1R - 426-279

REPORTS

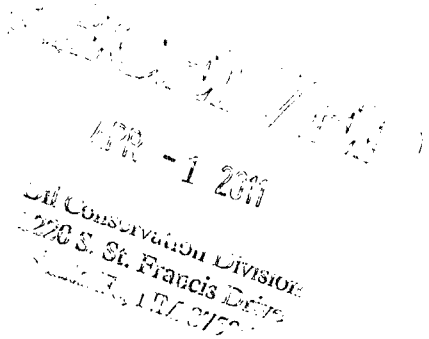
DATE:

8-26-10

IR426-279

BD Jct. C 23-1

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. C-23-1	C	23	22S	37E	Lea	13'	5'	5'
							Eliminated		

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

Depth to Groundwater 59 feet NMOCD SITE ASSESSMENT RANKING SCORE: 20

Date Started 1/27/2010 Date Completed 3/23/2010 OCD Witness no

Soil Excavated 77.8 cubic yards Excavation Length 35 Width 5 Depth 12 feet

Soil Disposed 156 cubic yards Offsite Facility Sundance Location Eunice, NM

FINAL ANALYTICAL RESULTS: **Sample Date** 2/24/2010 **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.	0.1	<10.0	<10.0	784
BOTTOM COMP.	0.3	<10.0	<10.0	2,200
BACKFILL COMP.	0.0	<10.0	<10.0	1,310

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	1609
bottom comp.	12'	2532
backfill comp.	n/a	1,749
background	6"	211
vertical delineation trench 20 ft. south of junction (source)	2'	897
	4'	1,597
	6'	2,391
	8'	2,932
	10'	4,129
	12'	4,616

General Description of Remedial Action: This junction box and line were 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 35x5x12-ft deep excavation. Chloride field tests were performed on each sample which did not relent with depth. Organic vapors, measured using a PID, yielded 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 6 ft. below ground surface (BGS). AT 6-5 ft. BGS a 1-ft. thick clay barrier was installed with a compaction test performed on 3/23/2010. The remaining backfill was hauled to an NMOCD approved facility. Clean imported soil was used to backfill the remaining excavation to ground surface and contoured to the surrounding area. An identification plate was placed on the surface at the former junction box site to mark the presence of clay below. On 3/25/2010, the site was seeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. NMOCD was notified of potential groundwater impact on 8/4/2010.

ADDITIONAL EVALUATION IS HIGH PRIORITY

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

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

SITE SUPERVISOR Robert Egans SIGNATURE Robert Egans COMPANY RICE OPERATING COMPANY

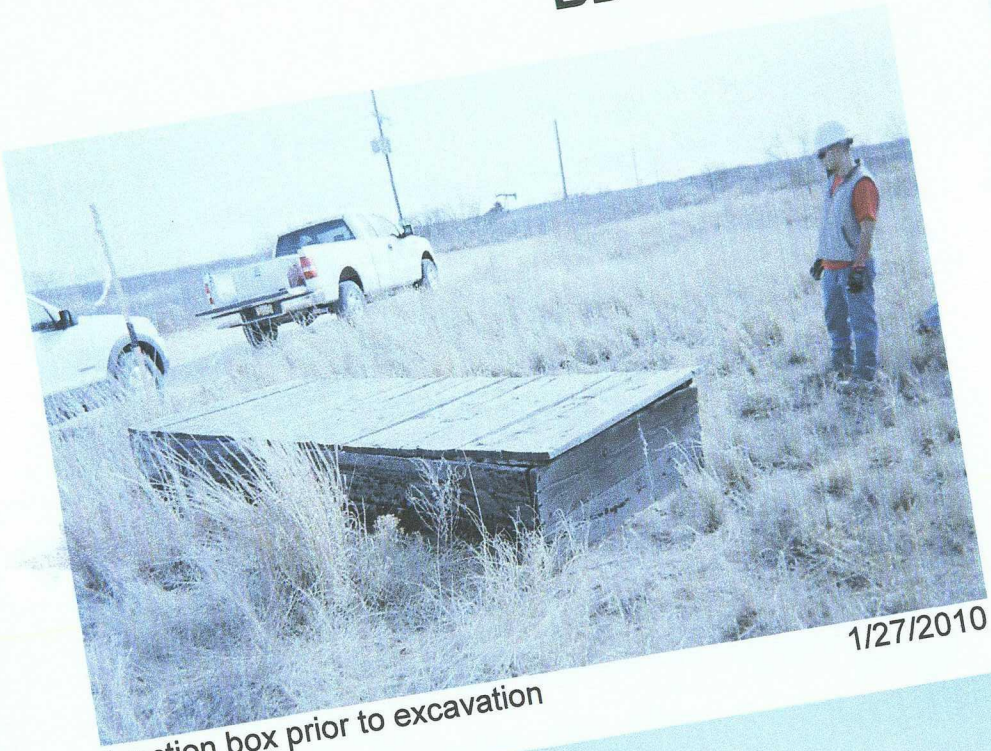
REPORT ASSEMBLED BY Larry Bruce Baker Jr. INITIAL LBB

PROJECT LEADER Larry Bruce Baker Jr. SIGNATURE Larry Bruce Baker Jr. DATE 8-26-10

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

BD Jct. C-23-1

Unit C, Section 23, T22S, R37E



1/27/2010

Junction box prior to excavation

2/19/2010

Taking a sample

3/23/2010

Backfilling site above clay liner

3/25/201

Seeding excavation

CARDINAL LABORATORIES

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

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

Receiving Date: 02/24/10
Reporting Date: 03/01/10
Project Number: NOT GIVEN
Project Name: BD JCT. C-23-1 (2237)
Project Location: BD JCT. C-23-1 (2237)

Sampling Date: 02/24/10
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		02/26/10	02/26/10	02/26/10
H19336-1	5PT BOTTOM COMP @ 12'	<10.0	<10.0	2,200
H19336-2	4-WALL COMP.	<10.0	<10.0	784
H19336-3	BLENDED BACKFILL	<10.0	<10.0	1,310
Quality Control		392	476	510
True Value QC		500	500	500
% Recovery		78.4	95.2	102
Relative Percent Difference		1.9	4.8	2.0

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.
Reported on wet weight.

COPY

Chemist

03/02/10
Date

H19336 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	BILL TO	
Project Manager:	Bruce Baker	P.O. #:	
Address:	122 W. Taylor	Company:	
City:	Hobbs State: NM Zip: 88240	Attn:	
Phone #:	575-393-9174 Fax #: 575-397-1471	Address:	
Project #:	Project Owner:	City:	
Project Name:	BD Sct. C-23-1 (2237)	State: Zip:	
Project Location:		Phone #:	
Sampler Name:	Robert Egans	Fax #:	

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 6015M
H19336-1	5pt Bottom Comp @ 12'	C	1			✓					✓		2-24-10	8:47am	✓	✓
-2	4-Wall Comp	C	1			✓					✓		2-24-10	9:20am	✓	✓
-3	Blended backfill	C	1			✓					✓		2-24-10	11:52am	✓	✓

COPY

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: Robert Egans	Date:	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time:		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date: 2/24/10	Received By: Jodi Henson	REMARKS: E-Mail Results To:
	Time: 4:30		JPurvis@RiceSWD.com
Delivered By: (Circle One)	Sample Condition: Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	BBaker " " " "
Sampler - UPS - Bus - Other:			REgans " " " "

† 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 7600	Serial No: 110-013676

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : 925621	EXPIRATION DATE: 9-27-2012
FILL DATE: 9-28-09	METER READING ACCURACY: 99.8

ACCURACY : +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	C-23-1	C	23	22	37

SAMPLE ID	PID	SAMPLE ID	PID
Bottom 5pt. Composite	0.3		
Blended Backfill	0		
4-Wall Composite	0.1		
		COPY	

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

SIGNATUE: Robert Jones DATE: 2-24-2010

*Corrected Copy 8/20/10

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 C-23-1 (22/37)
Project No. 2010.1074

***Date of Test:** March 23, 2010

Depth: See Below

Depth of Probe: 12"

Test No.	Location	*Dry Density % Max	% Moisture	Depth
SG 2	20' S. & 10' W. of NE Corner of Pit	91.3	16.1	FSG

Control Density: 102.3
ASTM: D 698

Optimum Moisture: 20.3%

Required Compaction: 90-95%

Densometer ID: 5572

Lab No.: 10 2305-2306

Copies To: Rice Operating

PETTIGREW & ASSOCIATES

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 4635-101 Permometer Data

Boring No.:		ap =	0.031416	cm2	Set Mercury to Bottom Cap	Equilibrium	1.8	cm3
Sample:	9540	aa =	0.767120	cm2		Pipet Rp	6.7	cm3
Depth (ft):		M1 =	0.030180	C = 0.000434704		Annulus Ra	1.6	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

					Before Test		After Test	
Wet Wt. sample + ring or tare :			561.37	g				
Tare or ring Wt. :			0.0	g				
Wet Wt. of Sample :			561.37	g	Tare No.:	T 5	Tare No.:	T 3
Diameter :	2.77	in	7.05	cm2	Wet Wt.+tare:	731.90	Wet Wt.+tare:	800.51
Length :	2.79	in	7.08	cm	Dry Wt.+tare:	641.76	Dry Wt.+tare:	690.35
Area:	6.04	in^2	38.99	cm2	Tare Wt:	218.78	Tare Wt:	220.69
Volume :	16.84	in^3	276.92	cm3	Dry Wt.:	422.97	Dry Wt.:	469.66
Unit Wt.(wet):	126.95	pcf	2.03	g/cm^3	Water Wt.:	90.15	Water Wt.:	110.16
Unit Wt.(dry):	104.65	pcf	1.68	g/cm^3	% 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)	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
903-595-8113 Fax
www.ettlinc.com

707 West Cotton Street
Longview, Texas 75604-6505
903-758-0915 Phone
903-758-8245 Fax

*Corrected Copy 2/17/10

PETTIGREW & ASSOCIATES, P.A.
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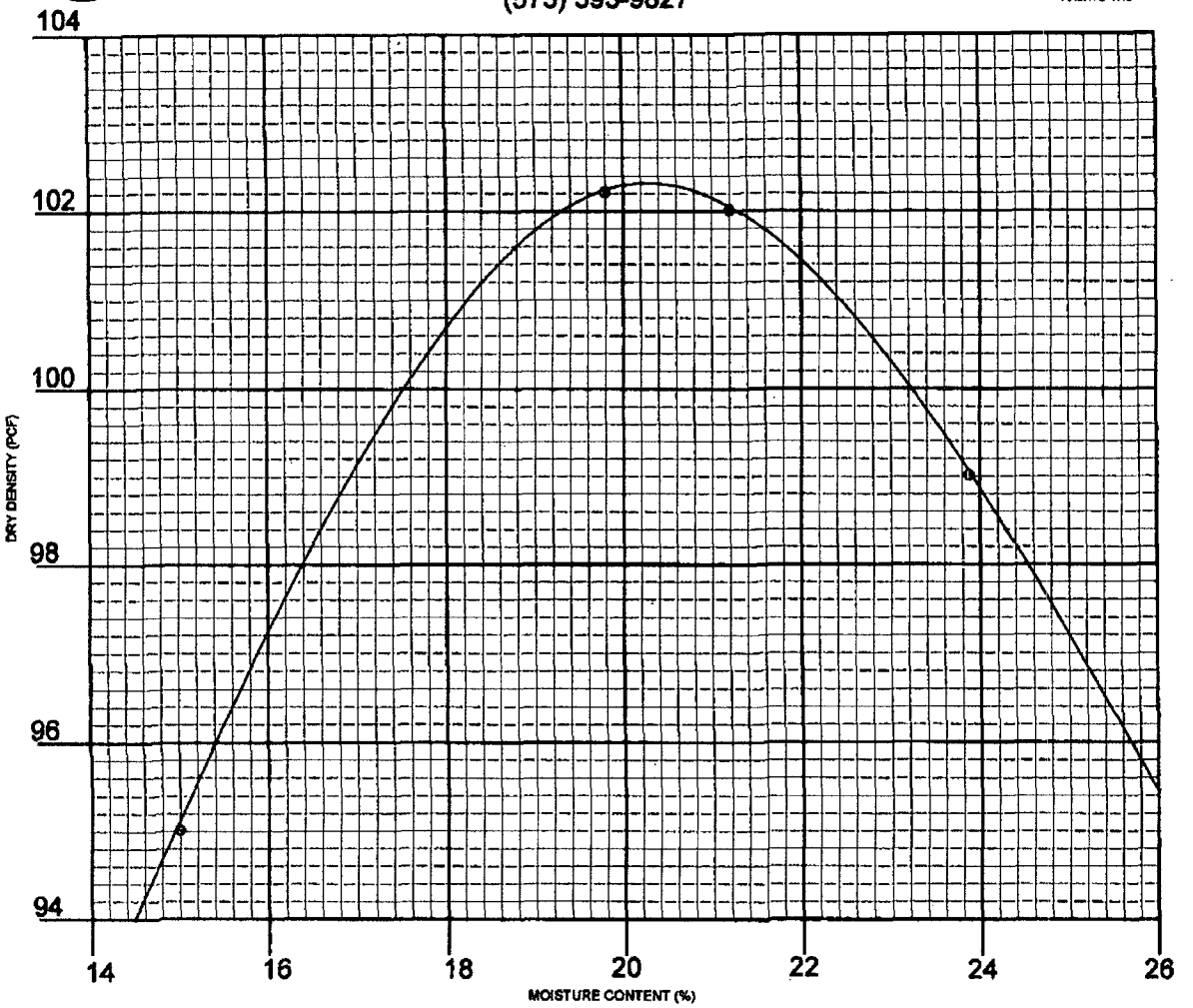

General Information

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									

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PETTIGREW & ASSOCIATES

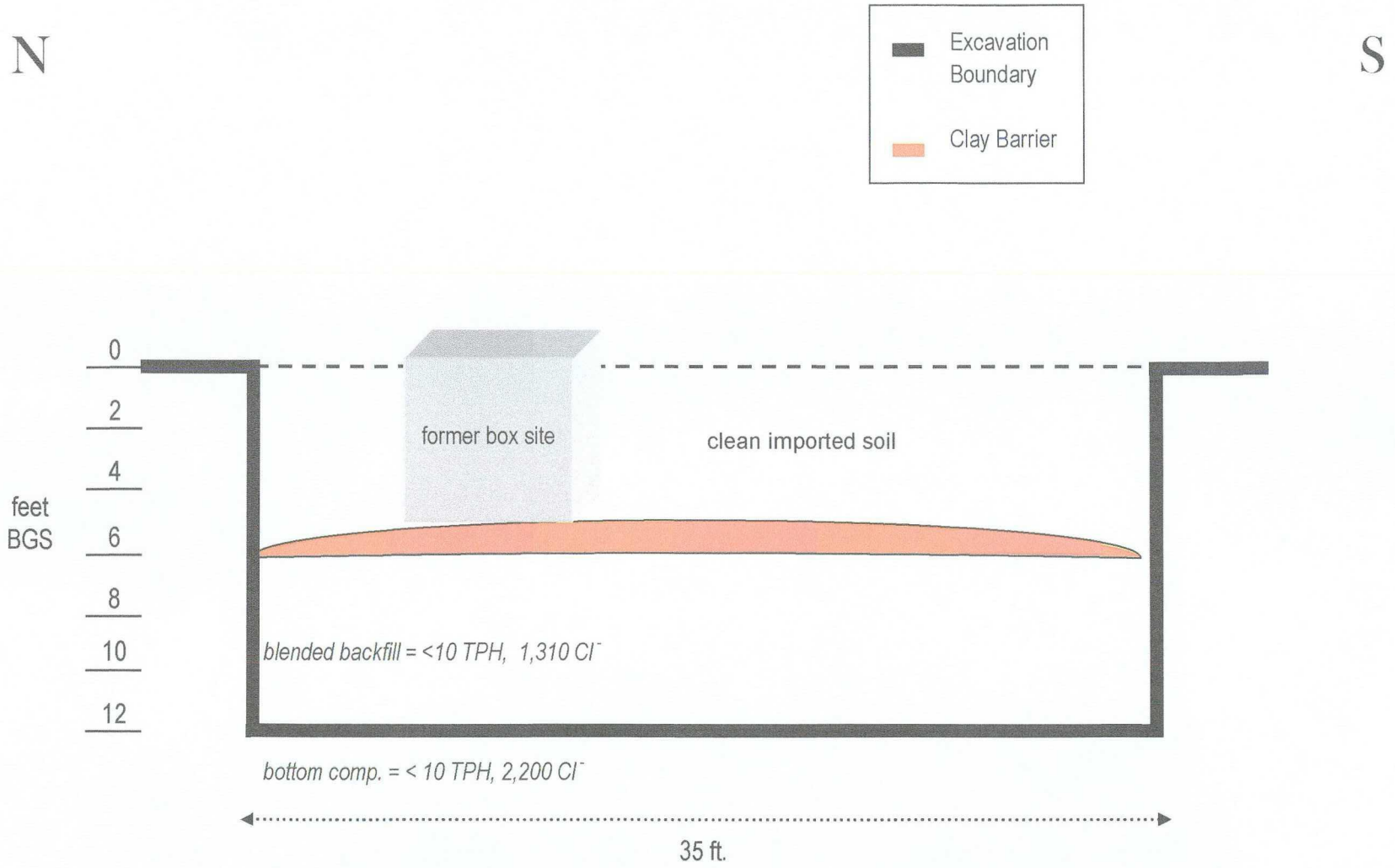
BY: Erica M Hart

COPIES: Rice Operating

BY: _____ P.E

BD Jct. C-23-1
Unit 'C', Sec. 23, T22S, R37E

Excavation Cross-Section

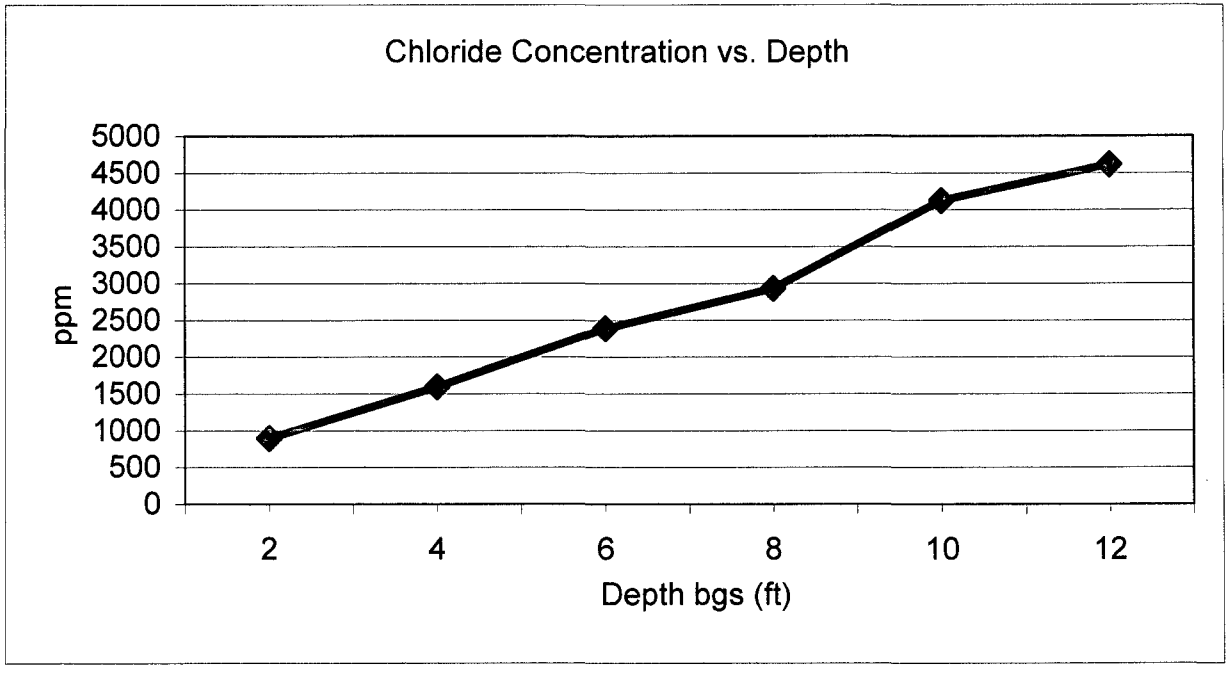


BD JCT. C-23-1

Unit 'C', Sec. 23, T22S, R37E

Backhoe samples 20 ft. south of the junction (source)

Depth bgs (ft)	[Cl⁻] ppm
2	897
4	1,597
6	2,391
8	2,932
10	4,129
12	4,616



Groundwater = 59 ft.