

1R - 426-252

**REPORTS**

**DATE:**

3-8-10

**BD O-36 EOL  
2009**

RECEIVED

APR 14 2009  
Environmental Protection  
Oil Conservation - 1000

1R426252

**DISCLOSURE**

RICE OPERATING COMPANY  
JUNCTION BOX DISCLOSURE REPORT

RECEIVED

APP - 6 2010

Environmental Bureau  
Oil Conservation Division

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS (FEET)
Blinberry-Drinkard (BD)	O-36 EOL	O	36	21S	36E	Lea	Length 6' Width 7' moved 40 ft west

LAND TYPE: BLM STATE FEE LANDOWNER City of Eunice OTHER

Depth to Groundwater 134 feet NMOCD SITE ASSESSMENT RANKING SCORE: 20

Date Started 3/2/2009 Date Completed 9/25/2009 OCD Witness no

Soil Excavated 133.3 cubic yards Excavation Length 30 Width 10 Depth 12 feet

Soil Disposed 108 cubic yards Offsite Facility Sundance Location Eunice, NM

FINAL ANALYTICAL RESULTS:

Sample Date 3/10/2009, 3/11/2009, 3/20/2009, 9/25/2009 Sample Depth 12 ft, 30 ft, 100 ft

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

CHLORIDE FIELD TESTS

Sample Location	PID (field) ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
4-WALL COMP.	64.5	<10.0	490	1,820
BOTTOM COMP.	8.5	<10.0	1,140	1,490
BLENDED BACKFILL	46.2	<10.0	817	1,060
BLENDED BACKFILL #2		<10.0	<10.0	48
SB #1 @ 30'	0.6	<10.0	<10.0	5,520
SB #1 @ 100'	0.3	<10.0	<10.0	160

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	1,600
bottom comp.	12'	1,095
blended backfill	n/a	1,121
background	6"	150
SOIL BORING at 15 ft southwest of the junction (9/25/2009)	15'	2,532
	18'	3,296
	21'	3,863
	24'	2,274
	27'	1,435
	30'	4,379
	33'	3,596
	36'	2,102
	39'	2,732
	42'	2,247
	45'	2,286
	48'	2,367
	51'	2,319
	54'	2,051
	57'	2,353
	60'	2,353
	65'	2,519
	70'	2,282
	75'	2,057
	80'	2,356
	85'	1,539
	90'	286
	95'	1,829
	100'	195

**General Description of Remedial Action:** This junction was eliminated during the pipeline replacement/upgrade program. After the former junction box was removed, an investigation was conducted using a backhoe to collect samples at regular intervals producing a 30x10x12-ft deep excavation. Chloride field tests performed on each sample yielded elevated concentrations. Organic vapors were measured using a PID which yielded generally low concentrations. The excavated soil was blended on site and representative composite samples were collected from the blended backfill, the bottom of the excavation, and the excavation walls. The representative samples were sent to a commercial laboratory for analysis of chloride and TPH. The excavated soil was blended on site and returned to the excavation up to 5 ft below ground surface(BGS). A 5-ft-deep shelf was excavated extending 5 ft out from the North, South, and West walls to prepare the surface for the clay barrier. At 5-4 ft BGS, a 1-ft thick clay barrier was installed with a compaction test performed on 3/18/2009. The remaining fill was used to backfill the excavation to ground surface and to contour to the surrounding area. An identification plate was placed on the surface at the former junction site to mark the presence of clay below. On 3/31/2009, the site was seeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. A new, water-tight junction box was built 40 ft west of the former. To further investigate the depth of chloride presence, a soil bore was initiated on 9/25/2009 at 15 ft southwest of the former junction box. The boring was advanced to 100 ft BGS, while soil samples were collected every 3 feet from 15 to 60 ft BGS and every 5 ft from 60 to 100 ft BGS. Chloride field tests yielded elevated concentrations that did not sufficiently relent with depth. The 30 and 100 ft samples were sent to a commercial laboratory for analysis of chloride and TPH. The entire borehole was plugged with bentonite to the ground surface. NMOCD was notified of potential groundwater impact on 2/26/2010.

**ADDITIONAL EVALUATION IS HIGH PRIORITY**

enclosures: photos, boring log, lab results, PID (field) screening, cross-section, compaction test, chloride curve

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

SITE SUPERVISOR Eric Garrison SIGNATURE not available COMPANY RICE OPERATING COMPANY

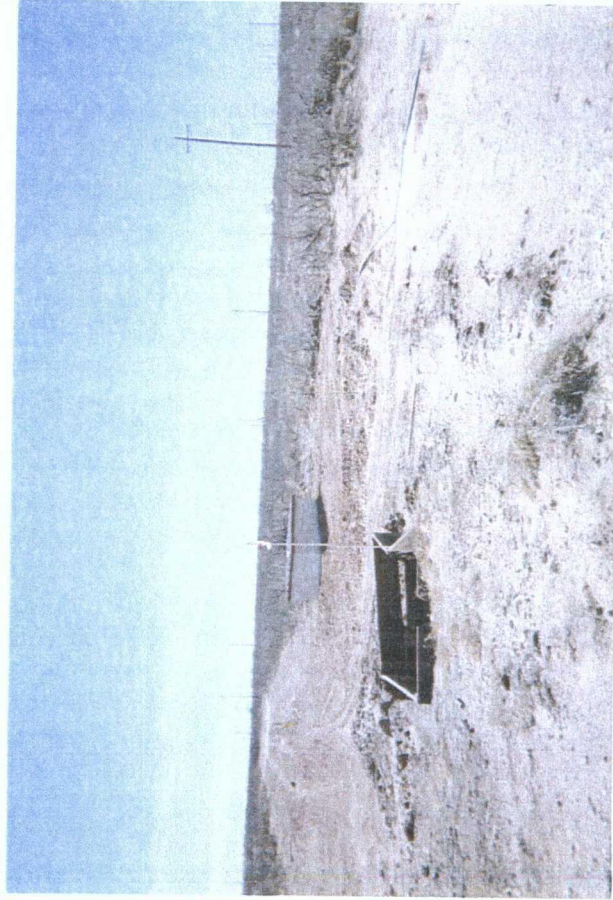
REPORT ASSEMBLED BY Katie Jones INITIAL KJ

PROJECT LEADER Larry Bruce Baker Jr. SIGNATURE Larry Bruce Baker Jr. DATE 3-8-10

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

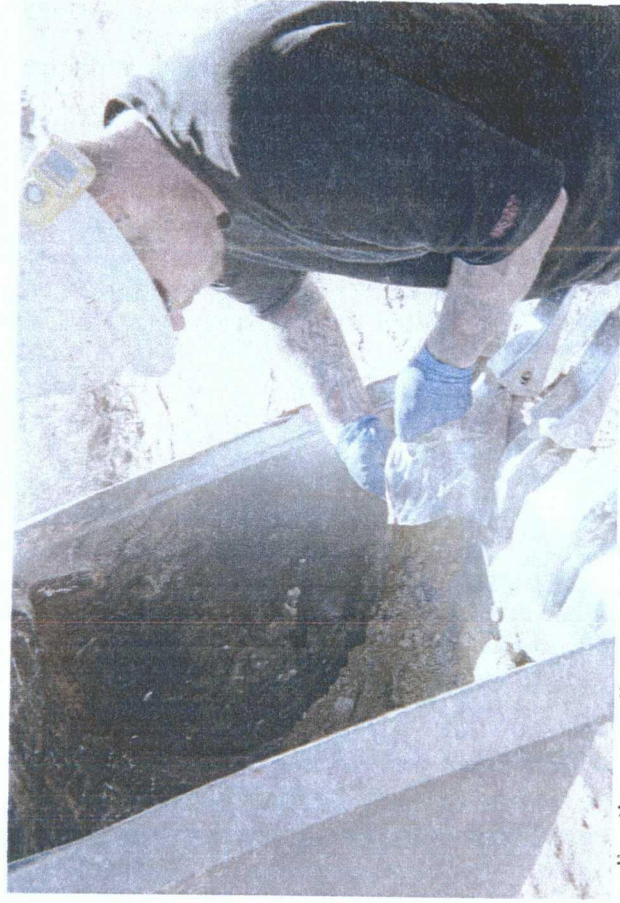
# **BD O-36 EOL**

Unit O, Section 36, T21S, R36E



site prior to excavation with a new,  
watertight junction box 40 ft west

3/2/2009



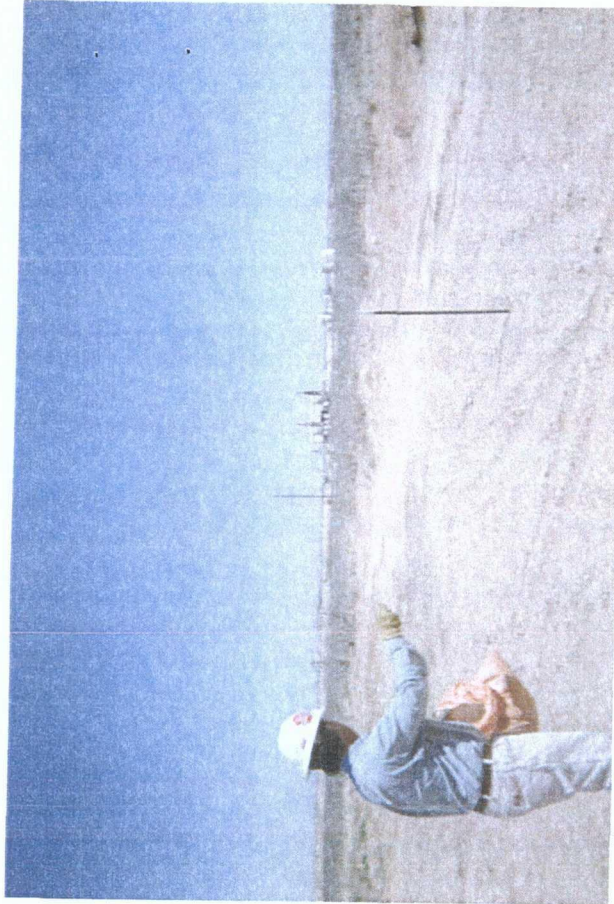
collecting a soil sample, facing west

3/2/2009





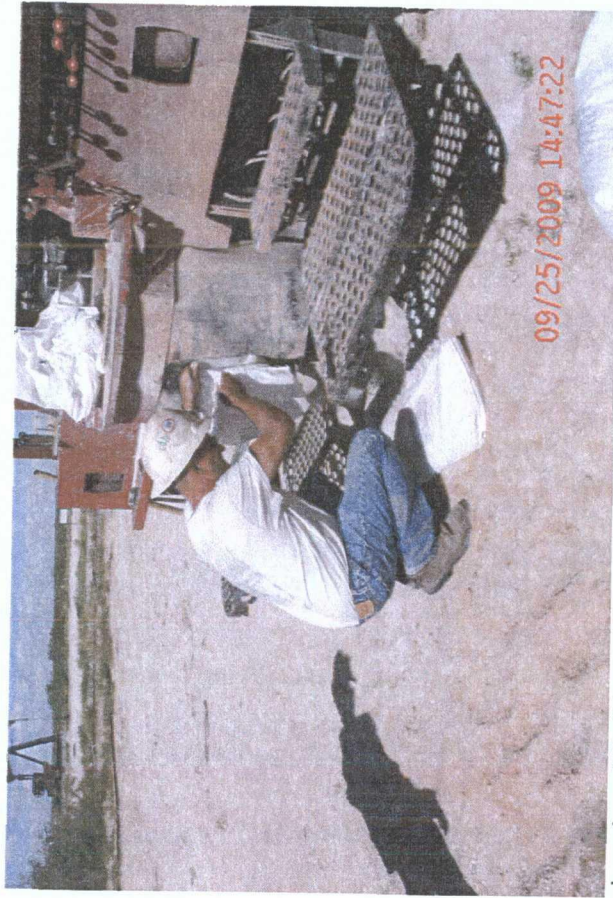
35x20 ft clay barrier installed, facing west 3/18/2009



seeding the backfilled site, facing east 3/31/2009



drilling SB #1 15 ft southwest of the former junction 9/25/2009




plugging SB #1 with bentonite 9/25/2009

09/25/2009 14:47:22







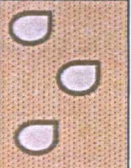





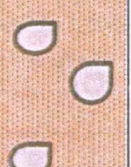



9/25/2009

09/25/2009 12:26:14



<b>Logger:</b>	Lara Weinheimer				
<b>Driller:</b>	Harrison & Cooper, Inc. Drilling				
<b>Consultant:</b>	None - junction box upgrade plan				
<b>Drilling Method:</b>	Air rotary				
<b>Start Date:</b>	9/25/2009				
<b>End Date:</b>	9/25/2009			<b>Project Name:</b>	<b>Well ID:</b>
<b>Comments:</b> All samples from cuttings; a hard sandstone layer existed at 96 - 99 feet. Located 15 feet south-west of the former junction box site. TD = 100 ft      Estimated depth to GW = 134				BD O-36 EOL	SB #1
				<b>Location:</b> UL/O sec. 36 T21S R36E	
				<b>Lat:</b> N32°25'45.44"	<b>County:</b> Lea
				<b>Long:</b> W103°12'56.611"	<b>State:</b> NM

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				10 - 15 ft		
				VERY FINE TO FINE SAND WITH CALICHE		
15	2532		0.6	orangey-brown, dry, no odor		
				15 - 18 ft		
				VERY FINE TO FINE SAND WITH CALICHE		
18	3296		0.4	light orangey-brown, dry, no odor		
				18 - 21 ft		
				VERY FINE TO FINE SAND WITH CALICHE AND CONSOL. ROCK		
21	3863		0.2	tan, dry, no odor		
				<div style="text-align: center; font-size: 2em; color: lightblue; opacity: 0.5;">COPY</div>		
24	2274		0.4			
27	1435		0.7	VERY FINE TO FINE SAND WITH CONSOLIDATED ROCK		
				light brown, dry, no odor		
30	4379	CI-5520	0.6			
		GRO <100				
		DRO <100				
33	3596		0.5			
				33 - 36 ft		
				VERY FINE TO FINE SAND		
36	2102		0.3	light reddish-brown, dry, no odor		

39	2732		0.4				
42	2247		0.3				
45	2286		0.4				
48	2367		0.6				
51	2319		0.4				
54	2051		0.4				
57	2353		0.3				
60	2353		0.2				
65	2519		0.6				
70	2282		0.5				
75	2057		0.6				

36 - 48 ft

VERY FINE TO FINE SAND

WITH CONSOL. ROCK

light reddish-brown, dry, no odor

48 - 60 ft

VERY FINE TO FINE SAND

WITH CONSOL. ROCK

light orangey-brown, dry, no odor

60 - 65 ft

VERY FINE TO FINE SAND WITH SANDSTONE

light orangey-brown, dry, no odor

65 - 90 ft

VERY FINE TO FINE SAND

orangey-brown, slightly moist, no odor

bentonite

seal



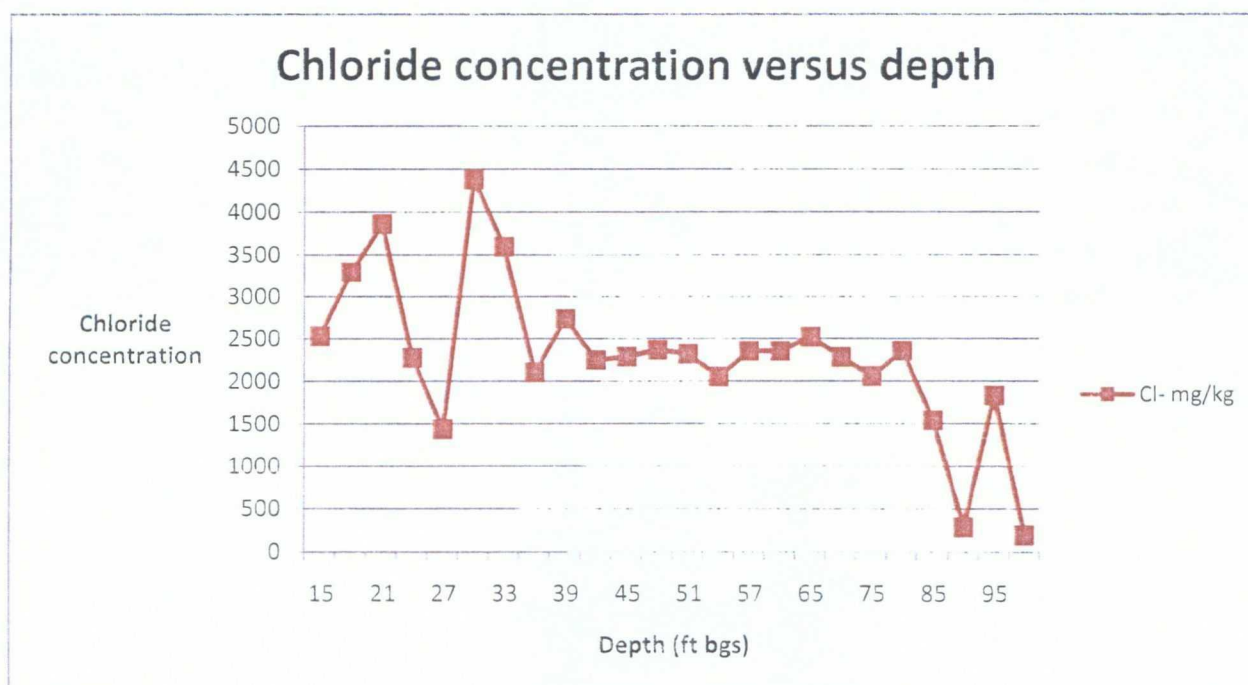
80	2356		0.4
85	1539		0.2
90	286		0.4
95	1829		0.1
100	195	Cl- 160	0.3
		GRO	
		<10.0	
		DRO	
		<10.0	

90 - 100 ft

VERY FINE TO FINE SAND WITH SANDSTONE

light brown, dry, no odor

COPY







# CARDINAL LABORATORIES

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

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

Receiving Date: 09/25/09  
Reporting Date: 09/30/09  
Project Owner: NOT GIVEN  
Project Name: BD O-36 EOL  
Project Location: BD O-36 EOL

Sampling Date: 09/25/09  
Sample Type: SOIL  
Sample Condition: INTACT  
Sample Received By: AB  
Analyzed By: AB/HM

COPY

LAB NUMBER	SAMPLE ID	GRO	DRO	Cl <sup>-</sup>
		(C <sub>5</sub> -C <sub>10</sub> )	(>C <sub>10</sub> -C <sub>28</sub> )	
		(mg/kg)	(mg/kg)	(mg/kg)

ANALYSIS DATE		09/29/09	09/29/09	09/27/09
H18341-1	SB #1 @ 30'	<10.0	<10.0	5,520
H18341-2	SB #1 @ 100'	<10.0	<10.0	160
Quality Control		490	514	500
True Value QC		500	500	500
% Recovery		98.0	103	100
Relative Percent Difference		1.8	0.6	<0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl<sup>-</sup> Std. Methods 4500-Cl<sup>-</sup>B

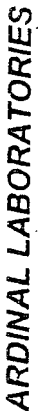
\*Analyses performed on 1:4 w/v aqueous extracts. Reported on wet weight.

Cheryl Keene  
Chemist

09/30/09  
Date

H18341 TOL RICE

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

NEED SAMPLES BACK, PLEASE



# RICE OPERATING COMPANY

122 West Taylor ~ Hobbs, NM 88240

PHONE: (575) 393-9174 FAX: (575) 397-1471

## PID METER CALIBRATION & FIELD REPORT FORM

CK	
MODEL	✓
NO.	

MODEL: PGM 7300	SERIAL NO: 590-000183
MODEL: PGM 7300	SERIAL NO: 590-000504
MODEL: PGM 7600	SERIAL NO: 110-12383
MODEL: PGM 7600	SERIAL NO: 110-02920

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: 924903	EXPIRATION DATE: 7-29-2012
FILL DATE: 7-30-09	METER READING ACCURACY: <del>1</del> 100.1 ppm

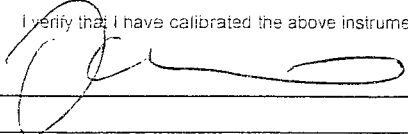
ACCURACY: +/- 2%

SYSTEM	SITE	UNIT	SECTION	TOWNSHIP	RANGE
BD	0-36 EOL	0	36	T21S	R36E

SAMPLE ID: 501 | 100.1 ppm

DEPTH	PID	DEPTH	PID	DEPTH	PID	DEPTH	PID
15'	0.6	45'	0.4	85'	0.2		
18'	0.4	48'	0.6	90'	0.4		
21'	0.2	51'	0.4	95'	0.1		
24'	0.4	54'	0.4	100'	0.3		
27'	0.7	57'	0.3				
DEPTH	PID	DEPTH	PID	DEPTH	PID	DEPTH	PID
30'	0.6	60'	0.2				
33'	0.5	65'	0.6				
36'	0.3	70'	0.5				
39'	0.4	75'	0.6				
42'	0.3	80'	0.4				

I verify that I have calibrated the above instrument in accordance to the manufacture's operation manual.

Signature: 

Date: 9-25-09

SITE MAP

N ↑



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

ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: ERIC GARRISON  
122 W. TAYLOR  
HOBBS, NM 88240

Receiving Date: 03/10/09  
Reporting Date: 03/12/09  
Project Number: NOT GIVEN  
Project Name: BD O-36 EOL  
Project Location: BD O-36 EOL

Sampling Date: 03/10/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: ML  
Analyzed By: AB/TR

COPY

LAB NUMBER	SAMPLE ID	GRO	DRO	CI*
		(C <sub>8</sub> -C <sub>10</sub> ) (mg/kg)	(>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	(mg/kg)

ANALYSIS DATE	03/11/09	03/11/09	03/11/09
H17047-1 5PT. BTM @ 12'	<10.0	1,140	1,490
H17047-2 4 WALL COMP @ 10'x30'	<10.0	490	1,820
Quality Control	506	462	500
True Value QC	500	500	500
% Recovery	101	112	100
Relative Percent Difference	3.2	5.9	<0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CI'B  
\*Analyses performed on 1:4 w/v aqueous extracts.

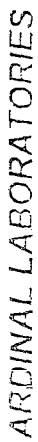
Chemist

Date

H17047 TCL RICE

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(575) 393-2325 Fax (575) 393-2476

Page \_\_\_\_ of \_\_\_\_

BILL TO										ANALYSIS REQUEST									
P.O. #:																			
Company:																			
Attn:																			
Address:																			
City:																			
State:																			
Phone #:																			
Fax #:																			
Project Name:																			
Project Location:																			
Sample Name:																			
Project Owner:																			
Phone #:																			
Fax #:																			
State:																			
City:																			
Zip:																			

Lab ID	Sample ID	PRESERV	DATE	TIME	MATRIX						OTHER	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	ACID/BASE		
11097.1	11097.1		3-10-09	2:33								
11097.2	11097.2		3-10-09	3:39								

Relinquished By:		Received By:	
Date: 3-10-09		Date: 3-10-09	
Time: 4:50		Time: 4:50	
Temp:		Temp:	

Delivered By: (Circle One)	Checked By: (Initials)
<input type="checkbox"/> UPS <input type="checkbox"/> Bus <input type="checkbox"/> Other:	<input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No

+ Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

# RICE OPERATING COMPANY

122 West Taylor Hobbs, NM 88240  
 PHONE: (575) 393-9174 FAX: (575) 397-1471  
 PID METER CALIBRATION & FIELD REPORT FORM

Check Model Number:

<input type="checkbox"/>	Model: PGM 7300	Serial No: 590-000183	<input type="checkbox"/>	Model: PGM 7600	Serial No: 110-023920
<input checked="" type="checkbox"/>	Model: PGM 7300	Serial No: 590-000508	<input type="checkbox"/>	Model: PGM 7600	Serial No: 110-013744
<input type="checkbox"/>	Model: PGM 7300	Serial No: 590-000504	<input type="checkbox"/>	Model: PGM 7600	Serial No: 110-013676

COPY

GAS COMPOSITION: PROPYLENE 100PPM / AIR: BALANCE

LOT NO: 07-3353	EXPIRATION DATE: 4-12-09
FILL DATE: 10-12-09	METER READING ACCURACY: 100.1

ACCURACY : +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	10-36602	D	36	21 S	36E

SAMPLE ID	PID	SAMPLE ID	PID
4 wall comp	64.5		
5 PT BTM.	8.5		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE:

*Eric Barvin*

DATE:

3-10-09





# ARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: ERIC GARRISON  
122 W. TAYLOR  
HOBBS, NM 88240

Receiving Date: 03/11/09  
Reporting Date: 03/16/09  
Project Number: NOT GIVEN  
Project Name: BD O-36 EOL  
Project Location: BD O-36 EOL

Sampling Date: 03/11/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: ML  
Analyzed By: AB/TR

COPY

LAB NUMBER	SAMPLE ID	GRO (C <sub>5</sub> -C <sub>10</sub> ) (mg/kg)	DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	CI* (mg/kg)
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ANALYSIS DATE	03/13/09	03/13/09	03/12/09
H17051-1 BLENDED BACKFILL	<10.0	817	1,060
Quality Control	478	529	500
True Value QC	500	500	500
% Recovery	95.6	106	100
Relative Percent Difference	6.5	10.9	<0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB

\*Analysis performed on a 1:4 w/v aqueous extract.

Cal S. Kane  
Chemist

03/16/09  
Date

H17051 TCL RICE

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# RICE OPERATING COMPANY

122 West Taylor Hobbs, NM 88240

PHONE: (575) 393-9174 FAX: (575) 397-1471

## PID METER CALIBRATION & FIELD REPORT FORM

Check Model Number:

✓

Model: PGM 7300 Serial No: 590-000183  
 Model: PGM 7300 Serial No: 590-000508  
 Model: PGM 7300 Serial No: 590-000504

1

Model: PGM 7600 Serial No: 110-023920  
 Model: PGM 7600 Serial No: 110-013744  
 Model: PGM 7600 Serial No: 110-013676

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: 87-3353	EXPIRATION DATE: 8-12-09
FILL DATE: 10-12-09	METER READING ACCURACY: 100/27m

ACCURACY : +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	B-36	Vol	36	215	36E

SAMPLE ID	PID	SAMPLE ID	PID
Blended Backfill	96.2		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE

*[Signature]*

DATE

8-11-09



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

ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: ERIC GARRISON  
122 W. TAYLOR  
HOBBS, NM 88240

Receiving Date: 03/20/09  
Reporting Date: 03/23/09  
Project Number: NOT GIVEN  
Project Name: BD O-36 EOL  
Project Location: BD O-36 EOL

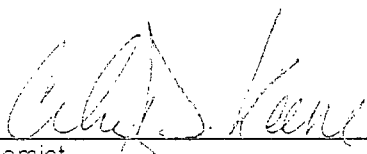
Sampling Date: 03/20/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: AB/HM

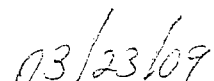
COPY

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	CI* (mg/kg)
------------	-----------	--	---	----------------

ANALYSIS DATE	03/21/09	03/21/09	03/23/09
H17101-1 BLENDED BACKFILL #2	<10.0	<10.0	48
Quality Control	473	535	490
True Value QC	500	500	500
% Recovery	94.6	107	98.0
Relative Percent Difference	0.7	2.9	2.0

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

  
Chemist

  
Date

H17101 TCL RICE

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ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 211 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

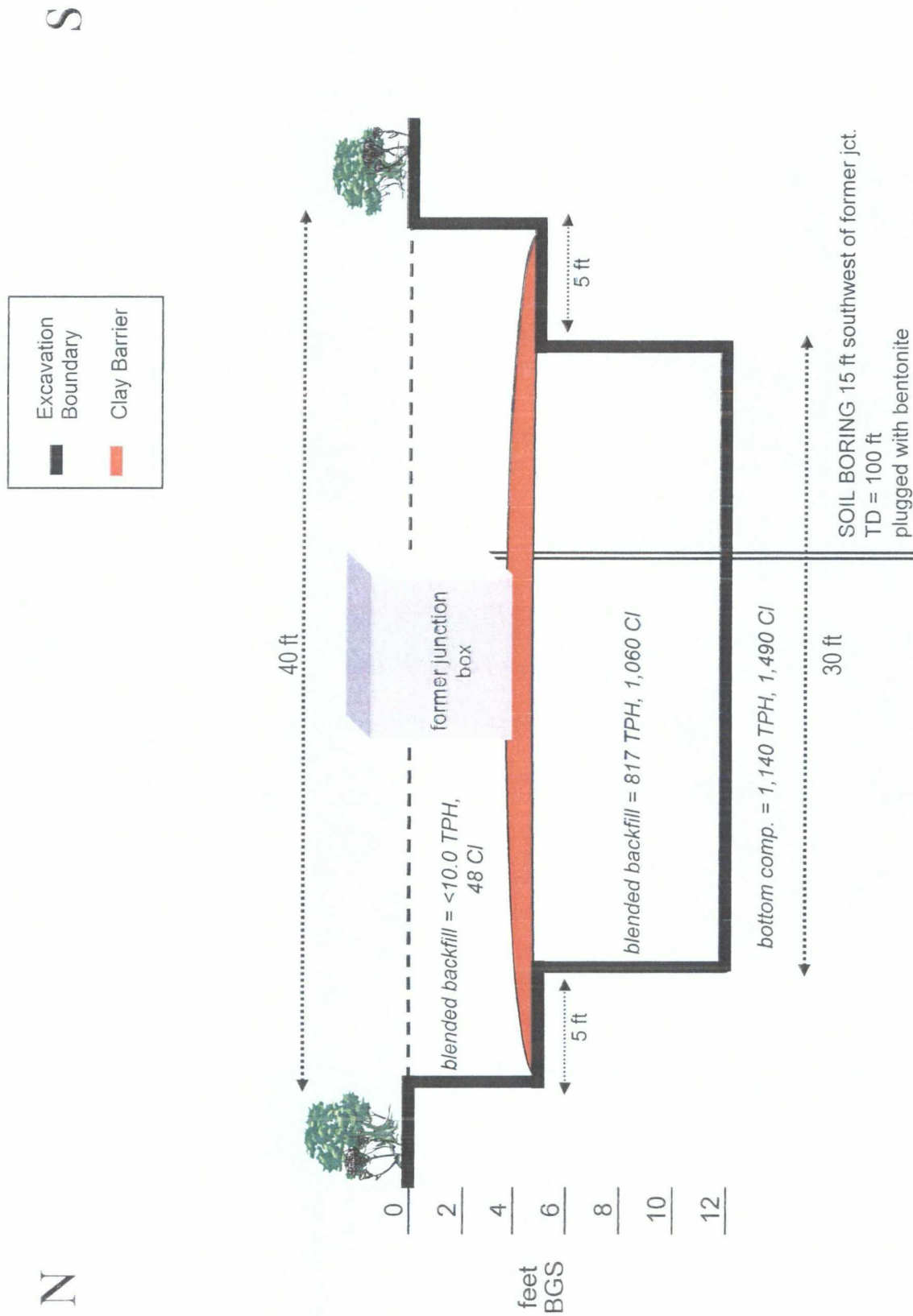
[illegible]

Relinquished By: <i>[Signature]</i>	Date: <i>25 Jan-97</i>	Received By: <i>[Signature]</i>	Sample Condition Cool - Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	Time: <i>4:30</i>	Received By: <i>[Signature]</i>		
Delivered By: (Circle One)	Date: _____	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Phone # _____ Add'l Phone # _____ Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax # _____	
Sampler - UPS - Bus - Other:	Time: _____	REMARKS: <i>Revised</i> <i>Backer Office not done</i> <i>Backer Office not done</i>		

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

BD O-36 EOL  
Unit 'O', Sec. 36, T21S, R36E

# Excavation Cross-Section





LABORATORY TEST REPORT  
PETTIGREW & ASSOCIATES, P.A.  
1110 N. GRIMES  
HOBBS, NM 88240  
(575) 393-9827



DEBRA P. HICKS, P.E./L.S.I.  
WILLIAM M. HICKS III, P.E./P.S.

To: Rice Operating Company  
Attn: Hack Conder  
122 W. Taylor  
Hobbs, NM 88240

Material: Cooper Red Clay

Project: General Information  
Project No. 2008.1069

Test Method: ASTM: D 2922

Date of Test: March 18, 2009

Depth: See Below

Depth of Probe: 6"

Test No.	Location	Dry Density		Depth
		% Max	% Moisture	
SG 10	Building Box - 36' W. & 12' S. of NE Corner	92.1	12.5	3' Below FG

Control Density: 100.4  
ASTM: D 698

Optimum Moisture: 21.6%

Required Compaction: 90 - 95%

Densometer ID: 5357  
PETTIGREW & ASSOCIATES

Lab No.: 09 1990-1991

Copies To: Rice Operating

BY: Erica M. Hart

BY: W. M. Hicks III

P.E.

# CHLORIDE CONCENTRATION CURVE

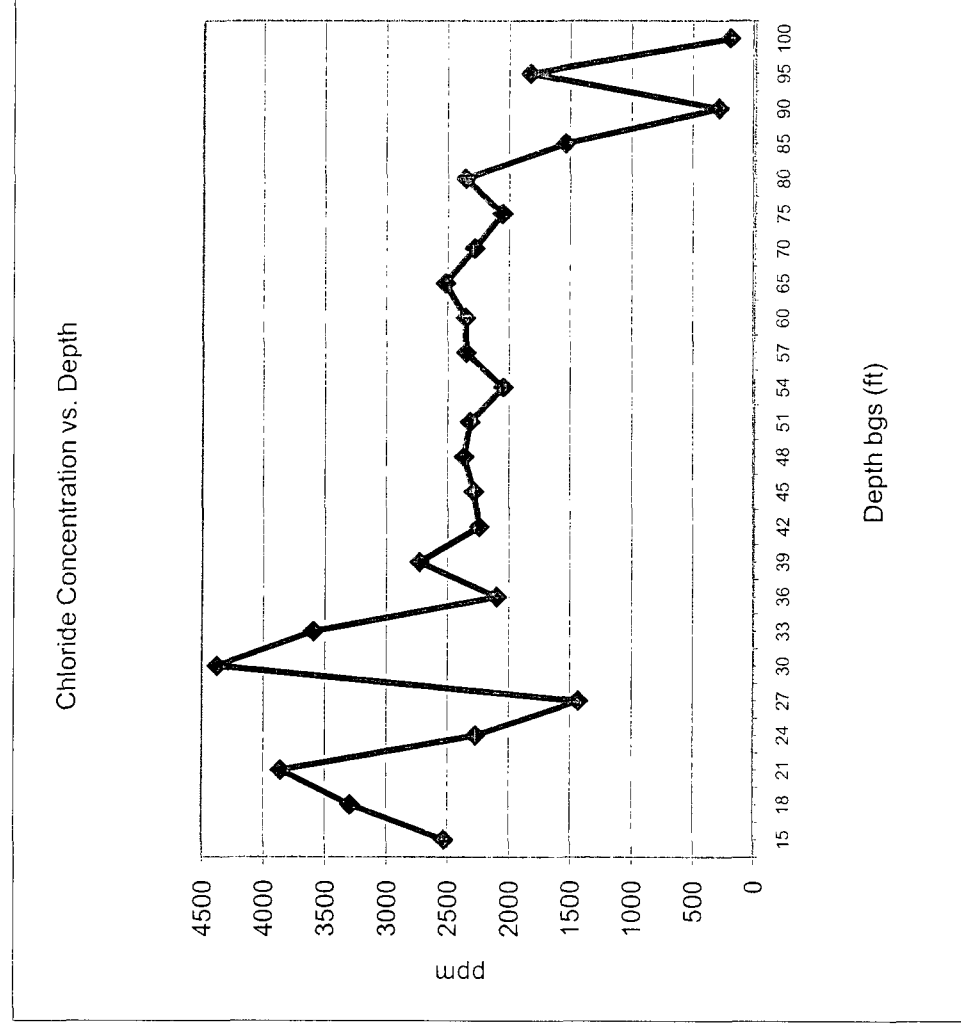
RICE Operating Company

## BD O-36 EOL

Unit 'O', Sec. 36, T21S, R36E

SOIL BORING samples at 15 ft southwest of the junction (source)

Depth bgs (ft)	Chloride (ppm)
15	2532
18	3296
21	3863
24	2274
27	1435
30	4379
33	3596
36	2102
39	2732
42	2247
45	2286
48	2367
51	2319
54	2051
57	2353
60	2353
65	2519
70	2282
75	2057
80	2356
85	1539
90	286
95	1829
100	195



Groundwater = 134 ft