1R - 426-287

REPORTS

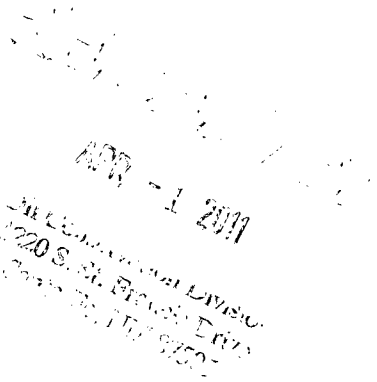
DATE:

3-17-11

IR426-287

BD Jct. H-20

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 H-20	H	20	22S	37E	Lea	new water tight box built 45 ft. south		

LAND TYPE: BLM ___ STATE ___ FEE LANDOWNER Millard Deck OTHER ___

Depth to Groundwater 64 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 7/21/2010 Date Completed 8/19/2010 OCD Witness no

Soil Excavated 166.7 cubic yards Excavation Length 25 Width 15 Depth 12 feet

Soil Disposed 36 cubic yards Offsite Facility Sundance Location Eunice, NM

FINAL ANALYTICAL RESULTS: **Sample Date** 7/27/2010 **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	Chlorides mg/kg
4-WALL COMP.	0.7	<10.0	53.3	768
BOTTOM COMP.	1.1	<10.0	22.4	768
BACKFILL COMP.	0.1	<10.0	65.8	480

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	604
bottom comp.	12'	528
backfill comp.	n/a	550
vertical delineation trench at 25 ft north of the junction (source)	2'	570
	4'	679
	6'	1,099
	8'	870
	10'	670
	12'	724

General Description of Remedial Action: This junction was addressed during the pipeline replacement/upgrade program. After the junction box was removed, an investigation was conducted using a backhoe to collect soil samples at regular intervals. Chloride field tests performed on each sample yielded chloride concentrations that did not relent with depth. Organic vapors were measured using a PID, which yielded low 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 sent to a commercial laboratory for analysis of chloride and TPH. The excavation was backfilled with the blended backfill to 5 ft. below ground surface (BGS). At 5-4 ft. BGS, a 1-ft. thick clay barrier was installed with compaction test performed on 8/05/2010. The remaining excavation was backfilled with blended backfill to ground surface and contoured to the surrounding area. An identification marker was placed on the surface of the former junction box to mark the presence of clay below. On 8/06/2010, 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 45 ft. south of the former box. NMOCD was notified of potential groundwater impact on 2/28/2011.

ADDITIONAL EVALUATION IS LOW PRIORITY

enclosures: photos, lab reports, 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 3-17-11

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

BD Jct. H-20

Unit. H, Sec. 20, T22S, 37E

Delineation trench being excavated 7/27/2010

Compaction test 8/05/2010

Seeding excavation 8/6/2010

Site complete 8/6/2010

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: 07/27/10
Reporting Date: 07/29/10
Project Number: NOT GIVEN
Project Name: BD JCT. H-20 (22/37)
Project Location: BD JCT. H-20 (22/37)

Sampling Date: 07/27/10
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: JH
Analyzed By: AB/HM

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		07/28/10	07/28/10	07/28/10
H20431-1	5 PT. BOTTOM @ 12' BGS	<10.0	22.4	768
H20431-2	4 WALL COMP (25x15)	<10.0	53.3	768
H20431-3	BLENDED BACKFILL	<10.0	65.8	480
Quality Control		465	456	510
True Value QC		500	500	500
% Recovery		93.0	91.2	102
Relative Percent Difference		1.2	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.

Chemist

07/29/10
Date

H20431 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

		BILL TO	
Company Name:	Rice Operating Company	P.O. #:	
Project Manager:	Bruce Baker	Company:	
Address:	122 W. Taylor	Attn:	
City:	Hobbs State: NM Zip: 88240	Address:	
Phone #:	575-393-9174 Fax #: 575-397-1471	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:		Phone #:	
Project Location:	BP Jct. H-20 22/87	Fax #:	
Sampler Name:	J. Gatts		

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	Cl.	TPH 8015
H20431-1	5pt. Bottom @ 12' bgs	C	1			X					X		7/27/10	11:30	X	X
2	4 WALL Comp (25 x 15)	C	1			X					X		7/27/10	11:35	X	X
3	Blended Backfill	C	1			X					X		7/27/10	11:45	X	X

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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 #:
	Time:		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date: 7/27/10	Received By: Jodi Henson	REMARKS: E-Mail Results TO:
	Time: 4:31		KJones@Ricesud.com
Delivered By: (Circle One)	Sample Condition: Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	Bbaker " " "
Sampler - UPS - Bus - Other:			kegans " " "
			jgatts

† 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: 2/04/13
FILL DATE:	METER READING ACCURACY: 100.1

ACCURACY : +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	H-20	H	20	22	37

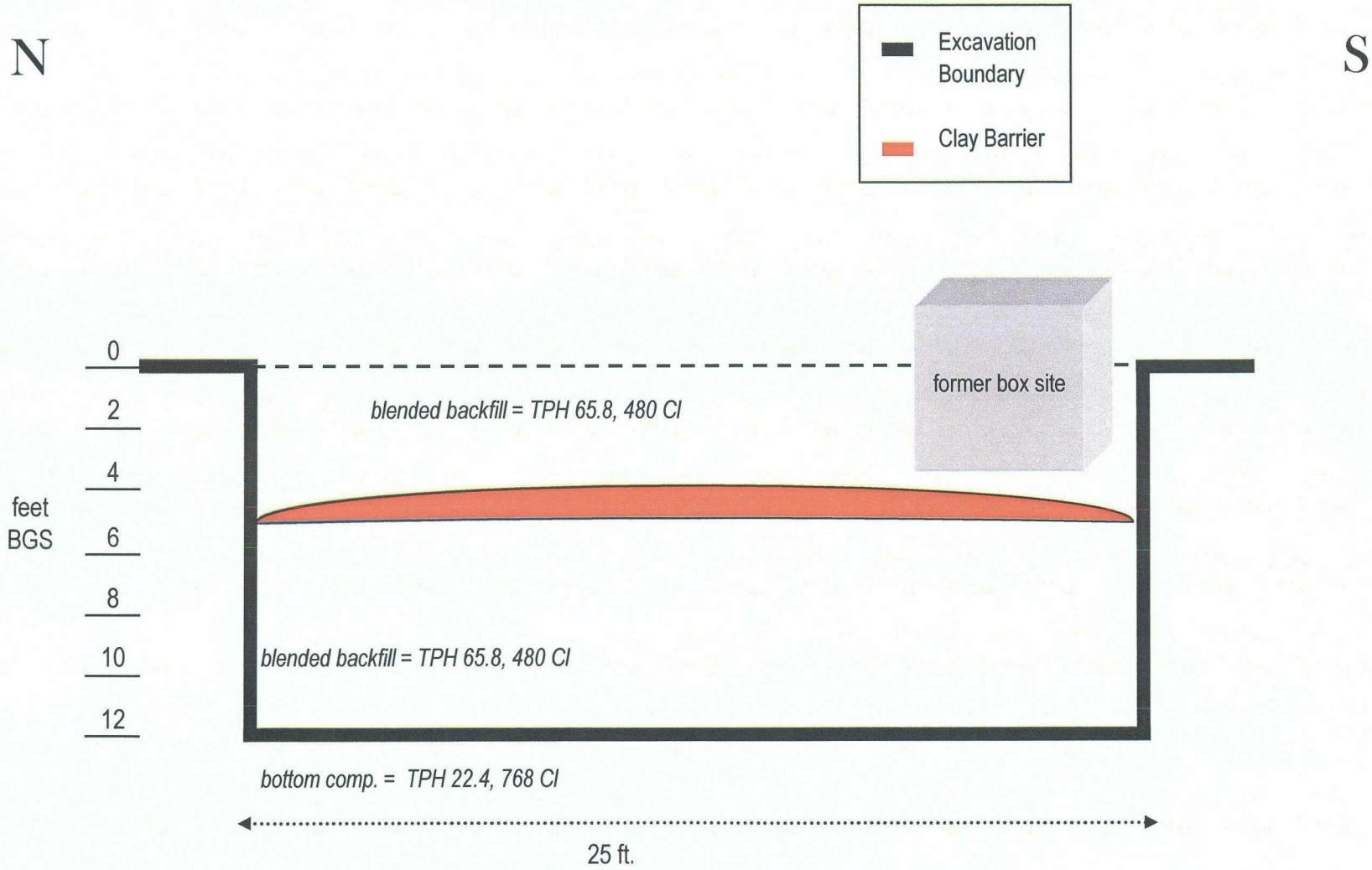
SAMPLE ID	PID	SAMPLE ID	PID
25' North 2'	0.1		
4'	0.1		
6'	0.1		
8'	0.1		
10'	0.1		
12'	0.1		
Bottom Comp @ 12' bgs	1.1		
4 WALL Comp 25x15	0.7		
Blended Backfill	0.1		

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

SIGNATUE: Joe Scott DATE: 7/27/10

BD JCT H-20
Unit 'H', 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 H-20 (22/37)
Project No. 2010.1229

Date of Test: August 5, 2010

Depth: See Below

Depth of Probe: 6"

Test No.	Location	*Dry Density % Max	% Moisture	Depth
SG 1	10' N. & 8' W. of SE Corner	92.6	14.5	5' Below FSG

COPY

Control Density: 102.3
ASTM: D 698

Optimum Moisture: 20.3%

Required Compaction: 90-95%

Densometer ID: 5071

Lab No.: 10 8268-8269

PETTIGREW & ASSOCIATES

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 #2010.1028 Report No: 1-1201-000003
Date: 2/5/2010 Panel Number : P 3 ; ASTM D 6084
Project No. : C 4635-101 Permometer Data

Boring No.:		ap =	0.031416	cm2	Set Mercury to Bisect Bar at	Equilibriure	1.8	cm3
Sample:	9540	aa =	0.787120	cm2		Pipet Rp	6.7	cm3
Depth (ft):		M1 =	0.030160	C = 0.000434704		Annulus Ra	1.6	cm3
Other Location:	Wallach Plant Eunice	M2 =	1.040953	T = 0.203790626				

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

SAMPLE DATA

					Before Test		After Test	
Wet Wt. sample + ring or tare :			561.37	g	Tare No.:	T 5	Tare No.:	T 3
Tare or ring Wt. :			0.0	g	Wet Wt.+tare:	731.90	Wet Wt.+tare:	800.61
Wet Wt. of Sample :			561.37	g	Dry Wt.+tare:	641.75	Dry Wt.+tare:	690.35
Diameter :	2.77	in	7.05	cm2	Tare Wt:	218.78	Tare Wt:	220.69
Length :	2.79	in	7.08	cm	Dry Wt.:	422.97	Dry Wt.:	469.66
Area:	6.04	in^2	38.99	cm2	Water Wt.:	90.15	Water Wt.:	110.16
Volume :	16.84	in^3	276.92	cm3	% moist.:	21.3	% moist.:	23.5
Unit Wt.(wet):	126.95	pcf	2.03	g/cm^3				
Unit Wt.(dry):	104.65	pcf	1.68	g/cm^3				

Specific Gravity: 2.77 Max Dry Density(pcf) = 104.6948 OMC = 21.3135683
% of max = 100.0 +/- OMC = 0.00
Calculated % saturation: 89.58 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)	ΔZπ (cm)	temp (deg C)	α (temp corr)	k (cm/sec)	k (ft./day)	Reset = *
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	

SUMMARY

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

ki		Vm		
k1 =	1.17E-08 cm/sec	6.3	%	Vm = |ka-ki| x 100 / ka
k2 =	1.09E-08 cm/sec	1.2	%	
k3 =	1.08E-08 cm/sec	2.5	%	
k4 =	1.08E-08 cm/sec	2.5	%	

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		%

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

1717 East Erwin
Tyler, Texas 75702
903-595-4421 Phone
903-595-5113 Fax
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707 West Cotton Street
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903-758-6245 Fax

*Corrected Copy 2/17/10

PETTIGREW & ASSOCIATES, P.A.
1110 N. GRIMES ST.
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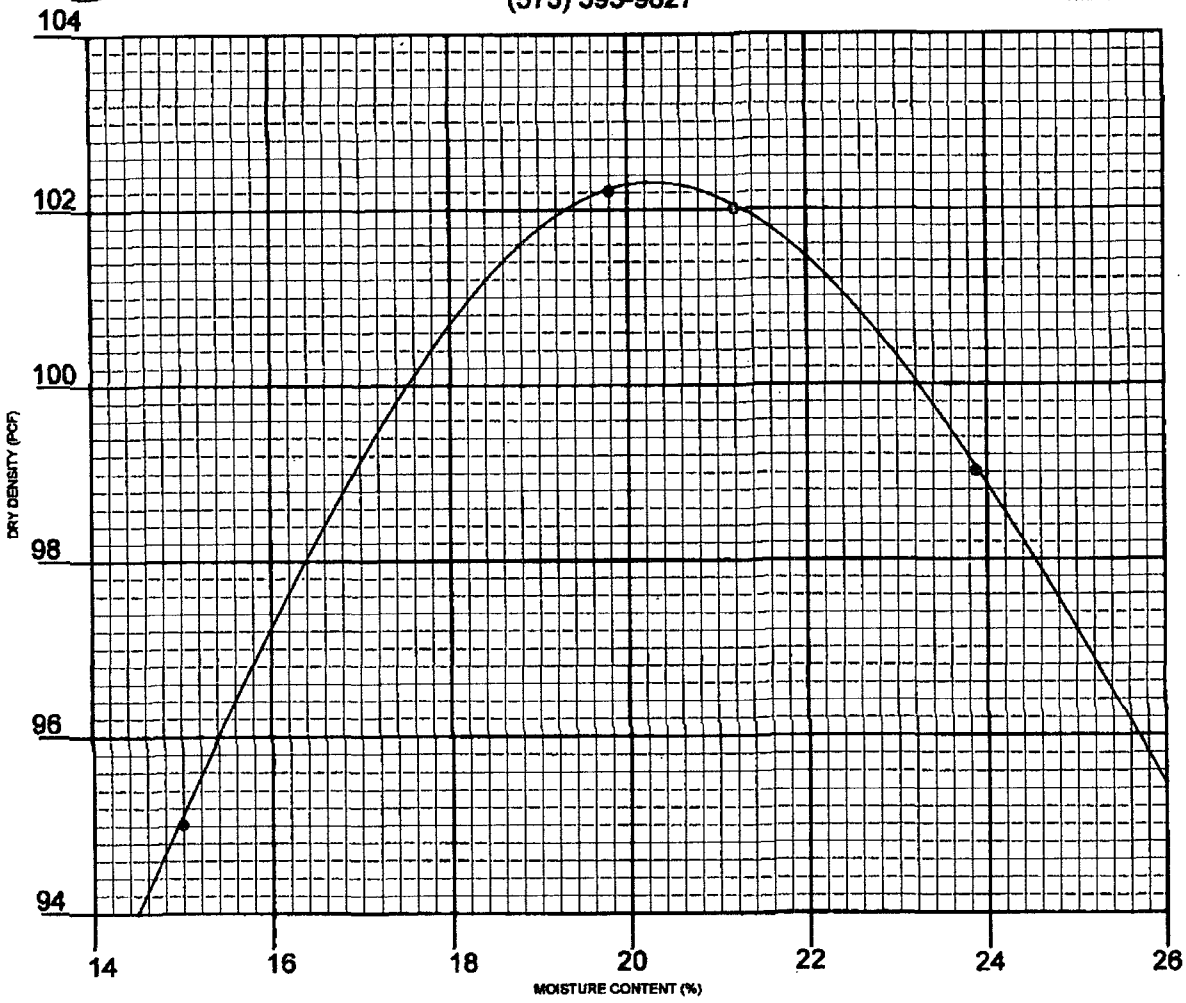


General Information

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									

COPY

PETTIGREW & ASSOCIATES

BY: Erica McHart

BY: _____ P.E

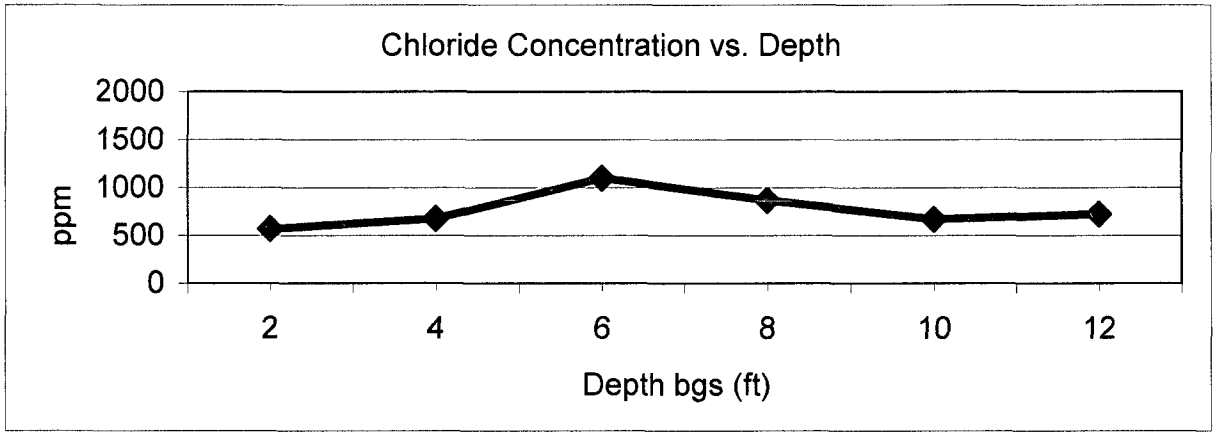
COPIES: Rice Operating

BD JCT H-20

Unit 'H', Sec. 20, T22S, R37E

Backhoe samples 25 ft. north of junction (source)

Depth bgs (ft)	[Cl^-] ppm
2	570
4	679
6	1099
8	870
10	670
12	724



Groundwater = 64 ft