, please contact me at (432) 682-4559. Your prompt review of this submission is appreciated. Thank you for your attention to this matter.



Highlander Environmental Corp.

Timothy M. Reed, P.G.
Vice President

cc: ROC,
Daniel Sanchez - NMOCD

enclosures: figures, photos, junction box disclosure report, soil boring log

FIGURES

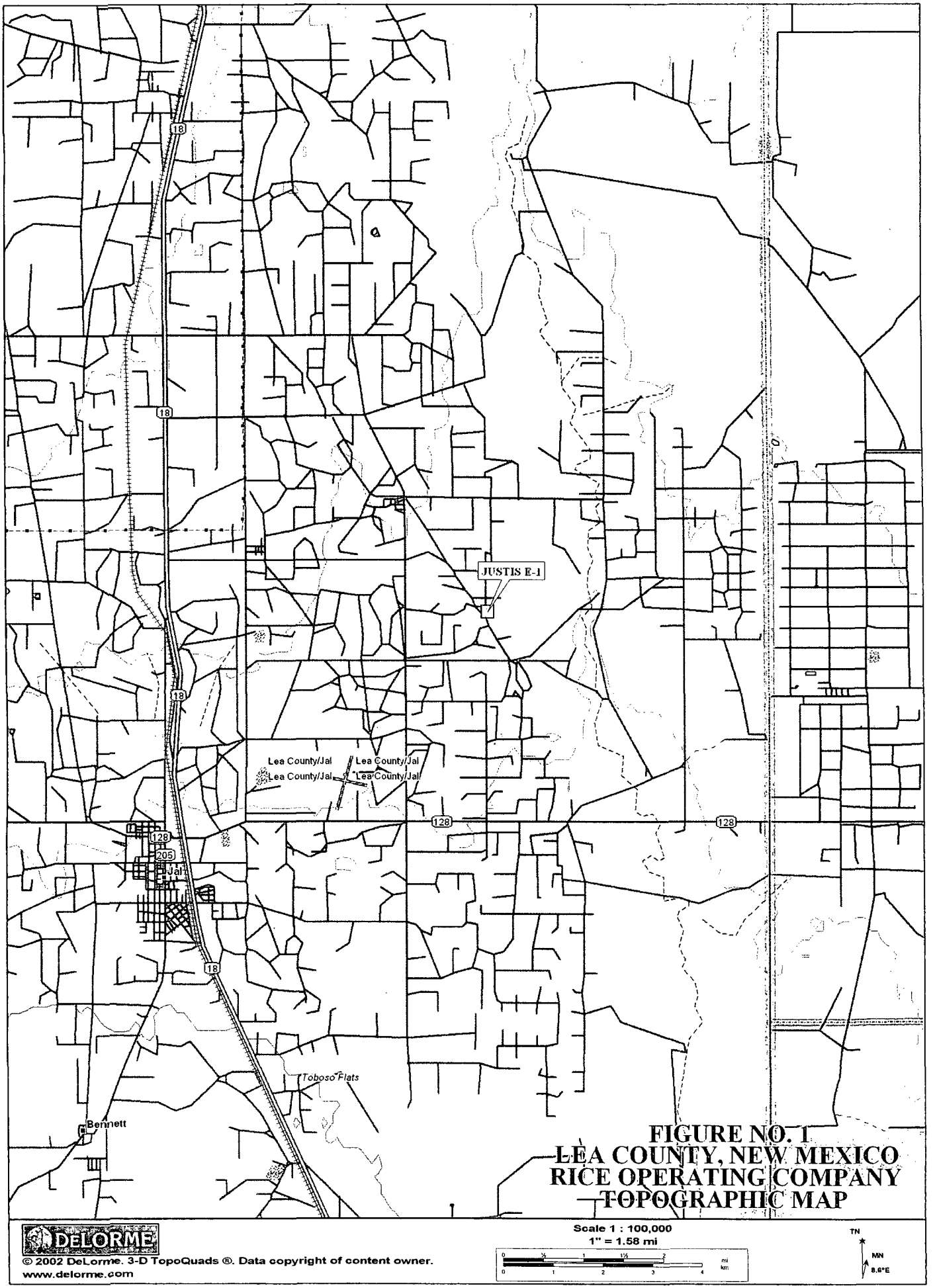


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
RICE OPERATING COMPANY
TOPOGRAPHIC MAP

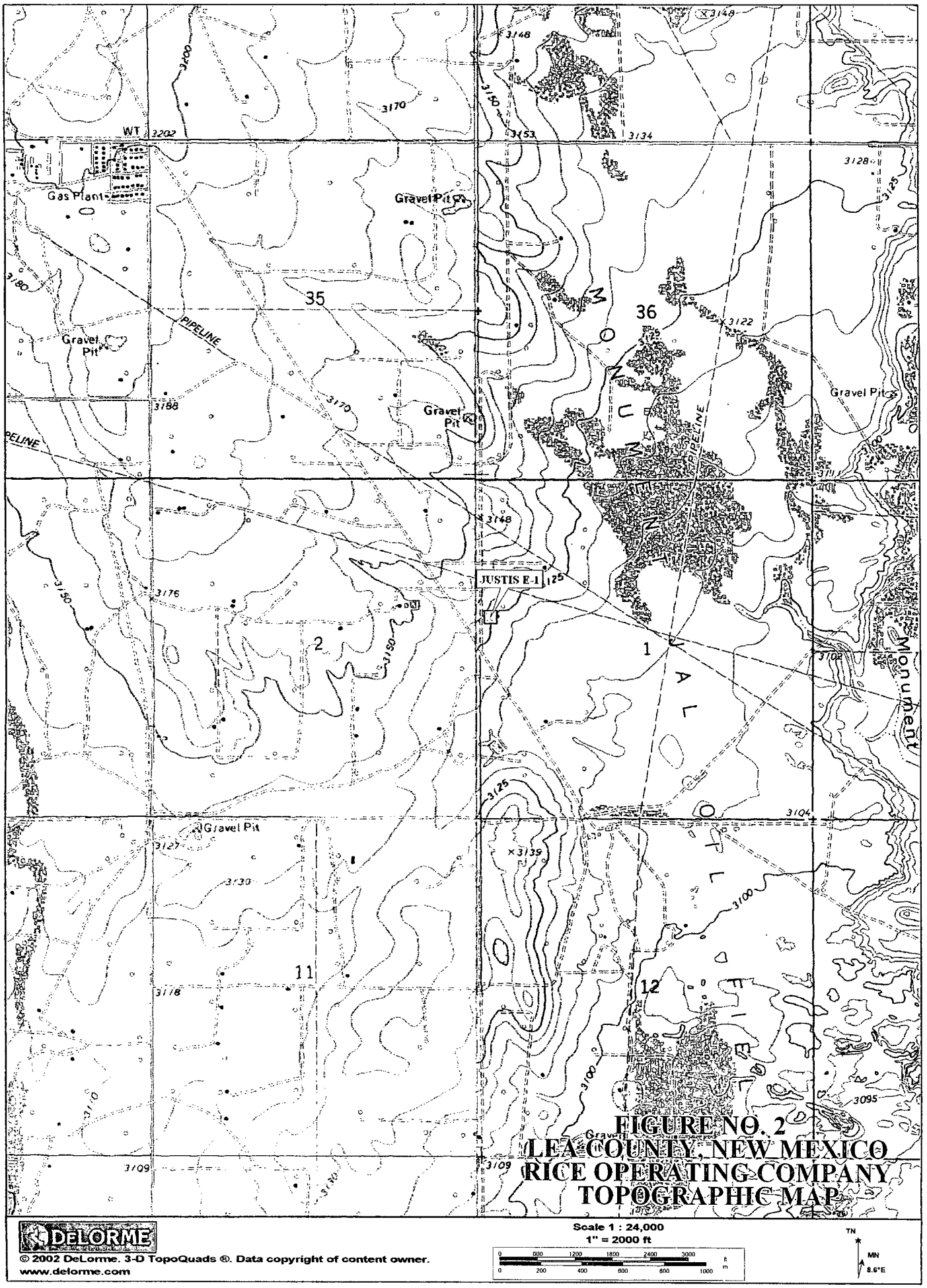
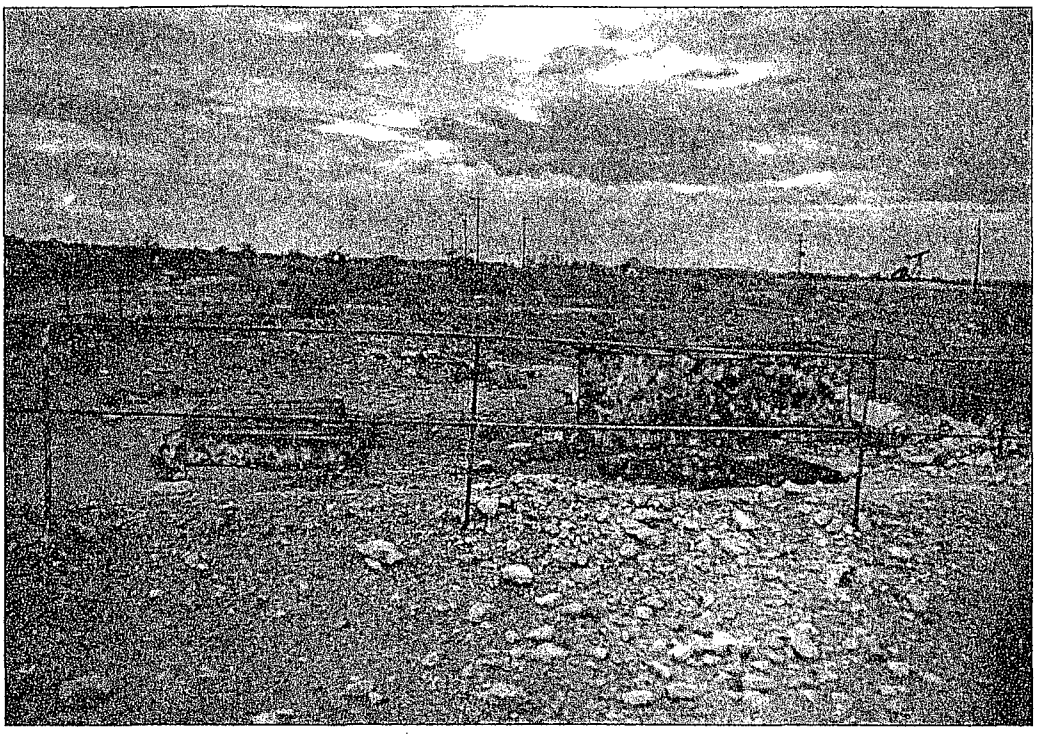


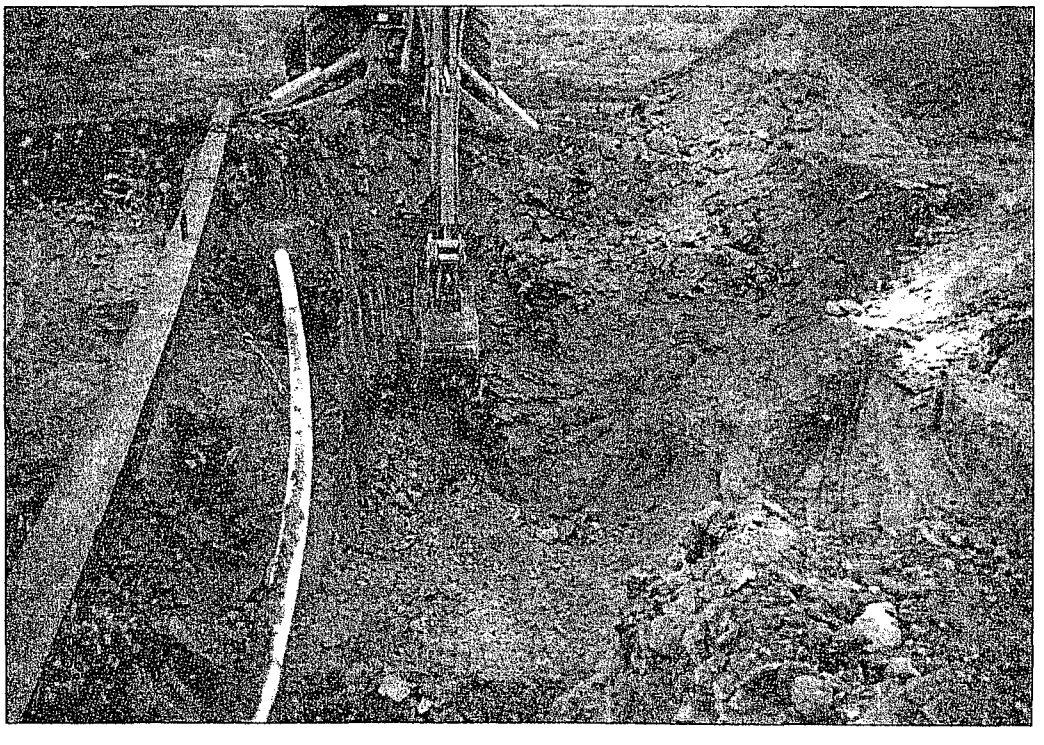
FIGURE NO. 2
LEA COUNTY, NEW MEXICO
RICE OPERATING COMPANY
TOPOGRAPHIC MAP

PHOTOGRAPHS

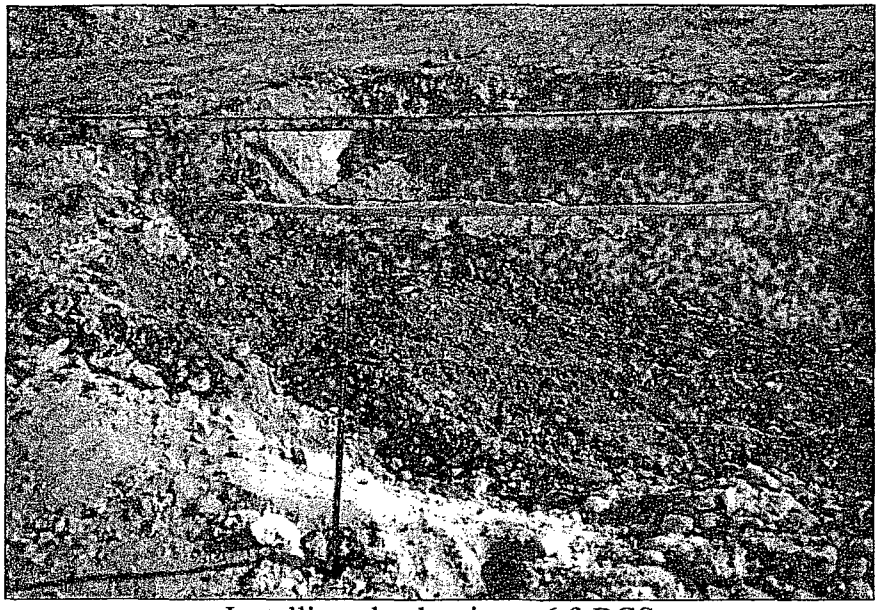
Justis E-1 vent



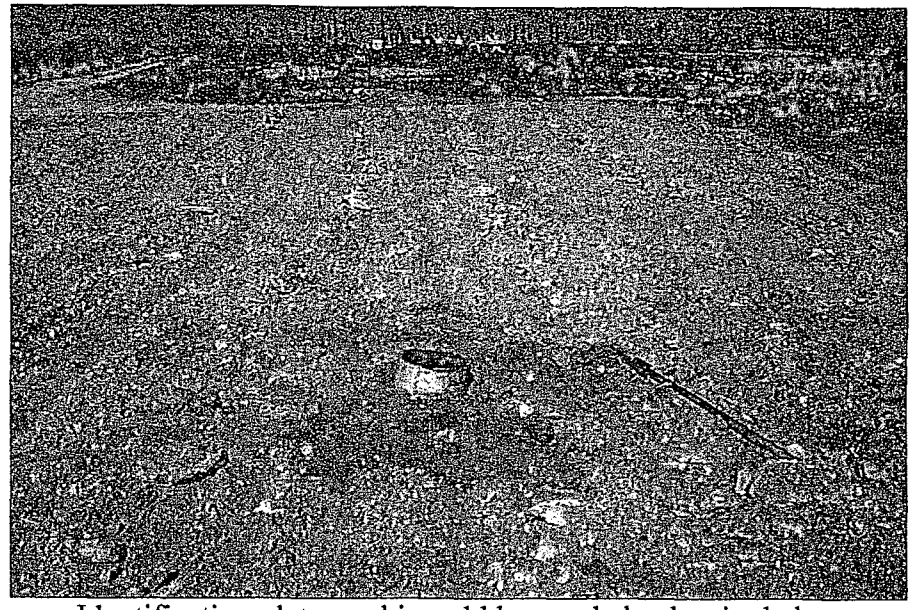
Undisturbed junction box 4/8/2003



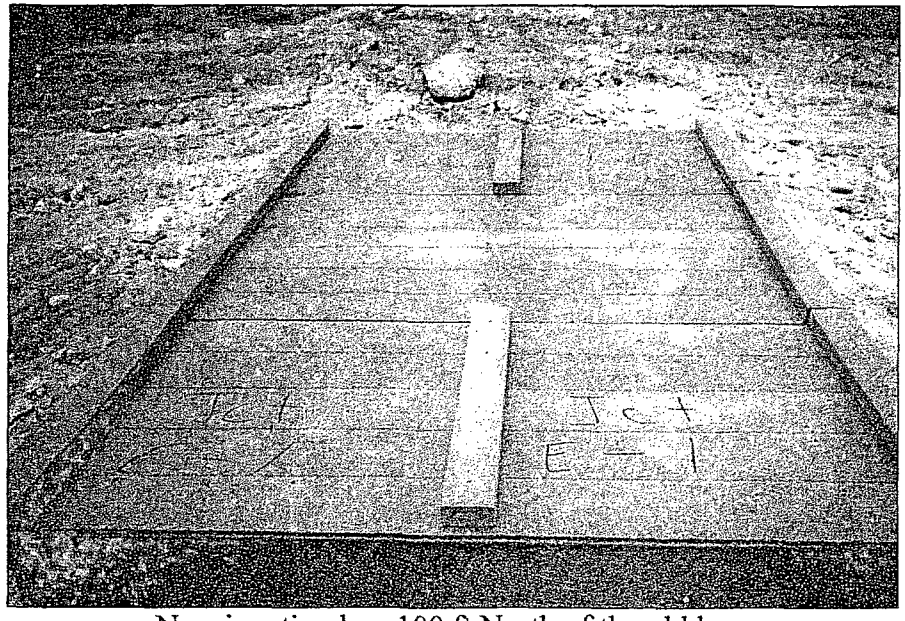
Excavation at old junction Nov. 2003



Installing clay barrier at 6 ft BGS



Identification plate marking old box and clay barrier below



New junction box 100 ft North of the old box

APPENDIX A

Rice Operating Company
Junction Box Disclosure Report
&
Boring Log

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
Justis	E-1 vent	E	1	25S	37E	Lea	Moved 100 ft North		

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER Joyce Willis OTHER _____

Depth to Groundwater 89.3 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 11/3/2003 Date Completed 3/17/2004 OCD Witness No

Soil Excavated 180 cubic yards Excavation Length 20 Width 20 Depth 12 feet

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

FINAL ANALYTICAL RESULTS: **Sample Date** 11/11/2003, 3/17/2004 **Sample Depth** 12, 90 ft

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

Sample Location	Benzene mg/kg	Toluene mg/kg	Ethyl Benzene mg/kg	Total Xylenes mg/kg	GRO mg/kg	DRO mg/kg	Chloride mg/kg
SIDEWALLS	<0.025	0.026	0.108	0.369	268	1200	1280
BOTTOM	0.064	0.402	1.88	4.78	805	3620	904
SOIL BORE @ 90 ft	PID = 74.9 ppm				<10.0	<10.0	936

General Description of Remedial Action: This junction box site was delineated vertically and laterally with a backhoe, producing a 20 x 20 x 12-ft-deep excavation. A sufficient declination trend in chloride concentrations was not observed. PID readings were also elevated and laboratory results confirm that NMOCD TPH guidelines were not met. The excavated soil was landfarmed on site and then backfilled into the excavation up to 6 ft BGS. At 6 ft, a 1.5 ft compacted clay barrier was installed to inhibit further downward migration of impact. The remainder of soil was backfilled and contoured on top of the clay. An identification plate was placed on the surface of this site to mark the presence of the clay barrier below and and the former site of the E-1 junction. A soil bore was conducted at this site on 3/17/2004 and chloride concentrations still did not decline with depth. Indications of VOC's ceased around 25 f and NMOCD TPH guidelines were met. The new junction is located 100 ft north is the old site.

ADDITIONAL EVALUATION IS *MEDIUM* PRIORITY

enclosures: chloride graph, photos, lab results, PID readings, clay density test, soil bore log

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vertical	6	1184
	8	2046
	10	1948
bottom comp.	12	2099
soil bore	25	1000
soil bore	35	706
	45	714
	55	824
	65	2439
	75	928
	85	1364
	90	1407

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

DATE 4/5/2004 PRINTED NAME Kristin Farris

SIGNATURE Kristin Farris TITLE Project Scientist

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

LOG OF BORING

K. Farris
RICE Operating Company

Logger:	Israel Juarez; Mort Bates	**Client:**	**Well ID:**
Driller:	Atkins Engineering Associates, Inc.	RICE Operating Company	
Drilling Method:	Hollow Stem Auger	**Project Name:**	
Start Date:	3/17/2004	E-1 vent	
End Date:	3/17/2004	**Location:**	**SB-1**
Notes:	Site of former junction box; 100 ft south of new box	Justis SWD System	
	TD = 90 ft Groundwater = 89.30 ft	Sec. 1, T25S, R37E	
		Lea County, NM	

Depth (feet)	Split Spoon chloride	Split Spoon PID	Description	Lithology	Additional Notes
0.0			0-6 ft Silty Sand w/Broken Caliche: loose, light tan, damp		
5.0			COMPACTED CLAY BARRIER	4-10 ft hydrated bentonite plug	
10.0			8-13 ft Silty Sand w/Caliche: loose, tan, damp		
15.0	209	4000+	13-16 ft Silty Sand: loose, gray, damp		
20.0	975	4000+	16-21 ft Silty Sand w/Cemented Sandstone: hard, gray, damp		
25.0	1000	50.0	21-66 ft Silty Sand: loose, brown, damp		Backfilled with drill cuttings
30.0	844	31.9			
	944	21.7			
35.0	706	36.1			
40.0	623	86.0			
45.0	714	53.2			
50.0	1177	27.6			
55.0	824	28.6			
60.0	2299	23.3			
65.0	2439	42.9			
70.0	1703	43.0	66-69 ft Clayey Sand: loose, brown, damp		
75.0	928	73.0	69-84 ft Silty Sand: loose, brown, damp		
80.0	1032	32.2			
85.0	1364	16.7	84-89 ft Poorly-graded Sand: loose, brown, damp		
90.0	1407	74.9	wet	*water*	lab = 936 ppm Cl^-

APPENDIX B

LabAnalysis

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

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

Project: Justis E-1, L-26, E-26 Bore
Project Number: None Given
Location: Justis

Lab Order Number: 4C19008

Report Date: 03/23/04

Rice Operating Co.	Project: Justis E-1, L-26, E-26 Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	03/23/04 17:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Justis E-1 @ 90'	4C19008-01	Soil	03/17/04 13:30	03/19/04 16:35
Justis E-26	4C19008-02	Soil	03/18/04 11:20	03/19/04 16:35
Justis L-26	4C19008-03	Soil	03/17/04 17:35	03/19/04 16:35

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

Rice Operating Co.	Project: Justis E-1, L-26, E-26 Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	03/23/04 17:21

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Justis E-1 @ 90' (4C19008-01)									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC42207	03/22/04	03/22/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*81.2 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*76.2 %*	*70-130*		"	"	"	"	
Justis E-26 (4C19008-02)									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC42207	03/22/04	03/22/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*79.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*75.0 %*	*70-130*		"	"	"	"	
Justis L-26 (4C19008-03)									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC42207	03/22/04	03/22/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*82.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*77.6 %*	*70-130*		"	"	"	"	

Raland K Tuttle

Quality Assurance Review

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

Rice Operating Co.	Project: Justis E-1, L-26, E-26 Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	03/23/04 17:21

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Justis E-1 @ 90' (4C19008-01)									
Chloride	936	20.0	mg/kg Wet	2	EC42210	03/21/04	03/21/04	SW 846 9253	
% Solids	87.0		%	1	EC42301	03/23/04	03/23/04	% calculation	
Justis E-26 (4C19008-02)									
Chloride	925	20.0	mg/kg Wet	2	EC42210	03/21/04	03/21/04	SW 846 9253	
% Solids	82.0		%	1	EC42301	03/23/04	03/23/04	% calculation	
Justis L-26 (4C19008-03)									
Chloride	596	20.0	mg/kg Wet	2	EC42210	03/21/04	03/21/04	SW 846 9253	
% Solids	83.0		%	1	EC42301	03/23/04	03/23/04	% calculation	

Quality Assurance Review

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

Rice Operating Co.	Project: Justis E-1, L-26, E-26 Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	03/23/04 17:21

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EC42207 - Solvent Extraction (GC)										
Blank (EC42207-BLK1)				Prepared & Analyzed: 03/22/04						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*39.3*		*mg/kg*	*50.0*		*78.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.1*		*"*	*50.0*		*72.2*	*70-130*			
Blank (EC42207-BLK2)				Prepared: 03/22/04 Analyzed: 03/23/04						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*36.4*		*mg/kg*	*50.0*		*72.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.5*		*"*	*50.0*		*71.0*	*70-130*			
LCS (EC42207-BS1)				Prepared & Analyzed: 03/22/04						
Gasoline Range Organics C6-C12	414	10.0	mg/kg wet	500		82.8	75-125			
Diesel Range Organics >C12-C35	502	10.0	"	500		100	75-125			
Total Hydrocarbon C6-C35	916	10.0	"	1000		91.6	75-125			
Surrogate: 1-Chlorooctane	*49.1*		*mg/kg*	*50.0*		*98.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.8*		*"*	*50.0*		*73.6*	*70-130*			
LCS (EC42207-BS2)				Prepared: 03/22/04 Analyzed: 03/23/04						
Gasoline Range Organics C6-C12	407	10.0	mg/kg wet	500		81.4	75-125			
Diesel Range Organics >C12-C35	478	10.0	"	500		95.6	75-125			
Total Hydrocarbon C6-C35	885	10.0	"	1000		88.5	75-125			
Surrogate: 1-Chlorooctane	*40.7*		*mg/kg*	*50.0*		*81.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*35.8*		*"*	*50.0*		*71.6*	*70-130*			
LCS Dup (EC42207-BSD1)				Prepared & Analyzed: 03/22/04						
Gasoline Range Organics C6-C12	447	10.0	mg/kg wet	500		89.4	75-125	7.67	20	
Diesel Range Organics >C12-C35	492	10.0	"	500		98.4	75-125	2.01	20	
Total Hydrocarbon C6-C35	939	10.0	"	1000		93.9	75-125	2.48	20	
Surrogate: 1-Chlorooctane	*43.0*		*mg/kg*	*50.0*		*86.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.1*		*"*	*50.0*		*74.2*	*70-130*			

Environmental Lab of Texas

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

Roland K Tuttle

Quality Assurance Review

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

Notes and Definitions

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

...Texas, Inc.
12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Roy Rascon
Company Name: Rice Oper.
Company Address: 122 W. Taylor
City/State/Zip: Hobbs N.M. 88240
Telephone No: (505) 393-9174
Fax No:
Sampler Signature: Israel Chavez

Project Name: Justis E-1, L-26, E-26 Bore
Project #:
Project Loc: Justis
PO #:

4/19/2004

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers 4oz. glass	Preservative: Ice	Preservative: HNO_3	Preservative: HCl	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: TCLP: TOTAL: TDS / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RUSH TAT (Pre-Schedule)	Standard TAT
-01	Justis E-1 @ 90'	3/17/04	1:30	1	✓									✓		✓			✓						✓
-02	Justis E-26 @	3/18/04	11:20	1	✓									✓		✓			✓						✓
-03	Justis L-26 @	3/17/04	5:35	1	✓									✓		✓			✓						✓

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	3-19	3:35			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jeanie McMurray	03/19/04	1635

Sample Containers Intact? Y N
Temperature Upon Receipt: 2.0°C
Laboratory Comments:

Aug 07 01 10:22a

p.2

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

Client: Rice Op.

Date/Time: 03-19-04 @ 1700

Order #: 4C19008

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	2.0 C
Shipping container/cooler in good condition?	Yes	No	N/A
Custody Seals intact on shipping container/cooler?	Yes	No	(Not present)
Custody Seals intact on sample bottles?	Yes	No	(Not present)
Chain of custody present?	(Yes)	No	
Sample Instructions complete on Chain of Custody?	(Yes)	No	
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	(Yes)	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	No	
Samples properly preserved?	(Yes)	No	
Sample bottles intact?	(Yes)	No	
Preservations documented on Chain of Custody?	(Yes)	No	
Containers documented on Chain of Custody?	(Yes)	No	
Sufficient sample amount for indicated test?	(Yes)	No	
All samples received within sufficient hold time?	(Yes)	No	
VOC samples have zero headspace?	(Yes)	No	Not Applicable

Other observations:

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Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____

Regarding:

_____

_____

_____

Corrective Action Taken:

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