1R - 426-293

REPORTS

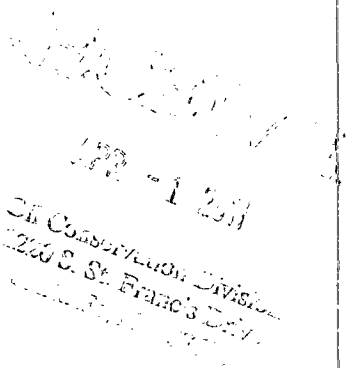
DATE:

3-1-11

IR426-293

BD Jct. L-12

2010



DISCLOSURE

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
Blinebry-Drinkard (BD)	Jct. L-12	L	12	22S	37E	Lea	eliminated		

LAND TYPE: BLM ___ STATE ___ FEE LANDOWNER Walco Ranch, LLC OTHER ___

Depth to Groundwater 60 feet NMOCD SITE ASSESSMENT RANKING SCORE: 20

Date Started 5/24/2010 Date Completed 7/16/2010 OCD Witness no

Soil Excavated 200.0 cubic yards Excavation Length 30 Width 15 Depth 12 feet

Soil Disposed 132 cubic yards Offsite Facility Sundance Location Eunice, NM

FINAL ANALYTICAL RESULTS: Sample Date 6/14/2010, 6/28/2010 Sample Depth 12 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.

Sample Location	PID (field) ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
4-WALL COMP.	3.1	<10.0	33.7	496
BOTTOM COMP.	68.4	12.5	203	528
BACKFILL COMP.	11.7	<10.0	171	544
BLENDED BACKFILL COMP.	N/A	<10.0	<10.0	176

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	512
bottom comp.	12'	533
backfill comp.	n/a	502
background	6"	86
vertical delineation at 15 ft. east of junction (source)	2'	426
	4'	291
	6'	341
	8'	257
	10'	557
	12'	552

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 soil samples at regular intervals creating a 30X15X12-ft. deep excavation. Chloride field test performed on each sample yielded concentrations that did not relent with depth. Organic vapors were measured using a PID, which yielded some elevated concentrations. The excavated soil was blended on site and representative samples were collected from the blended backfill, the bottom of the excavation, and excavation walls. The representative samples were taken to a commercial laboratory for analysis of chloride and TPH. 132 yards of the blended backfill was hauled to NMOCD approved facility. The remaining blended backfill was blended with clean imported soil and a representative sample was collected and sent to a commercial laboratory for analysis of chloride and TPH. The excavation was backfilled with the blended backfill with clean imported soil up to 7 ft. below ground surface. At 7-6 ft. BGS, a 1-ft. thick clay barrier was installed and compaction test performed on 7/15/2010. The remaining excavation was backfilled with the blended backfill with clean imported soil to 1 ft. BGS. The remaining excavation was backfilled with clean imported soil to ground surface and contoured to the surrounding area. On 7/16/2010, the site was seeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. An identification marker was placed on the surface of the former junction box to mark the presence of clay below. NMOCD was notified of potential groundwater impact on 2/21/2011.

ADDITIONAL EVALUATION IS HIGH PRIORITY

enclosures: photos, lab results, PID (field) screenings, cross-section, compaction test, hydraulic conductivity, proctor, chloride curve

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

SITE SUPERVISOR Joe Gatts SIGNATURE Not Available COMPANY RICE OPERATING COMPANY

REPORT ASSEMBLED BY Larry Bruce Baker Jr. INITIAL LBB

PROJECT LEADER Larry Bruce Baker Jr. SIGNATURE Larry Bruce Baker Jr. DATE 3-1-11

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

BD Jct. L-12

Unit L, Section 12, T22S, R37E

Site prior to delineation 5/20/2010

Blending backfill with clean imported soil 6/25/2010

Clay barrier installed 7/15/2010

Seeding excavation 7/16/2010

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: BRUCE BAKER
112 W. TAYLOR
HOBBS, NM 88240

Receiving Date: 06/14/10
Reporting Date: 06/16/10
Project Number: NOT GIVEN
Project Name: JCT L-12
Project Location: BD (22/37)

Sampling Date: 06/14/10
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: JH
Analyzed By: AB/CK

LAB NUMBE	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		06/15/10	06/15/10	06/15/10
H20105-1	5PT BOTTOM COMP @ 12'	12.5	203	528
H20105-2	4-WALL COMP.	<10.0	33.7	496
H20105-3	BLENDED BACKFILL	<10.0	171	544
Quality Control		477	436	500
True Value QC		500	500	500
% Recovery		95.4	87.2	100
Relative Percent Difference		0.2	0.5	< 0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl^-: Std. Methods 4500-Cl^-B
*Analyses performed on 1:4 w:v aqueous extracts.
Reported on wet weight.

COPY

Chemist

06/17/10
Date

H20105 TCL RICE

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Rice Operating Company
Project Manager:	Bruce Baker
Address:	122 W. Taylor
City:	Hobbs
State:	NM
Zip:	88240
Phone #:	575-393-9174
Fax #:	575-397-1471
Project #:	
Project Owner:	
Project Name:	Jct L-12
Project Location:	BO (2237)
Sampler Name:	Joe Gatts

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:	DATE	TIME	Cl	TPH 6015M										
H20105-1	5pt Bottom Comp @ 12'	C	1			✓					✓		6-14-10	10:08	✓	✓										
2	4-Wall Comp	C	1			✓					✓		6/14/10	10:15	✓	✓										
3	Blended backfill	C	1			✓					✓		6/14/10	11:22	✓	✓										

Relinquished By:	Date: 6/14/10 Time:	Received By:	
Relinquished By:	Date: 6/14/10 Time: 4:23	Received By: Jodi Henson	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: Yes / No Intact: Yes / No	CHECKED BY: (Initials)	

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: E-Mail Results To:
K Jones @ RiceSWD.com
B baker " " " "
R Egans " " " "

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

#26

RICE OPERATING COMPANY

122 West Tayor 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 7600	Serial No: 110-023920
	Model: PGM 7300	Serial No: 590-000508		Model: PGM 7600	Serial No: 110-013744
	Model: PGM 7300	Serial No: 590-000504	✓	Model: PGM 7230	Serial No: 592-903318

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : 928547	EXPIRATION DATE: 2/04/2013
FILL DATE:	METER READING ACCURACY: 100.1

ACCURACY : +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	L-12	L	12	22	37

SAMPLE ID	PID	SAMPLE ID	PID
4 WALL composite	3.1		
5pt Bottom composite @ 12'	68.4		
Blended Backfill	11.7		

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

SIGNATUE: Joe Gatt DATE: 6/14/10

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: BRUCE BAKER
112 W. TAYLOR
HOBBS, NM 88240

Receiving Date: 06/28/10
Reporting Date: 06/30/10
Project Number: NOT GIVEN
Project Name: B.D. JCT L-12 (22/37)
Project Location: B.D. JCT L-12 (22/37)

Sampling Date: 06/28/10
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: JH
Analyzed By: AB/CK/HM

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		06/30/10	06/30/10	06/29/10
H20234-1	BLENDED BACKFILL COMP.	<10.0	<10.0	176
Quality Control		487	511	500
True Value QC		500	500	500
% Recovery		97.4	102	100
Relative Percent Difference		3.2	13.0	< 0.1

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.
Reported on wet weight.

Chemist

7/02/10
Date

H20234 TCL RICE

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Rice Operating Company
Project Manager:	Bruce Baker
Address:	122 W. Taylor
City:	Hobbs State: NM Zip: 88240
Phone #:	575-393-9174 Fax #: 575-397-1471
Project #:	Project Owner:
Project Name:	BD Sct 2-12 22137
Project Location:	
Sampler Name:	Gerardo Martinez

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	C2		TPH 8015M									
H20234-1	Blended Backfill comp.	G	1			✓					✓		6-28-10	3:18	✓		✓									

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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.

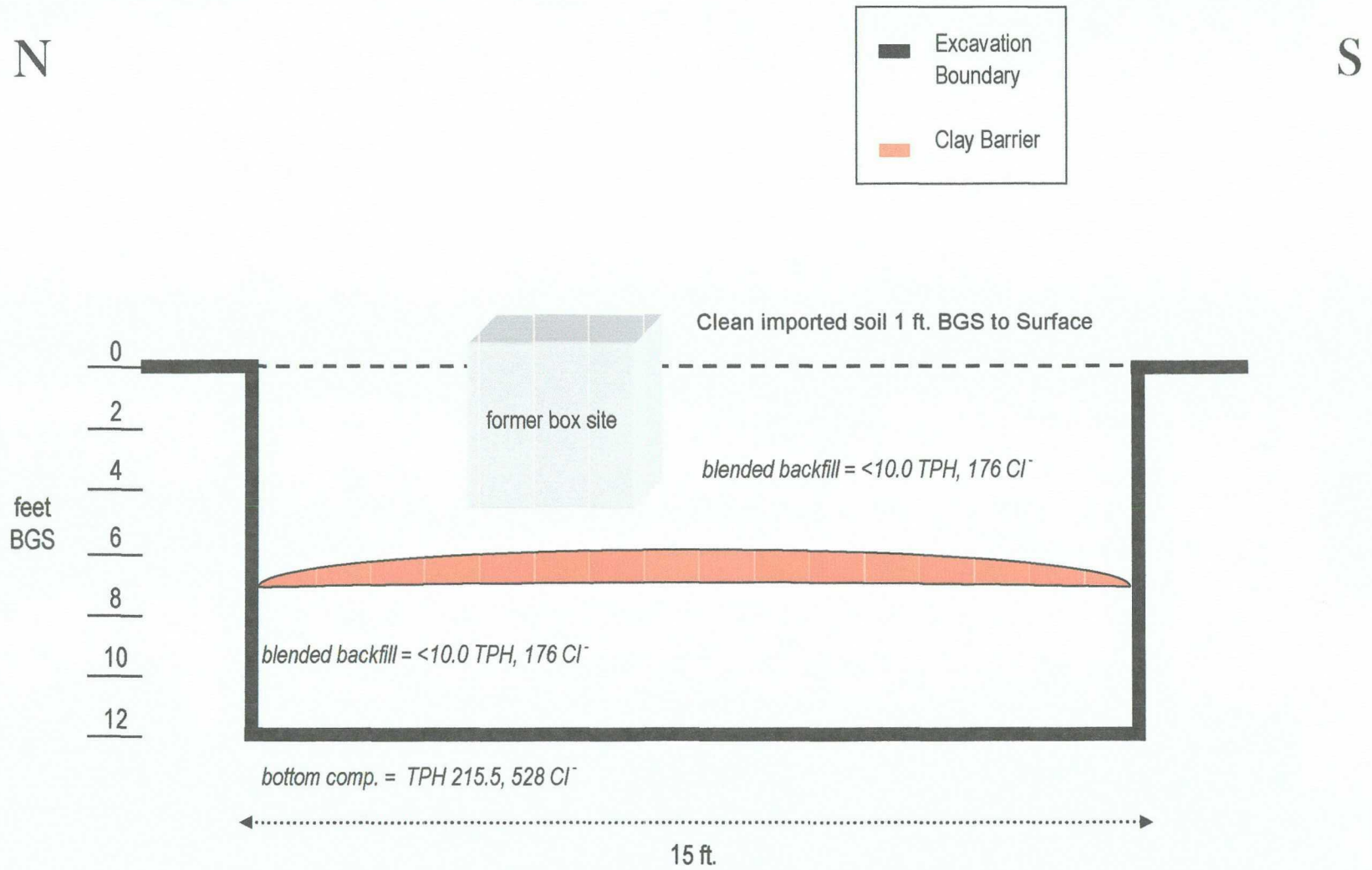
Relinquished By:	Date:	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Gerardo	Time:		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date: 6/28/10	Received By: Jodi Henson	REMARKS: E-Mail Results To: KJones@Ricesweet.com BBaker " " " REvans " " "
	Time: 4:20		
Delivered By: (Circle One)	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

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

#26

BD JCT L-12
Unit 'L', Sec. 20, T22S, R37E

Excavation Cross-Section



LABORATORY TEST REPORT

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

AASHTO R18

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

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

Material: Wallach Red Clay

Test Method: ASTM: D 2922

Project: BD-JCT L-12 (22/37)
Project No. 2010.1204

Date of Test: July 15, 2010

Depth: See Below

Depth of Probe: 6"

Test No.	Location	Dry Density % Max	% Moisture	Depth
SG 1	10' N. & 10' E. of SW Corner	93.5	16.8	FSG

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Control Density: 102.3
ASTM: D 698

Optimum Moisture: 20.3%

Required Compaction: 90-95%

Densometer ID: 5071

PETTIGREW & ASSOCIATES

Lab No.: 10 7523-7524

Copies To: Rice Operating

BY: Erica M Hart

BY: for Debra Hicks **P.E.**

ETTL Engineers & Consultants Inc.
GEOTECHNICAL * MATERIALS * ENVIRONMENTAL * DRILLING * LANDFILLS

HYDRAULIC CONDUCTIVITY DETERMINATION
FLEXIBLE WALL PERMEAMETER - CONSTANT VOLUME
(Mercury Permometer Test)

Project : Pettigrew & Associates, P.A., Hobbs, NM - Project #2010.1026 — Report No: 1-1201-000003
Date: 2/5/2010 — Panel Number : P 3 ; ASTM D 5084
Project No. : C 4535-101 — Permometer Data

Boring No.:		ap =	0.031416 cm2	Set Mercury to [illegible]		Equilibrium	1.8	cm3
Sample:	8540	aa =	0.767120 cm2			Pipet Rp	6.7	cm3
Depth (ft):		M1 =	0.030180	C =	0.000434704	Annulus Ra	1.5	cm3
Other Location:	Wallach Plant Eunice	M2 =	1.040953	T =	0.203790628			

Material Description : Red Clay (Your Sample No 10 1422-1424) Compacted D 698 at 95% of your M/D curve (wet side)

SAMPLE DATA

Wet Wt. sample + ring or tare :			561.37	g
Tare or ring Wt. :			0.0	g
Wet Wt. of Sample :			561.37	g
Diameter :	2.77	in	7.05	cm2
Length :	2.79	in	7.08	cm
Area:	6.04	in^2	38.99	cm2
Volume :	16.84	in^3	276.92	cm3
Unit Wt.(wet):	126.95	pcf	2.03	g/cm^3
Unit Wt.(dry):	104.65	pcf	1.68	g/cm^3

Before Test		After Test	
Tare No.:	T 5	Tare No.:	T 3
Wet Wt.+tare:	731.90	Wet Wt.+tare:	800.51
Dry Wt.+tare:	641.75	Dry Wt.+tare:	690.35
Tare Wt:	218.78	Tare Wt:	220.69
Dry Wt.:	422.97	Dry Wt.:	469.66
Water Wt.:	90.15	Water Wt.:	110.16
% moist.:	21.3	% moist.:	23.5

Specific Gravity:	2.77	Max Dry Density(pcf) =	104.6948	OMC =	21.3135683
		% of max =	100.0	+/- OMC =	0.00
Calculated % saturation:	99.58	Void ratio (e) =	0.65	Porosity (n)=	0.39

TEST READINGS

Z1(Mercury Height Difference @ t1): 5.1 cm — Hydraulic Gradient = 9.10

Date	elapsed t (seconds)	Z (pipet @ t)	ΔZn (cm)	temp (deg C)	α (temp corr)	k (cm/sec)	k (ft./day)
2/5/2010	4740	6	0.656997	25	0.889	1.17E-08	3.32E-05
2/5/2010	5940	5.9	0.756997	25	0.889	1.09E-08	3.09E-05
2/5/2010	6900	5.8	0.856997	25	0.889	1.08E-08	3.05E-05
2/5/2010	7800	5.7	0.956997	25	0.889	1.08E-08	3.05E-05

Reset = *

SUMMARY

ka = 1.10E-08 cm/sec — Acceptance criteria = 25 %

ki			Vm	
k1 =	1.17E-08	cm/sec	6.3	%
k2 =	1.09E-08	cm/sec	1.2	%
k3 =	1.08E-08	cm/sec	2.5	%
k4 =	1.08E-08	cm/sec	2.5	%

Vm = | ka-ki | / ka x 100

Hydraulic conductivity	k =	1.10E-08	cm/sec	3.13E-05	ft/day
Void Ratio	e =	0.65			
Porosity	n =	0.39			
Bulk Density	γ =	2.03	g/cm3	127.0	pcf
Water Content	W =	0.36	cm3/cm3	(at 20 deg C)	
Intrinsic Permeability	kint =	1.13E-13	cm2	(at 20 deg C)	

Liquid Limit	LL	
Plastic Limit	PL	
Plasticity Index	PI	
- 200 Sieve		%
+ No 40 Sieve		%
+ No 4 Sieve		%

COPY

210 Beech Street
Texarkana, AR 71854
870-772-0013 Phone
870-216-2413 Fax

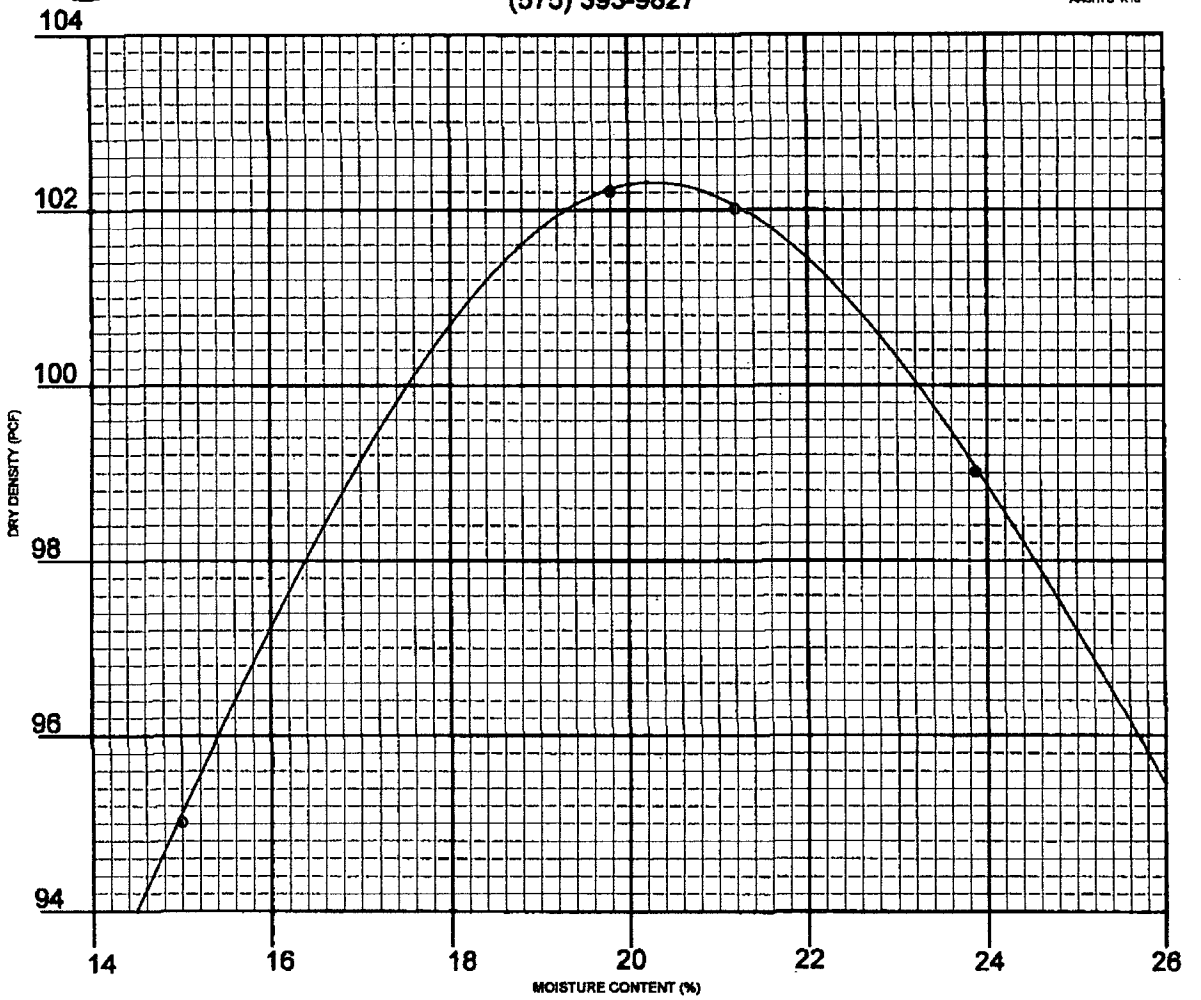
1717 East Erwin
Tyler, Texas 75702
903-595-4421 Phone
903-595-6113 Fax
www.ettlinc.com

707 West Cotton Street
Longview, Texas 75604-5505
903-758-0915 Phone
903-758-8245 Fax

*Corrected Copy 2/17/10

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

AASHTO R18



General Information

CLIENT: Rice Operating PROJECT: Project No. 2010.1026

SAMPLE LOCATION: Eunice Wallach Plant

SOIL DESCRIPTION: Wallach Red Clay

SOIL CLASSIFICATION: _____ TEST METHOD: ASTM: D 698

ATTERBERG: LL ____ PI ____ Sampled & Delivered 2/8/10

DATE: 2/12/10 LAB NO. 10 1422-1424

DRY WEIGHT LB/CU. FT. 102.3 MOISTURE CONTENT % 20.3

SIEVE ANALYSIS - % PASSING									

PETTIGREW & ASSOCIATES

COPY

BY: Erica McHart

COPIES: Rice Operating

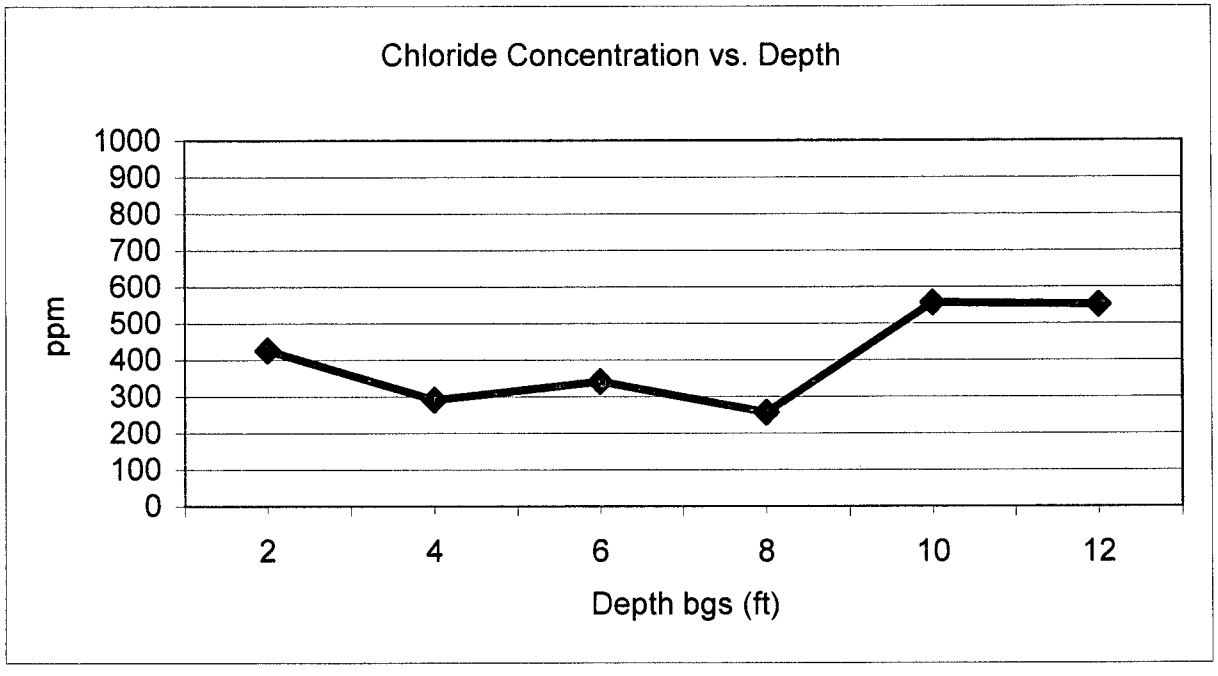
BY: _____ P.E

BD Jct. L-12

Unit 'L', Sec. 12,T22S, R37E

Backhoe samples 15 ft. east of the junction (source)

Depth bgs (ft)	[Cl⁻] ppm
2	426
4	291
6	341
8	257
10	557
12	552



Groundwater = 60 ft.