AP - 47

STAGE 1 & 2 WORKPLANS

DATE:

MARCH 14, 2005

Highlander Environmental Corp.

Midland, Texas

AP-47

CERTIFIED MAIL

RETURN RECIEPT NO. 7004 1160 0000 4840 9486

March 14, 2005

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**
JCT. F-17, BD SWD SYSTEM
UNIT "F", SEC. 17, T21S, R37E
NMOCD Case #1R0426-14

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 (operator) for the Blinebry Drinkard 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

As part of the ROC Junction Box Upgrade Workplan, starting on September 17, 2002, the junction box was removed and the Site was delineated vertically and horizontally with a backhoe. The Site was excavated to the approximate dimensions of 20' x 20' x 12'. Visible TPH impact was noted to a depth of 11' below ground surface (bgs). Chloride impact was consistent vertically. No TPH impact to groundwater was indicated. During the excavation, an older junction box was discovered approximately 10' south of the existing location.

On November 18, 2002, a soil boring was placed near the old box location and advanced to a depth of 75'. Chloride concentrations declined with depth, however, chloride impact to groundwater was observed. No TPH impact to groundwater was indicated. A cased monitor well was installed and groundwater has been sampled and analyzed on a quarterly basis. The quarterly sampling has confirmed that there is no hydrocarbon impact to groundwater at this Site. The only Constituent of Concern (COC) at this Site is chloride.

The excavation was backfilled and the junction moved 45' south of the original site. On November 7, 2003 ROC submitted a Junction Box Disclosure Form to the NMOCD. According to measurements taken from the monitor well, the depth to water is approximately 72' bgs.

The source of this impact is historical. There is no longer a threat of compounded impact at this site because pipeline was replaced and the box was replaced with a new watertight junction box.

INVESTIGATION & CHARACTERIZATION PLAN

As discussed above, existing site data document 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 facility. 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.

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

Highlander proposes to install two additional monitoring wells at the junction box location to further evaluate this site as shown on the attached Figure 2. The monitor wells will be constructed according to EPA and industry standards.

Following installation, the wells 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 BD SWD System.

The wells 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 wells will be properly purged and sampled with a clean, dedicated, polyethylene bailers and disposable line. The 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 by various methods 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. The ground water remedy that offers the greatest environmental benefit while causing the least environmental impairment will be selected. If the evaluation demonstrates that residual constituents pose no threat to ground water quality, only a surface restoration plan 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.

Tim Reed

Timothy M. Reed, P.G.
Vice President

cc: CDH, KFP, file

enclosures: site maps, photos, disclosure package

FIGURES

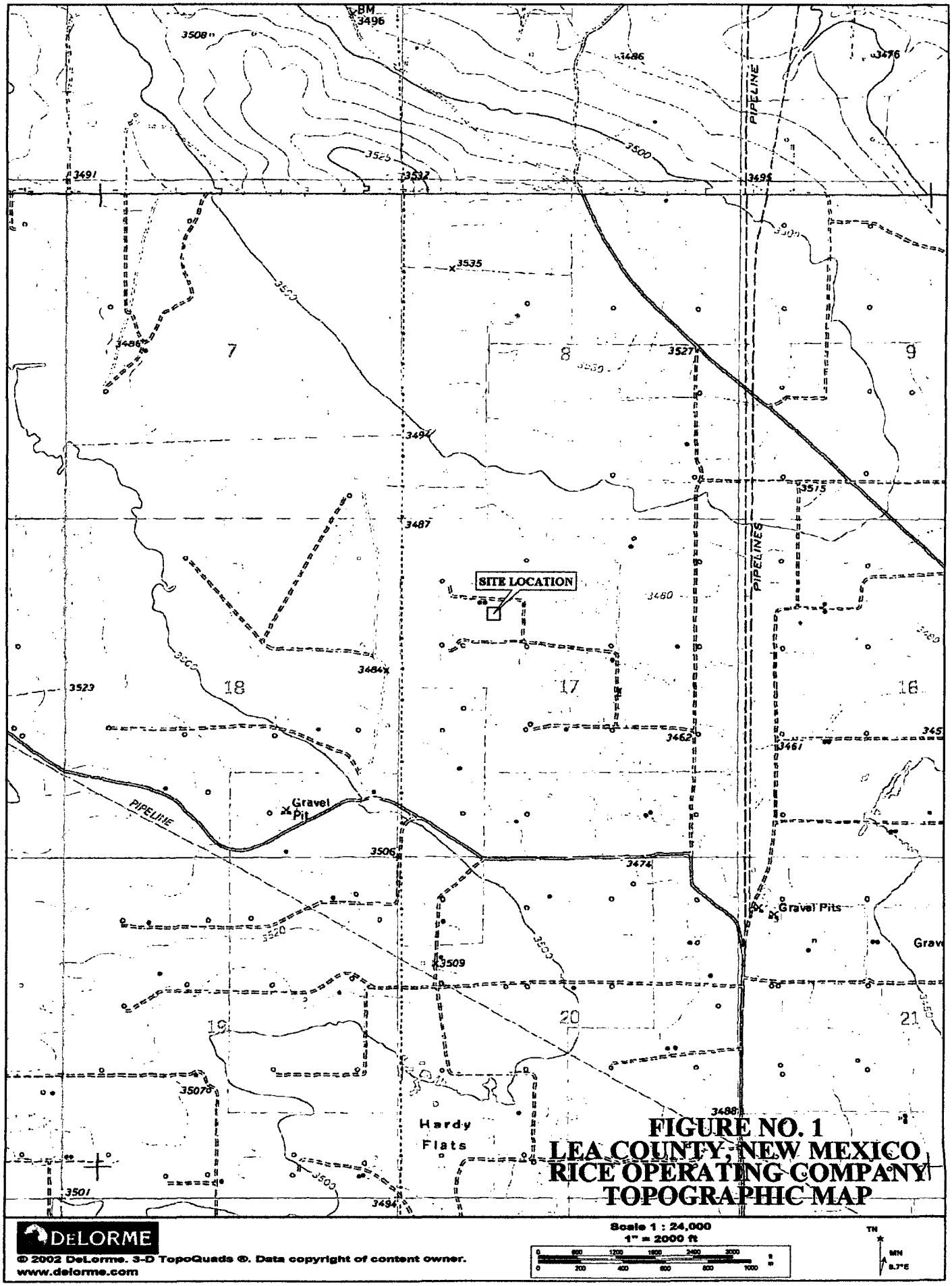


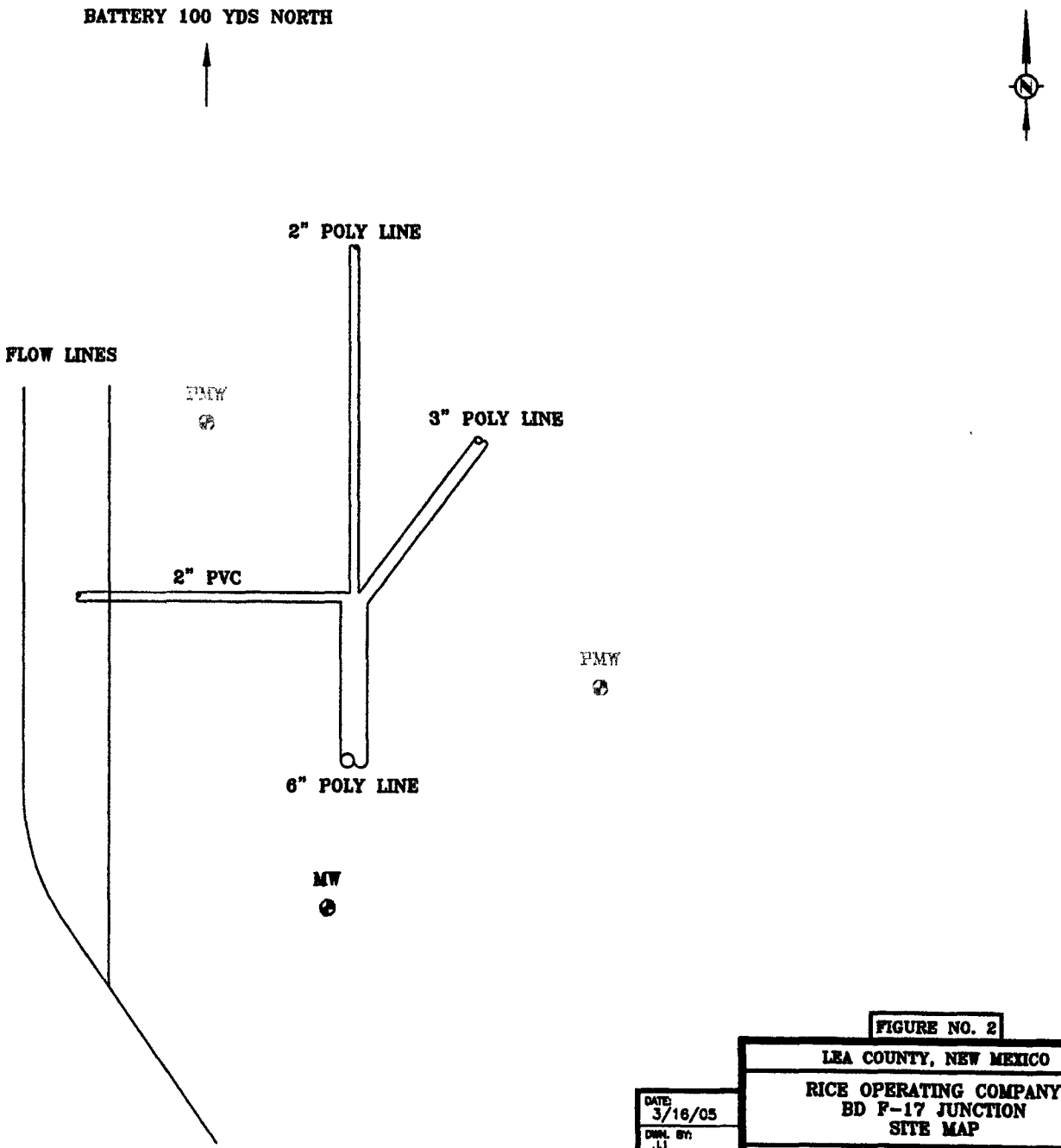
FIGURE NO. 1
LEA COUNTY, NEW MEXICO
RICE OPERATING COMPANY
TOPOGRAPHIC MAP

DeLORME

www.delorme.com

Scale 1 : 24,000
1" = 2000 ft

TN
MN
8.7°E



PROPOSED MONITOR WELL LOCATIONS

NOT TO SCALE

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
BD F-17 JUNCTION
SITE MAP

DATE: 3/16/05

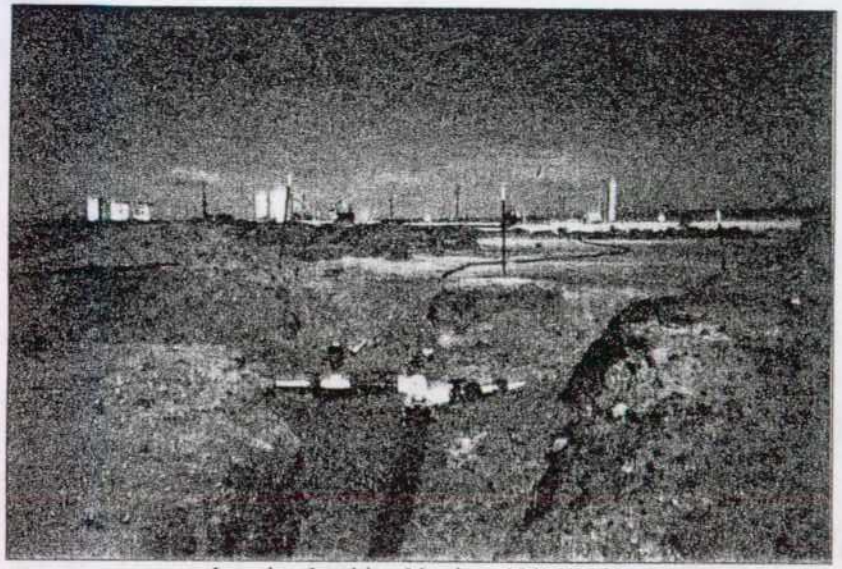
DWN. BY: JJ

FILE:

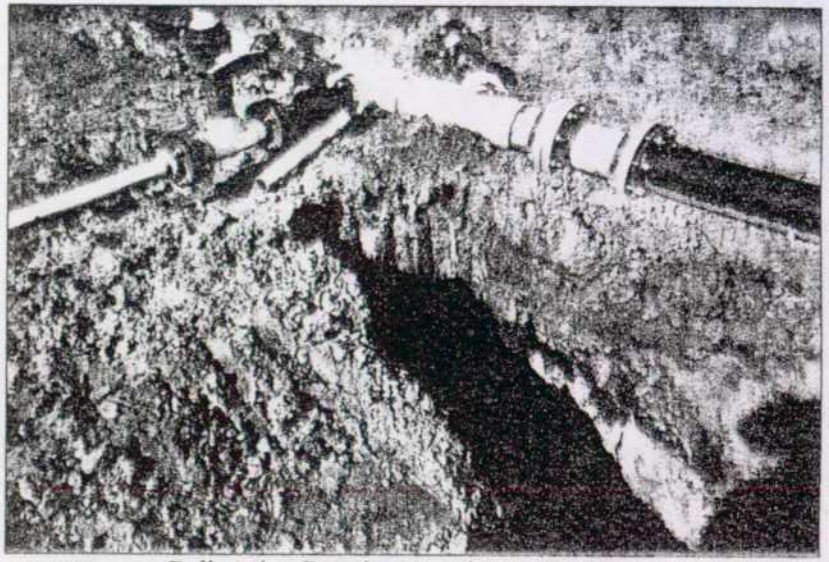
HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

PHOTOGRAPHS

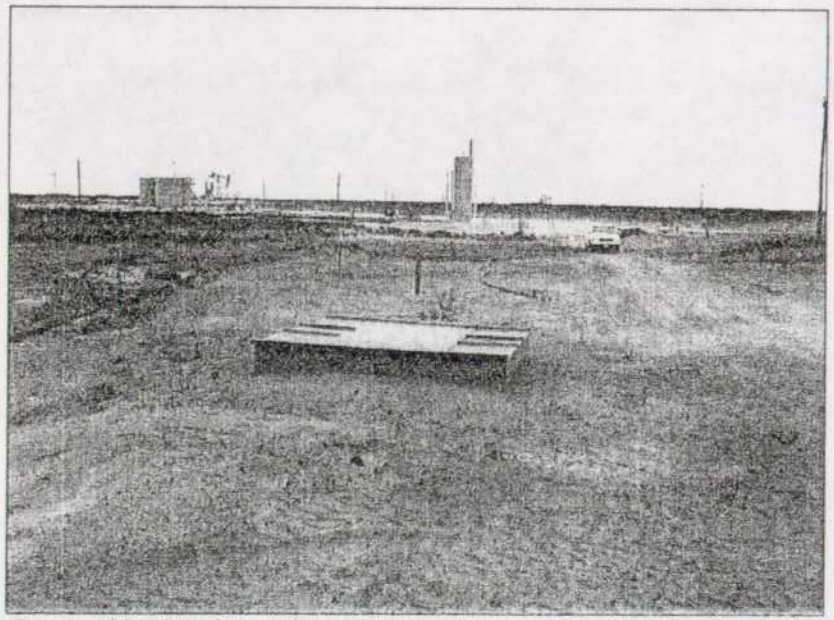
BD jct. F-17



Junction Looking North 10/16/2002



Delineation Trench at Junction 10/16/2003



New Junction Box Looking North (monitor well in background; T-post indicating old junction marker)

APPENDIX A

Disclosure Package

RICE OPERATING COMPANY

JUNCTION BOX DISCLOSURE FORM *

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
BD	F-17	F	17	21S	37E	Lea	Box has been moved 45 ft south		

LAND TYPE: BLM _____ STATE _____ FEE LANDOWNER Millard Deck Estate OTHER _____

Depth to Groundwater 72 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 9/17/2002 Date Completed not complete OCD Witness No

Soil Excavated 175 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** n/a **Sample Depth** n/a

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	Chlorides mg/kg
Vertical @ 12 ft	<0.005	0.009	<0.005	<0.015	<10.0	724	1040

General Description of Remedial Action: Site was delineated vertically and laterally with a backhoe. Chloride impact was consistent vertically, while TPH was visible to 11' bgs. The site was bored on 11/18/02 and chloride was found to impact groundwater with no indications of TPH. A cased monitor well was installed and the groundwater has been sampled and analyzed quarterly (see annual groundwater report for results). ROC has contracted a hydrologic consultant to assist ROC in developing a remediation plan for the vadose zone at groundwater-impacted sites with the ultimate objective being final closure. The excavation has been backfilled and the junction moved 45 ft south of this site.

ADDITIONAL EVALUATION IS *MEDIUM* PRIORITY.

enclosures: chloride curve, well log, photos, lab results

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vertical	3	6001
	5	1591
	11	1749
	13	3273
10' S **	7	2401
	11	4278
Soil Bore	20	5197
	50	2133
	70	1209
	75	425

** During excavation of this site, an older box was found; The bore was conducted close to this box

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

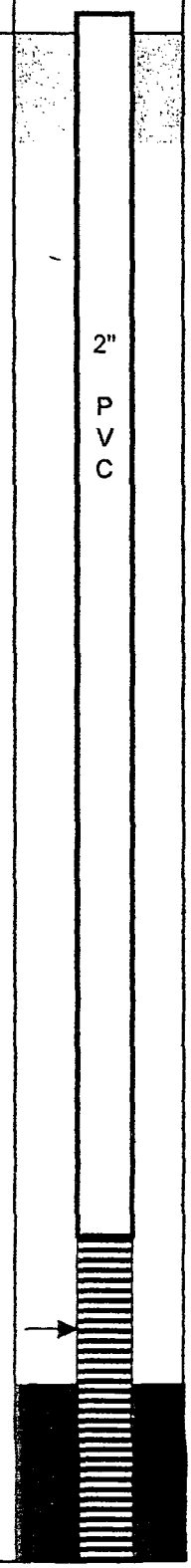
DATE 11/7/2003 PRINTED NAME Kristin Farris

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.

DRILLING LOG	Site Name/Location	BORING/WELL INFORMATION			Logged by: Eades
RICE *Operarting Company*	**Jct. F-17**	Well No. M W 1	Date Drilled: 11-18-02	Driller: Eades	Completion:
122 West Taylor	**17-T21S-R37E**	Well Depth: 85'	Boring Depth: 85'	Well Material: PVC	Packed with
Hobbs, New Mexico 88240	**BD SWD System**	Casing Length: 88'	Boring Diameter: 2"	Casing Size: 2"	bentonite; grouted
(505) 393-9174	**Lea County, NM**	Screen Length: 20'	Drilling Method: Air Rotary	Slot Size: N/A	at surface.

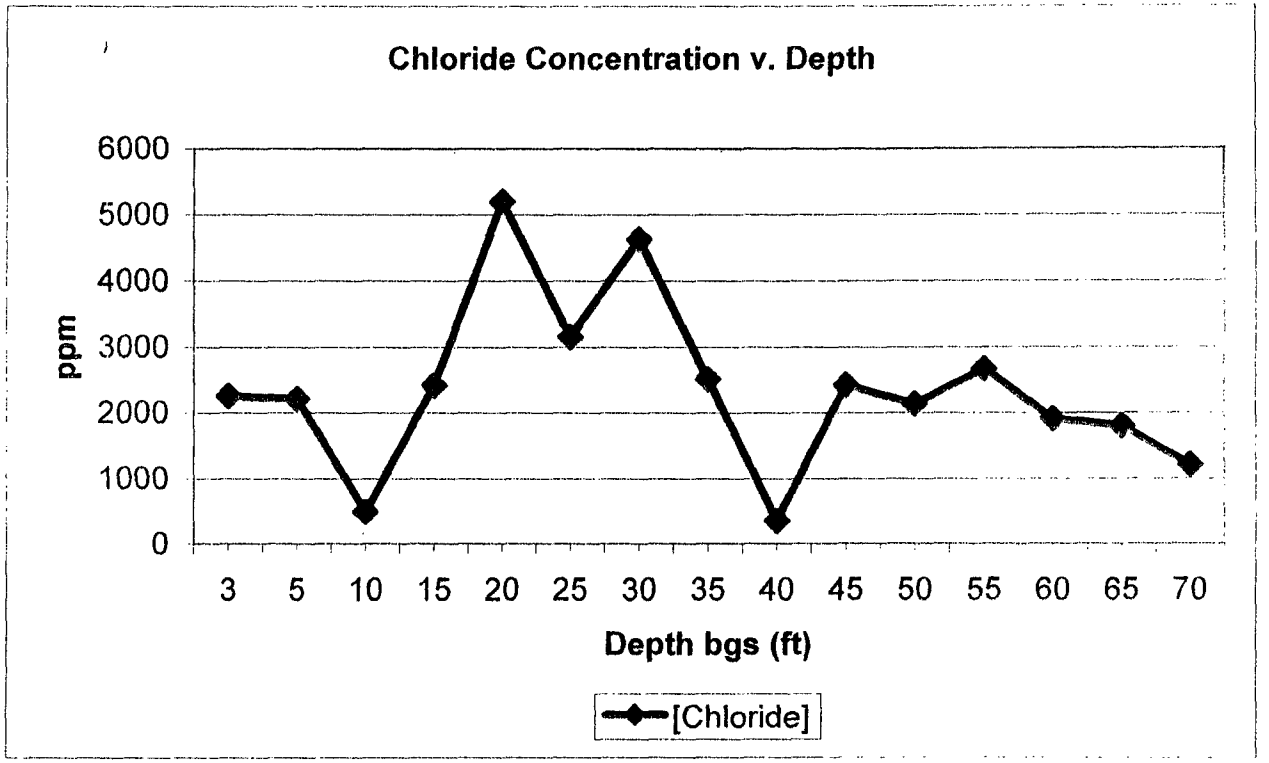
DEPTH	SUBSURFACE LITHOLOGY	SAMPLE TYPE	Test Results (ppm) Cl⁻	TPH	REMARKS	Boring
0	Ground surface		Titrate	EPA 418.1		
	Top Soil					
5	Caliche	Grab	2,212		grout	
10	Tan caliche and loam chunks	Grab	492			
15	Sand	Grab	2,412			
20	Red sand	Grab	5,197			
21	Sand and Sandstone Stringers					
25	Red Sand	Grab	3,152			
30	Tan caliche powder	Grab	4,628			
34	Sand					
35	Tan sand	Grab	2,508			
					bentonite	
36	Sand and Sandstone Stringers					
40	Tan Sand	Grab	352			
45	Tan Sand	Grab	2,420			
50	Reddish-brown sand	Grab	2,133			
55	Sandy Gravel	Grab	2,665			
60	Reddish-brown sand	Grab	1,905			
64	Sand and Sandstone Stringer					
65	Tan sand and Caliche	Grab	1,800			
70	Tan sand and caliche moist	Grab	1,209		screen	
75	Tan sand with rocks, moist	Grab	425			
80					water	
85	Sand and Sandstone Stringers					



BD jct. F-17

T21S, R37E

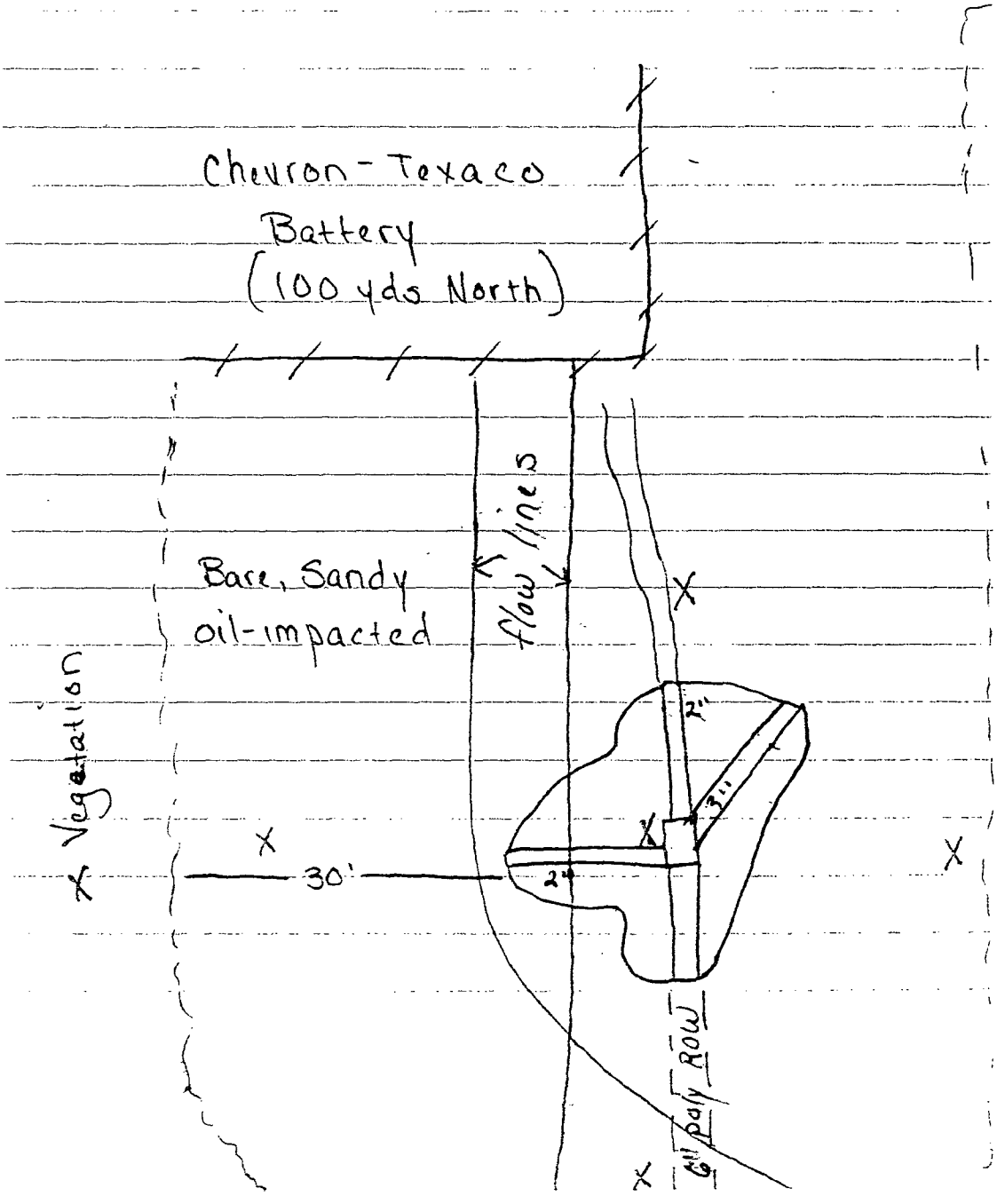
Depth bgs (ft)	[Cl⁻] ppm
3	2256
5	2212
10	492
15	2412
20	5197
25	3152
30	4628
35	2508
40	352
45	2420
50	2133
55	2665
60	1905
65	1800
70	1209



Groundwater = 72 ft

BD F-17

Stan
631-7629



9-17-02 BD F-17

Lines at 3' BGS

Vertical 3' = 17,930 ppm Cl⁻ Brown sand; damp; TPH odor

4' = 1540 Yellow + black sand + clay; damp; strong TPH odor

5' = 476 " oil skim

15'N S = 400 Brown sand; oil skim

22'S S = 220 "

22'E S = 4120 "

22'W S = 236 Brown sand

38'W S = 285 "

(veg.)

L. Goodheart ___ C. Haynes ✓ S. Curtis ✓ C. Maxwell ✓
J. Rampone ✓ D. Armendarez ✓ N. Carmona ✓ R. Anderson ✓ O. Ojeda ✓
D. Anderson ✓ K. Farris ✓ C. Rodriguez ___

SPILL REPORTING REQUIREMENTS

WEEKDAYS: TURN IN ROC SPILL REPORT SAME DAY OR BY 10:00 AM NEXT DAY
REPORT MUST BE ACCOMPANIED BY DRAWING AND PHOTOS

WEEKENDS: IF SPILL IS OVER 4000 SQUARE FEET, CALL OCD (393-6161) AND REPORT THAT A SPILL HAS BEEN FOUND THAT MAY BE OVER 25 BBLS. COMPLETE ROC SPILL REPORT AS NOTED ABOVE AND TURN IN TO ENVIRONMENTAL TECH.

OCD PHONE NO. 393-6161 TIME CALLED 2:30 pm DATE 9-3-2002

NAME OF OCD PERSON NOTIFIED ______

RICE INITIAL SPILL REPORT

SYSTEM B D TIME & DATE DISCOVERED 9-3-2002. 2:30 pm

NAME OF PERSON REPORTING LEAK Martin Castillo

SECTION 17 TOWNSHIP 21 RANGE 37 UNIT LETTER F

JCT. BOX ______ ON LINE BETWEEN JCT Chevron McTtern'C C-5 BTry AND JCT F-17

DISTANCE FROM JCT F-17 TO SPILL SITE 100' FEET N E S (W)

SWD WELL ______ PUMP STATION ______

VOLUME OF SPILL 1½ BBLs BARRELS 645 SQUARE FEET AFFECTED

FLUID TYPE Water BARRELS RECOVERED 1½ BBLs

LIVESTOCK PRESENT yes PICTURES TAKEN yes

WAS LEAK SITE FENCED After Repair

Landowner is: Millard Deck no contact $ leak was non reportable.

4.5
1.5
21.5
4.3
645

CAUSE OF THE LEAK

DESCRIBE CAUSE OF PROBLEM AND HOW IT WAS REPAIRED:

pigging line found bad spot in ~~line~~
line at pipe line crossing
cut out and Replace 5' of 2" pvc pipe

IS THE REPAIR: TEMPORARY ______ USED CLAMP ______ PERMANENT ✓

DRAW SPILL SITE ON BACK

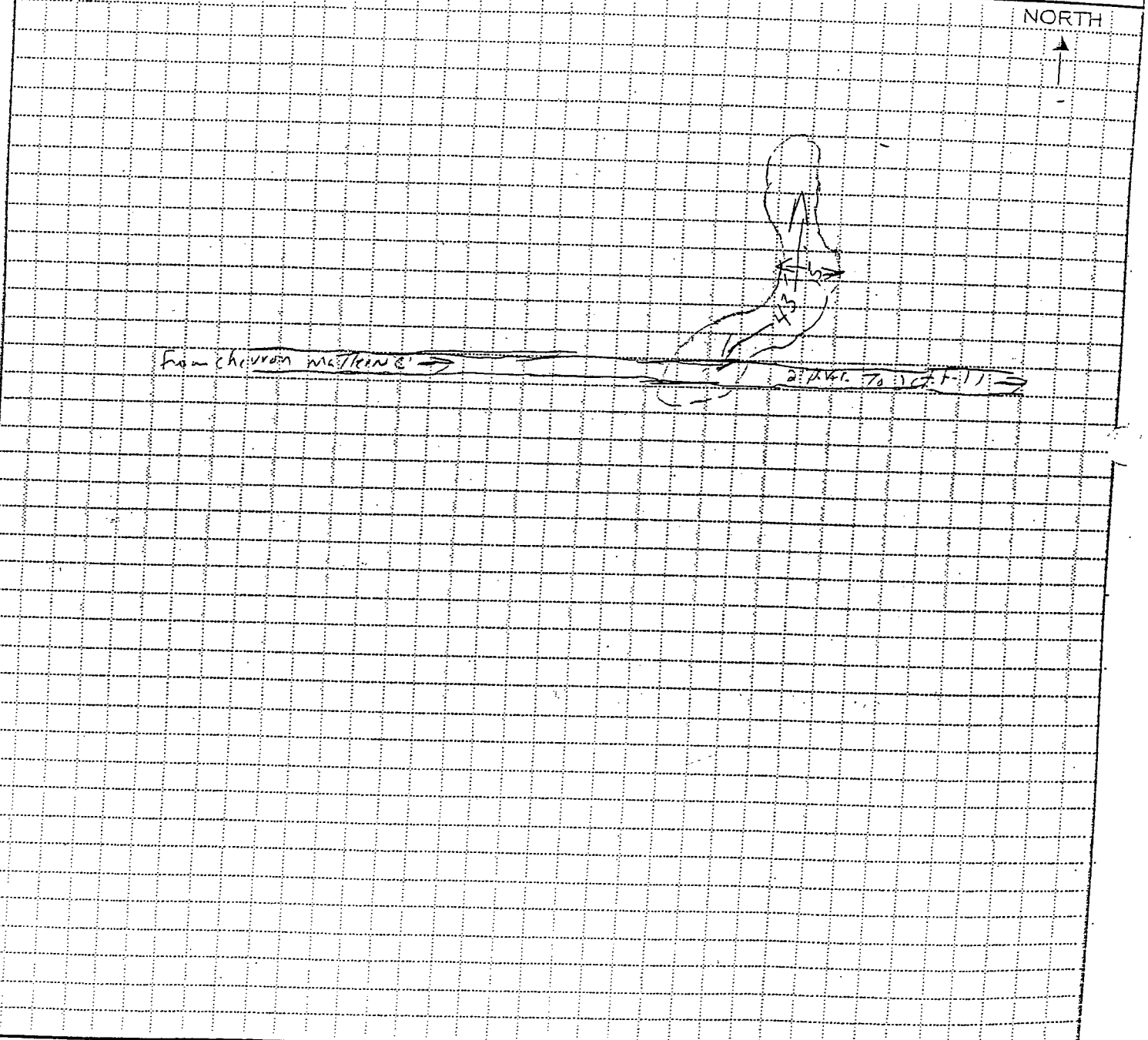
RICE INITIAL SPILL REPORT

IS THIS THE FIRST SPILL AT THIS LOCATION? Yes

DESCRIBE AREA AFFECTED AND ON-SITE ACTION TAKEN

PASTURE ✓ ROADWAY _____ OTHER _____

DRAW SKETCH OF AFFECTED AREA



REPORT PREPARED BY _____ DATE 9-3-02

R.E. ENVIRONMENTAL SERVICES INC.

P.O. BOX 13418 ODESSA TX. 79768-3418 (915) 550-8522

Bill To: Rice Operating
Attn: Kristin Farris
Address: 122 W. Taylor
City, State, Zip,: Hobbs, NM 88240

Receiving Date: 07-03-03
Analysis Date: 07-03-03
Sample Type: Soil
Sampling Date: 07-03-03
Location: BD F-17 (New Box)
Location #:
Sample Condition: Dry

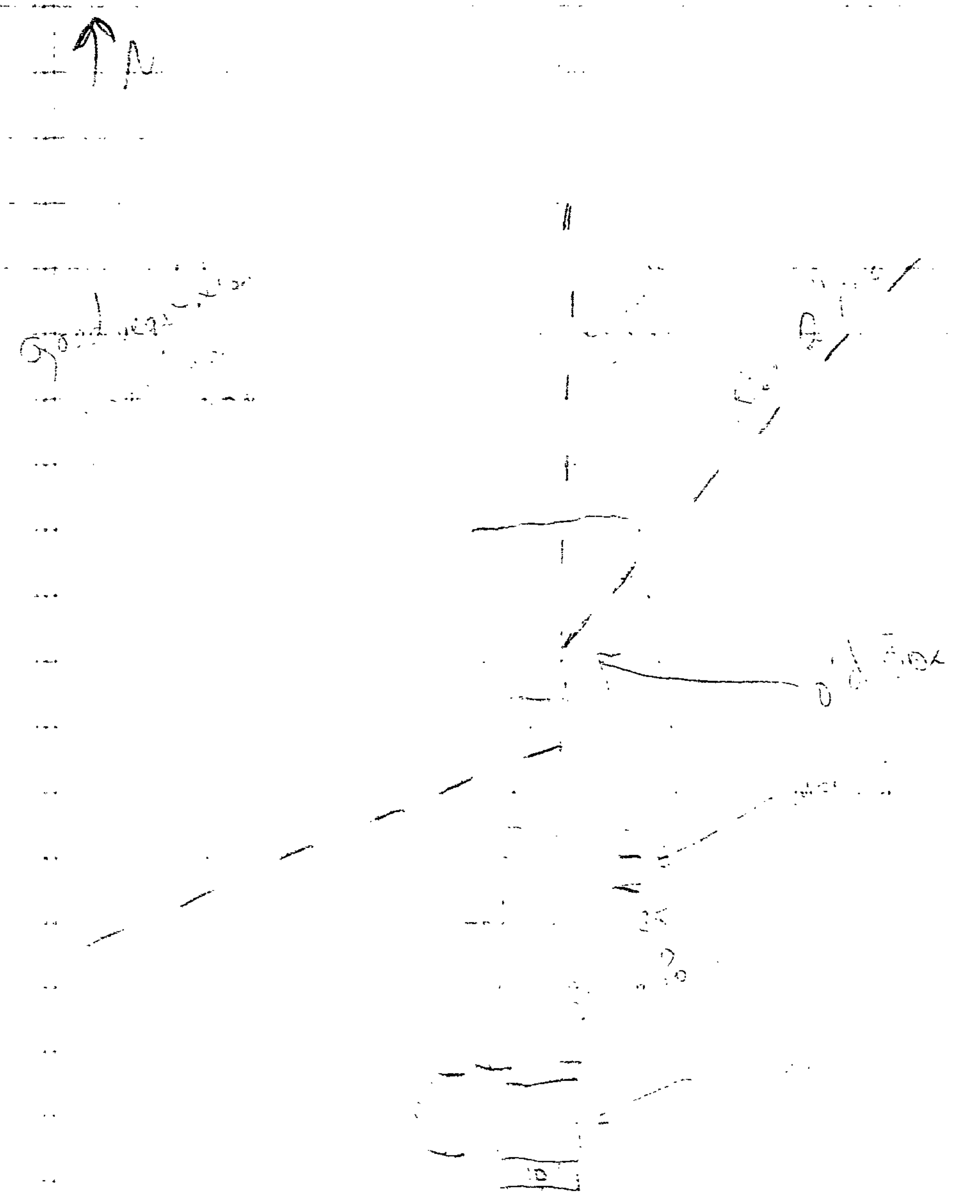
LOCATION	TPH In Soil	TPH In Water	Chloride In Soil	Chloride In Water	PH In Soil	PH In Water
Vertical @ 4'			300ppm			
Vertical @ 5'			250ppm			
Wall Comp.			200ppm			
5 pt. Bottom Comp. @ 4'			200ppm			

Relinquished By:
Date: 07-03-03
Received By: Logan Anderson
Time:
Company Name & Address: R.E. Environmental Services, Inc.
P.O. Box 13418 Odessa, TX 79768-3418

New Box

BD # 17 T21S R37E

		TPH	Chloride	
7-2-03	Vert @ 4'	No Odor	[illegible] ppm	Brown Sand
7-2-03	Vert. @ 5'	No Odor	[illegible] ppm	Brown Sand
7-2-03	[illegible]	No Odor	200 ppm	Brown Sand
7-2-03	Sp[illegible] [illegible]	No Odor	[illegible] ppm	Brown Sand



OK
40's

Kd
7/7/03

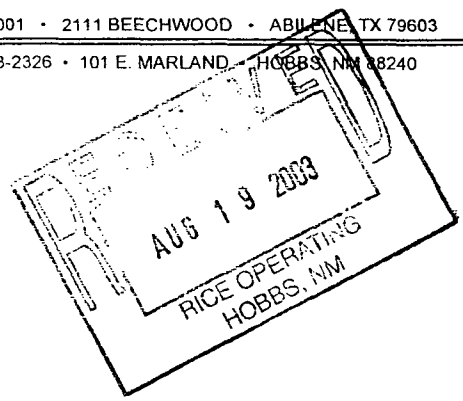
8-13-03

Isreal Juarez grabbed a 12' bgs sample from vertical trench near the center of the jct. The hole was then backfilled so a new plastic box can be built.

Kristin Gomez
8-19-03

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240



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

Receiving Date: 08/13/03
Reporting Date: 08/15/03
Project Number: NOT GIVEN
Project Name: F 17
Project Location: BD

Sampling Date: 08/13/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC/AH

LAB NUMBER SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE	08/14/03	08/14/03	08/14/03
H7912-1 12' VERTICAL	<10.0	724	1040
Quality Control	779	752	1000
True Value QC	800	800	1000
% Recovery	97.3	94.0	100
Relative Percent Difference	0.7	8.1	3.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl^-: Std. Methods 4500-Cl^-B
*Analysis performed on a 1:4 w:v aqueous extract.

Chemist

8/15/03
Date

H7912A.XLS

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240

(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Page ____ of ____

Company Name: RICE Operating Company	**BILL TO**
Project Manager: Kristin Farris	P.O. #:
Address: 122 W. Taylor	Company: RICE
City: Hobbs, State: NM Zip: 88240	Attn:
Phone #: 393-9174 Fax #: 397-1471	Address:
Project #: Project Owner:	City:
Project Name: F17	State: Zip:
Project Location: BD	Phone #:
Sampler Name:	Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	PRESERV: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	Chlorides	TPH 8015
H9912-1	12 ft Vertical					X					X		8-13-03	2:30	X	X	X

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 the client for the 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 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.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from its original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	
	Time:		
Relinquished By:	Date: 8/13/03	Received By: (Lab Staff)	
	Time: 4:45		

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☒ Yes ☐ No	☒ Yes ☐ No	

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project:	F-17
PO#:	
Order#:	G0307308
Report Date:	08/27/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0307308
Project:
Project Name: F-17
Location: BD

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0307308-01	MW1	WATER	8/22/03 10:00	8/25/03 9:03	See COC	See COC

Lab Testing: **Rejected:** No **Temp:** 4.5 C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		Order#:	G0307308
Rice Operating		Project:	
122 W. Taylor		Project Name:	F-17
Hobbs, NM 88240		Location:	BD

Lab ID: 0307308-01
Sample ID: MW1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0006638-02		8/25/03	1	1	JMM	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	**118%**	**80**	**120**
Bromofluorobenzene	**109%**	**80**	**120**

Approval: Celey D. Keene 08/27/03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		**Order#:**	**G0307308**
Rice Operating		**Project:**	
122 W. Taylor		**Project Name:**	**F-17**
Hobbs, NM 88240		**Location:**	**BD**

Lab ID: 0307308-01
Sample ID: MW1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	182	mg/L	2	4.0	310.1	8/25/03	SB
Carbonate Alkalinity	< 0.20	mg/L	2	0.20	310.1	8/25/03	SB
Chloride	549	mg/L	1	5.00	9253	8/27/03	SB
Hydroxide Alkalinity	< 0.20	mg/L	2	0.20	310.1	8/25/03	SB
SULFATE, 375.4	112	mg/L	2	1.0	375.4	8/26/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	114	mg/L	100	1.0	6010B	8/26/03	SM
Magnesium	49.7	mg/L	10	0.010	6010B	8/26/03	SM
Potassium	27.5	mg/L	10	0.50	6010B	8/26/03	SM
Sodium	450	mg/L	100	1.0	6010B	8/26/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	1540	mg/L	1	5.0	160.1	8/25/03	TAL

Approval: Celey D. Keene 08/27/03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

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ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0307308

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0006638-02			<0.001		
Toluene-mg/L	0006638-02			<0.001		
Ethylbenzene-mg/L	0006638-02			<0.001		
p/m-Xylene-mg/L	0006638-02			<0.001		
o-Xylene-mg/L	0006638-02			<0.001		
CONTROL WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0006638-03		0.1	0.111	111.%	
Toluene-mg/L	0006638-03		0.1	0.114	114.%	
Ethylbenzene-mg/L	0006638-03		0.1	0.105	105.%	
p/m-Xylene-mg/L	0006638-03		0.2	0.222	111.%	
o-Xylene-mg/L	0006638-03		0.1	0.100	100.%	
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0307295-06	0		<0.001		0.%
Toluene-mg/L	0307295-06	0		<0.001		0.%
Ethylbenzene-mg/L	0307295-06	0		<0.001		0.%
p/m-Xylene-mg/L	0307295-06	0		<0.001		0.%
o-Xylene-mg/L	0307295-06	0		<0.001		0.%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0006638-05		0.1	0.109	109.%	
Toluene-mg/L	0006638-05		0.1	0.114	114.%	
Ethylbenzene-mg/L	0006638-05		0.1	0.104	104.%	
p/m-Xylene-mg/L	0006638-05		0.2	0.227	113.5%	
o-Xylene-mg/L	0006638-05		0.1	0.104	104.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0307308

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0006617-01			<2.00		
Carbonate Alkalinity-mg/L	0006618-01			<0.10		
Chloride-mg/L	0006640-01			<5.00		
Hydroxide Alkalinity-mg/L	0006619-01			<0.10		
SULFATE, 375.4-mg/L	0006634-01			<0.50		
DUPLICATE WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0307300-01	500		502		0.4%
Carbonate Alkalinity-mg/L	0307300-01	0		< 0.20		0.%
Hydroxide Alkalinity-mg/L	0307300-01	0		< 0.20		0.%
SULFATE, 375.4-mg/L	0307300-01	4.9		5.00		2.%
MS WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0307300-01	2060	1000	3050	99.%	
MSD WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0307300-01	2060	1000	3070	101.%	0.7%
SRM WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0006617-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0006618-04		0.05	0.0496	99.2%	
Chloride-mg/L	0006640-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0006619-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0006634-04		50	50.7	101.4%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0307308

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0006632-01			<0.010		
Magnesium-mg/L	0006632-01			<0.001		
Potassium-mg/L	0006632-01			<0.050		
Sodium-mg/L	0006632-01			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0307300-01	78.1		77.3		1.%
Magnesium-mg/L	0307300-01	30.4		29.8		2.%
Potassium-mg/L	0307300-01	5.82		4.95		16.2%
Sodium-mg/L	0307300-01	1150		1160		0.9%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0006632-04		2	2.05	102.5%	
Magnesium-mg/L	0006632-04		2	2.04	102.%	
Potassium-mg/L	0006632-04		2	1.73	86.5%	
Sodium-mg/L	0006632-04		2	1.73	86.5%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0307308

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0006633-01			<5.0		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0307303-01	2550		2830		10.4%

...Environmental Lab of 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: Kristin Farris
Company Name: RICE Operating
Company Address: 122 W. Taylor
City/State/Zip: Hobbs, NM 88240
Telephone No: (505) 393-9174
Fax No: (505) 397-1471
Sampler Signature: J Gatt

Project Name: F-17
Project #:
Project Loc: SD
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TDS / CL / 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-Scheduled)	Standard TAT
0307308																																	
01	MW1	8-22-03	10:00	1	X							X				X																	
	MW1	8/22/03	10:00	2	X		X					X											X										

Special Instructions:
Anions, Cations TDS

Relinquished by:	Date	Time	Received by:	Date	Time
J Gatt	8/22/03	5:00		8/22/03	5:00
	8/22/03	0900	Received by ELOT:	8/25/03	0903

Sample Containers Intact? (Y) N
Temperature Upon Receipt:
Laboratory Comments:
4.5°C
40 mL VOA
1 L HDPE

ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project:	Jct F-17
PO#:	505
Order#:	G0306668
Report Date:	06/11/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0306668
Project:
Project Name: Jct F-17
Location: B.D.

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0306668-01	MW1	WATER	6/5/03 14:00	6/5/03 19:50	See COC	See COC

Lab Testing:

Rejected: No Temp: 4.0 C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0306668
Project:
Project Name: Jct F-17
Location: B.D.

Lab ID: 0306668-01
Sample ID: MW1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0005801-02		6/11/03 9:02	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.004	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	102%	80	120
Bromofluorobenzene	89%	80	120

Approval: Celey D. Keene 06/12/03
Date

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		**Order#:**	**G0306668**
Rice Operating		**Project:**	
122 W. Taylor		**Project Name:**	**Jct F-17**
Hobbs, NM 88240		**Location:**	**B.D.**

Lab ID: 0306668-01
Sample ID: MW1

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	180	mg/L	2	4.0	310.1	6/6/03	SB
Carbonate Alkalinity	< 0.20	mg/L	2	0.20	310.1	6/6/03	SB
Chloride	177	mg/L	1	5.00	9253	6/6/03	SB
Hydroxide Alkalinity	< 0.20	mg/L	2	0.20	310.1	6/6/03	SB
SULFATE, 375.4	97.6	mg/L	2	1.0	375.4	6/6/03	SB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	70.8	mg/L	10	0.10	6010B	6/6/03	SM
Magnesium	31.4	mg/L	10	0.010	6010B	6/6/03	SM
Potassium	5.33	mg/L	10	0.50	6010B	6/6/03	SM
Sodium	98.0	mg/L	10	0.10	6010B	6/6/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	589	mg/L	1	5.0	160.1	6/9/03	SB

Approval: Celey D. Keene 06/12/03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

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ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0306668

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0005801-02			<0.001		
Toluene-mg/L	0005801-02			<0.001		
Ethylbenzene-mg/L	0005801-02			<0.001		
p/m-Xylene-mg/L	0005801-02			<0.001		
o-Xylene-mg/L	0005801-02			<0.001		
CONTROL WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0005801-03		0.1	0.101	101.%	
Toluene-mg/L	0005801-03		0.1	0.104	104.%	
Ethylbenzene-mg/L	0005801-03		0.1	0.111	111.%	
p/m-Xylene-mg/L	0005801-03		0.2	0.238	119.%	
o-Xylene-mg/L	0005801-03		0.1	0.112	112.%	
CONTROL DUP WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0005801-04		0.1	0.101	101.%	0.%
Toluene-mg/L	0005801-04		0.1	0.093	93.%	11.2%
Ethylbenzene-mg/L	0005801-04		0.1	0.095	95.%	15.5%
p/m-Xylene-mg/L	0005801-04		0.2	0.202	101.%	16.4%
o-Xylene-mg/L	0005801-04		0.1	0.095	95.%	16.4%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0005801-05		0.1	0.095	95.%	
Toluene-mg/L	0005801-05		0.1	0.095	95.%	
Ethylbenzene-mg/L	0005801-05		0.1	0.098	98.%	
p/m-Xylene-mg/L	0005801-05		0.2	0.206	103.%	
o-Xylene-mg/L	0005801-05		0.1	0.098	98.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0306668

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0005759-01			<2.00		
Carbonate Alkalinity-mg/L	0005760-01			<0.10		
Chloride-mg/L	0005758-01			<5.00		
Hydroxide Alkalinity-mg/L	0005761-01			<0.10		
SULFATE, 375.4-mg/L	0005762-01			<0.5		
DUPLICATE WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0306663-01	494		492		0.4%
Carbonate Alkalinity-mg/L	0306663-01	0		<0.10		0.%
Hydroxide Alkalinity-mg/L	0306663-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0306663-01	20.5		19.5		5.%
MS WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0306663-01	2300	2500	4786	99.4%	
MSD WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0306663-01	2300	2500	4830	101.2%	0.9%
SRM WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0005759-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0005760-04		0.05	0.0496	99.2%	
Chloride-mg/L	0005758-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0005761-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0005762-04		50	51.8	103.6%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0306668

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0005755-02			<0.010		
Magnesium-mg/L	0005755-02			<0.001		
Potassium-mg/L	0005755-02			<0.050		
Sodium-mg/L	0005755-02			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0306666-01	54.5		53.7		1.5%
Magnesium-mg/L	0306666-01	16.5		16.1		2.5%
Potassium-mg/L	0306666-01	37.6		37.6		0.%
Sodium-mg/L	0306666-01	1080		1090		0.9%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0005755-05		2	2.00	100.%	
Magnesium-mg/L	0005755-05		2	2.12	106.%	
Potassium-mg/L	0005755-05		2	1.80	90.%	
Sodium-mg/L	0005755-05		2	1.92	96.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0306668

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0005772-01			<5.0		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0306663-01	4184		4312		3.%

Environmental Lab of 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: Kristin Farris
Company Name: RICE Operating
Company Address: 122 W. Taylor
City/State/Zip: Hobbs, NM 88240
Telephone No: (505) 393-9174
Fax No: (505) 397-1471
Sampler Signature: Israel Juarez

Project Name: Jct F-17
Project #:
Project Loc: BD
PO #: 505

LAB # (lab use only): 030668

FIELD CODE	Date Sampled	Time Sampled	No. of Containers / LHDPE	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP / TOTAL: TCLP	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-Scheduled)	Standard TAT
MW1	6/5/03	2:00	1						X		X				X									
MW1	6/5/03	2:00	2	X		X					X											X		

Special Instructions: Major Cations + Anions

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments: Ice + C

Relinquished by:	Date	Time	Received by:	Date	Time
Israel Juarez	6/5/03				
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
[signature]	6/5/03	17:50	[signature]	6-5-03	1750

ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project:	BD F-17
PO#:	505
Order#:	G0305983
Report Date:	03/21/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0305983
Project:
Project Name: BD F-17
Location: BD F-17

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305983-01	MW-1	WATER	3/14/03	3/14/03 19:30	See COC	See COC

Lab Testing: **Rejected:** No **Temp:** 2.0C

8021B/5030 BTEX
Anions
Cations
Total Dissolved Solids (TDS)

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		Order#:	G0305983
Rice Operating		Project:	
122 W. Taylor		Project Name:	BD F-17
Hobbs, NM 88240		Location:	BD F-17

Lab ID: 0305983-01
Sample ID: MW-1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0005010-02		3/20/03 15:26	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	88%	80	120
Bromofluorobenzene	86%	80	120

Approval: Raland K Tuttle 3-25-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0305983

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0005010-02			<0.001		
Toluene-mg/L	0005010-02			<0.001		
Ethylbenzene-mg/L	0005010-02			<0.001		
p/m-Xylene-mg/L	0005010-02			<0.001		
o-Xylene-mg/L	0005010-02			<0.001		
CONTROL WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0005010-03		0.1	0.109	109.%	
Toluene-mg/L	0005010-03		0.1	0.115	115.%	
Ethylbenzene-mg/L	0005010-03		0.1	0.112	112.%	
p/m-Xylene-mg/L	0005010-03		0.2	0.231	115.5%	
o-Xylene-mg/L	0005010-03		0.1	0.111	111.%	
CONTROL DUP WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0005010-04		0.1	0.113	113.%	3.6%
Toluene-mg/L	0005010-04		0.1	0.115	115.%	0.%
Ethylbenzene-mg/L	0005010-04		0.1	0.115	115.%	2.6%
p/m-Xylene-mg/L	0005010-04		0.2	0.227	113.5%	1.7%
o-Xylene-mg/L	0005010-04		0.1	0.113	113.%	1.8%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0005010-05		0.1	0.107	107.%	
Toluene-mg/L	0005010-05		0.1	0.112	112.%	
Ethylbenzene-mg/L	0005010-05		0.1	0.109	109.%	
p/m-Xylene-mg/L	0005010-05		0.2	0.224	112.%	
o-Xylene-mg/L	0005010-05		0.1	0.104	104.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0305983

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L	0004955-01			,2.00		
Carbonate Alkalinity-mg/L	0004957-01			<0.10		
Chloride-mg/L	0004953-01			<5.00		
Hydroxide Alkalinity-mg/L	0004959-01			<0.10		
SULFATE, 375.4-mg/L	0004961-01			<0.50		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0305981-01	226		225		0.4%
Carbonate Alkalinity-mg/L	0305981-01	0		<010		0.%
Hydroxide Alkalinity-mg/L	0305981-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0305966-02	319		311		2.5%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0305981-01	53.2	100	152	98.8%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0305981-01	53.2	100	151	97.8%	0.7%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Bicarbonate Alkalinity-mg/L	0004955-04		0.05	0.0496	99.2%	
Carbonate Alkalinity-mg/L	0004957-04		0.05	0.0496	99.2%	
Chloride-mg/L	0004953-04		5000	4960	99.2%	
Hydroxide Alkalinity-mg/L	0004959-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L	0004961-04		50	52	104.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0305983

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0004974-02			<0.010		
Magnesium-mg/L	0004974-02			<0.001		
Potassium-mg/L	0004974-02			<0.050		
Sodium-mg/L	0004974-02			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0305966-01	12.8		13.0		1.6%
Magnesium-mg/L	0305966-01	2.5		2.57		2.8%
Potassium-mg/L	0305966-01	5.38		5.44		1.1%
Sodium-mg/L	0305966-01	360		365		1.4%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0004974-05		2	2.19	109.5%	
Magnesium-mg/L	0004974-05		2	2.06	103.%	
Potassium-mg/L	0004974-05		2	1.87	93.5%	
Sodium-mg/L	0004974-05		2	1.96	98.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0305983

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L	0004969-01			<5.0		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Total Dissolved Solids (TDS)-mg/L	0305984-01	2310		2330		0.9%

Environmental Lab of 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: Kristin Farris

Company Name: RICE Operating

Company Address: 122 W. Taylor

City/State/Zip: Hobbs, NM 88240

Telephone No: (505) 393-9174

Fax No: (505) 397-1471

Sampler Signature: Joe [illegible]

Project Name: BD F-17

Project #:

Project Loc:

PO #: 505

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For (TCLP: / TOTAL:): TDS / CL / 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
0305963-01	MW1	3-14-03		1	X							X				X									
	MW1	3-14-03		2	X		X					X											X		

Special Instructions: Anions & Cations TDS

Relinquished by:	Date	Time	Received by:	Date	Time
Joe [illegible]	3-14-03	1430			
[illegible]	3-14-03	19:30	Received by ELOT: [illegible]	3-14-03	[illegible]

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

ANALYTICAL REPORT

Prepared for:

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Project:	F-17 Jct.
PO#:	505
Order#:	G0205154
Report Date:	12/11/2002

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

Rice Operating
122 W. Taylor
Hobbs, NM 88240
505-397-1471

Order#: G0205154
Project: None Given
Project Name: F-17 Jct.
Location: BD

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0205154-01	MW 1	WATER	12/2/02 10:45	12/2/02 20:40	See COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.5 C

Cations
Alkalinity, Bicarbonate
Alkalinity, Carbonate
Alkalinity, Hydroxide
Chloride
SULFATE, 375.4
Total Dissolved Solids (TDS)

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0205154-02	MW 1	WATER	12/2/02 10:45	12/2/02 20:40	See COC	See COC

Lab Testing: **Rejected:** No **Temp:** 3.5 C

8021B/5030 BTEX

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris
Rice Operating
122 W. Taylor
Hobbs, NM 88240

Order#: G0205154
Project: None Given
Project Name: F-17 Jct.
Location: BD

Lab ID: 0205154-02
Sample ID: MW 1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0004008-02		12/9/02 14:39	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	96%	80	120
Bromofluorobenzene	94%	80	120

Approval: Raland K Tuttle 12-10-02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		Order#:	G0205154
Rice Operating		Project:	None Given
122 W. Taylor		Project Name:	F-17 Jct.
Hobbs, NM 88240		Location:	BD

Lab ID: 0205154-01
Sample ID: MW 1

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Calcium	76.7	mg/L	10	0.10	6010B	12/10/2002	12/10/02	SM
Magnesium	32.9	mg/L	10	0.010	6010B	12/10/2002	12/10/02	SM
Potassium	7.08	mg/L	10	0.50	6010B	12/10/2002	12/10/02	SM
Sodium	158	mg/L	100	1.0	6010B	12/10/2002	12/10/02	SM

Approval: Raland K Tuttle 12-11-02
Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Kristin Farris		**Order#:**	**G0205154**
Rice Operating		**Project:**	**None Given**
122 W. Taylor		**Project Name:**	**F-17 Jct.**
Hobbs, NM 88240		**Location:**	**BD**

Lab ID: 0205154-01
Sample ID: MW 1

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Alkalinity, Bicarbonate	144	mg/L as CaCO	1	2.00	310.1	12/10/02	SB
Alkalinity, Carbonate	<0.100	mg/L as CaCO	1	0.100	310.1	12/10/02	SB
Alkalinity, Hydroxide	<0.10	mg/L as CaCO	1	0.10	310.1	12/10/02	SB
Chloride	354	mg/L	1	5.00	9253	12/4/02	SB
SULFATE, 375.4	114	mg/L	10	5.0	375.4	12/10/02	SB
Total Dissolved Solids (TDS)	1020	mg/L	1	5.0	160.1	12/3/02	TAL

Approval: Raland K Tuttle 12-11-02
Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0205154

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0004008-02			<0.001		
Ethylbenzene-mg/L	0004008-02			<0.001		
Toluene-mg/L	0004008-02			<0.001		
p/m-Xylene-mg/L	0004008-02			<0.001		
o-Xylene-mg/L	0004008-02			<0.001		
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0205197-10	0	0.1	0.100	100.%	
Ethylbenzene-mg/L	0205197-10	0	0.1	0.102	102.%	
Toluene-mg/L	0205197-10	0	0.1	0.102	102.%	
p/m-Xylene-mg/L	0205197-10	0	0.2	0.215	107.5%	
o-Xylene-mg/L	0205197-10	0	0.1	0.103	103.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0205197-10	0	0.1	0.100	100.%	0.%
Ethylbenzene-mg/L	0205197-10	0	0.1	0.100	100.%	2.%
Toluene-mg/L	0205197-10	0	0.1	0.101	101.%	1.%
p/m-Xylene-mg/L	0205197-10	0	0.2	0.207	103.5%	3.8%
o-Xylene-mg/L	0205197-10	0	0.1	0.101	101.%	2.%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0004008-05		0.1	0.097	97.%	
Ethylbenzene-mg/L	0004008-05		0.1	0.100	100.%	
Toluene-mg/L	0004008-05		0.1	0.100	100.%	
p/m-Xylene-mg/L	0004008-05		0.2	0.214	107.%	
o-Xylene-mg/L	0004008-05		0.1	0.104	104.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0205154

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Calcium-mg/L	0004013-02			<0.010		
Magnesium-mg/L	0004013-02			<0.001		
Potassium-mg/L	0004013-02			<0.050		
Sodium-mg/L	0004013-02			<0.010		
DUPLICATE WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0205154-01	76.7		77.7		1.3%
Magnesium-mg/L	0205154-01	32.9		32.8		0.3%
Potassium-mg/L	0205154-01	7.08		7.16		1.1%
Sodium-mg/L	0205154-01	158		158		0.%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Calcium-mg/L	0004013-05		2	2.07	103.5%	
Magnesium-mg/L	0004013-05		2	2.22	111.%	
Potassium-mg/L	0004013-05		2	1.79	89.5%	
Sodium-mg/L	0004013-05		2	1.80	90.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0205154

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Alkalinity, Bicarbonate-mg/L as CaCO	0004025-01			<2.00		
Alkalinity, Carbonate-mg/L as CaCO	0004026-01			<0.100		
Alkalinity, Hydroxide-mg/L as CaCO	0004027-01			<0.10		
Chloride-mg/L	0003965-01			<5.00		
SULFATE, 375.4-mg/L	0004028-01			<0.5		
Total Dissolved Solids (TDS)-mg/L	0003957-01			<5.0		
DUPLICATE WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Alkalinity, Bicarbonate-mg/L as CaCO	0205153-01	360		359		0.3%
Alkalinity, Carbonate-mg/L as CaCO	0205153-01	0		<0.100		0.%
Alkalinity, Hydroxide-mg/L as CaCO	0205153-01	0		<0.10		0.%
SULFATE, 375.4-mg/L	0205153-01	244		250		2.4%
Total Dissolved Solids (TDS)-mg/L	0205153-01	1200		1170		2.5%
MS WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0205115-01	461	500	948	97.4%	
MSD WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0205115-01	461	500	957	99.2%	0.9%
SRM WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Alkalinity, Bicarbonate-mg/L as CaCO	0004025-04		0.05	0.0496	99.2%	
Alkalinity, Carbonate-mg/L as CaCO	0004026-04		0.05	0.0496	99.2%	
Alkalinity, Hydroxide-mg/L as CaCO	0004027-04		0.05	0.0496	99.2%	
Chloride-mg/L	0003965-04		5000	4960	99.2%	
SULFATE, 375.4-mg/L	0004028-04		50	51.6	103.2%	

Environmental Lab of 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: Kristin Farris
Company Name: RICE Operating
Company Address: 122 W. Taylor
City/State/Zip: Hobbs, NM 88240
Telephone No: (505) 393-9174
Fax No: (505) 397-1471
Sampler Signature: Kristin Farris

Project Name: E-17 jct.
Project #:
Project Loc: BD
PO #: 505

LAB # (lab use only) 0205154	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TDS / CL / ~~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	MW 1	120202	1045	1						X		X				X									
02	MW 1	120202	1045	2	X		X					X											X		

TCLP:
TOTAL:

Special Instructions: Major anions/cations.

Relinquished by:	Date	Time	Received by:	Date	Time
K. Farris	120202	1300			
Relinquished by: [signature]	12/2/02	2040	Received by ELOT: [signature]	12-02-02	2040

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments: Rec 3.5°C
1 L HDPE
2/40mL VOA (BTEX)