1R - 423-22

REPORTS

DATE:

3-18-11

IR423-22

Justis Jct. M-10

2010

DISCLOSURE

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET
Justis	Jct. M-10	M	10	24S	37E	Lea	Length 8 ft. / Width 8 ft. / Depth 3 ft. — new water tight box built in same place

LAND TYPE: BLM ___ STATE ___ FEE LANDOWNER William & Elena Grobe Trust OTHER ___

Depth to Groundwater 108 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 6/28/2010 Date Completed 8/27/2010 OCD Witness no

Soil Excavated 400.0 cubic yards Excavation Length 30 30 12 feet

Soil Disposed 228 cubic yards Offsite Facility Sundance Location Eunice, NM

FINAL ANALYTICAL RESULTS: **Sample Date** 7/1/2010 **Sample Depth** 12 ft

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	PID (field) ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
4-WALL COMP.	0.1	<10.0	<10.0	2160
BOTTOM COMP.	0.1	<10.0	<10.0	2880
BACKFILL COMP.	0.1	<10.0	<10.0	2400

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-Wall Comp	n/a	2544
Bottom Comp.	12'	2298
Backfill Comp.	n/a	2309
Vertical delineation trench at 10' east of source	2'	3818
	4'	3677
	6'	1797
	8'	2214
	10'	2602
	12'	3366

General Description of Remedial Action: This junction box was addressed during the pipeline replacement/upgrade program. After the box was removed, an investigation was conducted using a backhoe to collect soil samples at regular intervals creating a 30X30X12-ft. deep excavation. Chloride field tests performed on each sample yielded elevated chloride concentration 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 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 blended backfill was returned to the excavation to 5 ft. below ground surface (BGS). The remaining blended backfill was hauled to a NMOCD approved facility. At 5-4 ft. BGS, a 1-ft. thick clay barrier was installed and compaction test performed on 8/17/2010. A new water tight junction box was built in the same location as the former junction box. The remaining excavation was backfilled with clean imported soil to ground surface and contoured to the surrounding area. On 8/27/2010, 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 2/28/2011.

ADDITIONAL EVALUATION IS MEDIUM PRIORITY

enclosures: photos, lab results, PID (field) screening, 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 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 3-18-11

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

Justis Jct M-10

Unit M, Section10, T24S, R37E

Site prior to delineation 6/23/2010

Delineation trench being excavated 6/28/2010

Compaction test 8/17/2010

Site complete 8/27/2010

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: 07/01/10
Reporting Date: 07/06/10
Project Number: NOT GIVEN
Project Name: JUSTIS JCT M-10 (24/37)
Project Location: JUSTIS JCT M-10 (24/37)

Sampling Date: 07/01/10
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: JH
Analyzed By: AB/CK

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		07/03/10	07/03/10	07/02/10
H20260-1	5PT. BOTTOM COMP @ 12'	<10.0	<10.0	2,880
H20260-2	4 WALL COMP (30x30)	<10.0	<10.0	2,160
H20260-3	BACKFILL	<10.0	<10.0	2,400
Quality Control		439	507	490
True Value QC		500	500	500
% Recovery		87.8	101	98.0
Relative Percent Difference		0.6	1.6	3.9

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

07/09/10
Date

H20260 TCL RICE

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Rice Operating
Project Manager:	Bruce Baker
Address:	122 W. Taylor
City:	Hobbs
State:	NM
Zip:	88240
Phone #:	
Fax #:	
Project #:	
Project Owner:	
Project Name:	
Project Location:	Justis Jct M-10 24/37
Sampler Name:	J. Gaffs

BILL TO

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

ANALYSIS REQUEST

Cl. TPH 8015

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
H20260-1	5pt. Bottom Comp @ 12'	C	1			X					X		7/1/10	1:26
2	4 WALL Comp (30x30)	C	1			X					X		7/1/10	1:32
3	Backfill	C	1			X					X		7/1/10	1:40

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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:	
	Time:		
Relinquished By:	Date: 7/1/10	Received By: Jodi Henson	
	Time: 4:25		
Delivered By: (Circle One)	Sample Condition: Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

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

REMARKS: Email JGaffs@riceswd.

FORM-006
Revision 1.0

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

#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
Justis	M-10	M	10	24	37

SAMPLE ID	PID	SAMPLE ID	PID
15' west of source 2'	0.1	5pt Bottom Comp @ 12'	0.1
4'	0.1	4 WALL Comp 30x30	0.1
6'	0.1	Back fill	0.1
8'	0.1		
10'	0.1		
12'	0.1		
15' east of source 2'	0.1		
4'	0.1		
6'	0.1		
8'	0.1		
10'	0.1		
12'	0.1		

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

SIGNATUE: Joe Hunt DATE: 7/1/10

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: Justis Junction M-10 (24/37)
Project No. 2010.1241

Date of Test: August 17, 2010

Depth: See Below

Depth of Probe: 6"

Test No.	Location	Dry Density % Max	% Moisture	Depth
SG 1	15' N & 5' W. of SE Corner	94.5	12.3	4' Below FSG
SG 2	15' N & 5' W. of SE Corner	93.4	12.3	4' Below FSG

COPY

Control Density: 101.1
ASTM: D 698

Optimum Moisture: 19.0%

Required Compaction: 90-95%

Densometer ID: 5071

Lab No.: 10 8709-8711

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 #2010.1028 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 Bleed Bubble	Equilibrium	1.8	cm3
Sample:	9540	as =	0.767120	cm2		Pipet Rp	6.7	cm3
Depth (ft):		M1 =	0.030160	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

					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:	800.51
Wet Wt. of Sample :			561.37	g	Dry Wt.+tare:	641.76	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.:	110.18
Volume :	16.84	in^3	276.02	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 = 21.3135663
% 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): 6.1 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 = $\frac{\lvert ka-ki \rvert}{ka} \times 100$
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

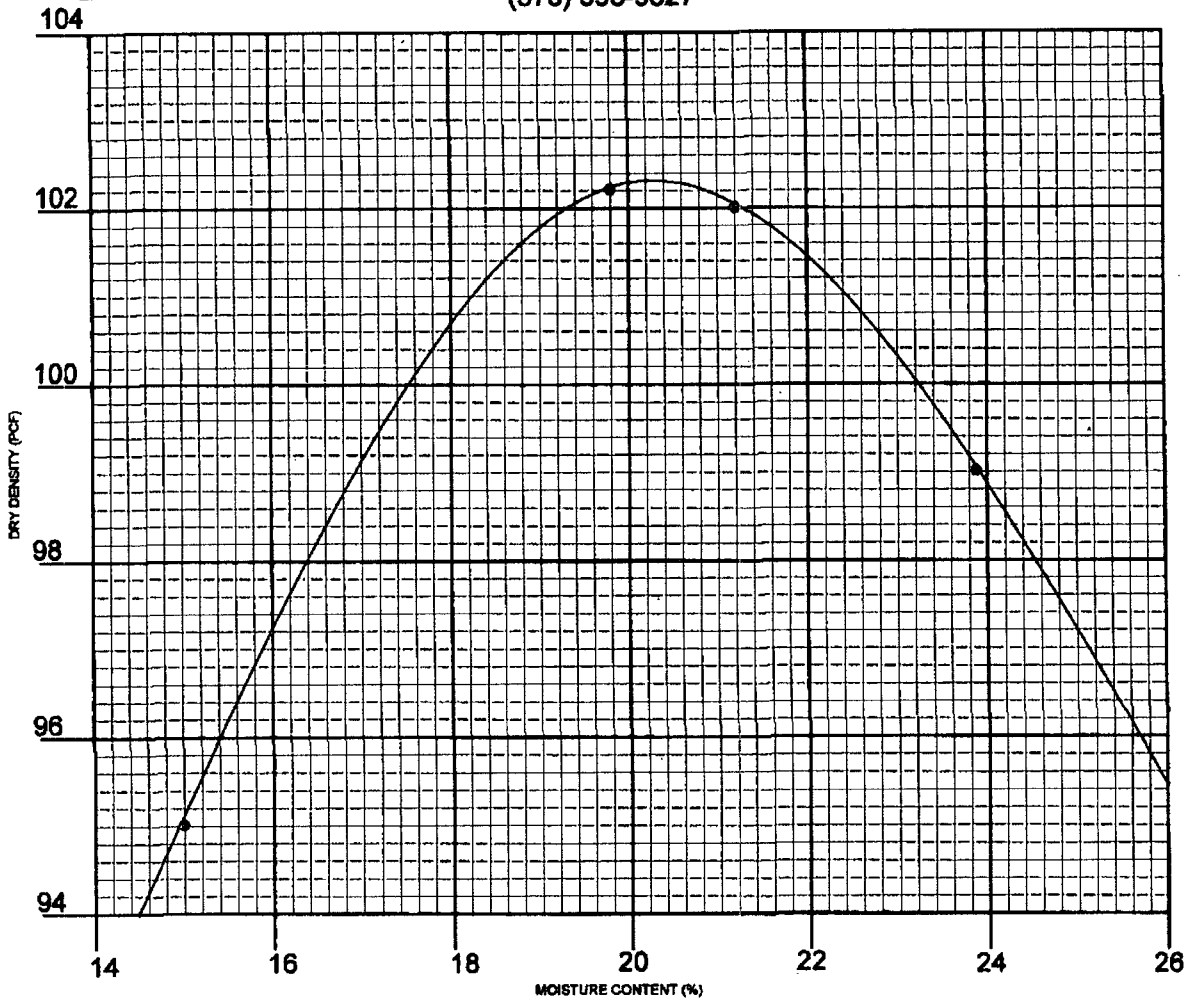
1717 East Erwin
Tyler, Texas 75702
903-595-4421 Phone
903-595-8113 Fax
www.ettlinc.com

707 West Cotton Street
Longview, Texas 75604-6503
903-758-0915 Phone
903-758-9245 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									

COPY

PETTIGREW & ASSOCIATES

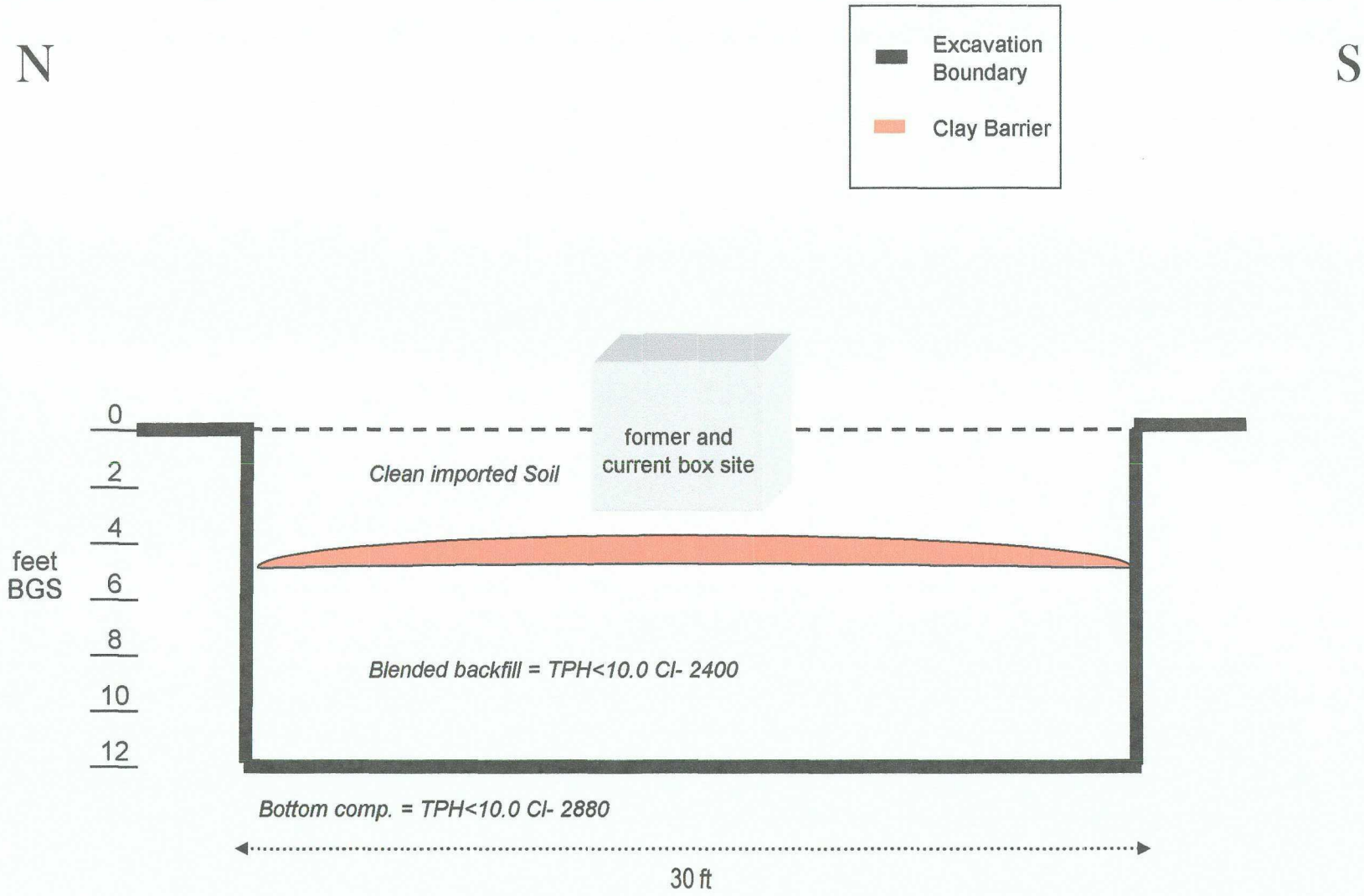
BY: Erica M Hart

BY: _____ P.E

COPIES: Rice Operating

Justis Jct M-10
Unit 'M' Sec. 10 T24S, R37E

Excavation Cross-Section

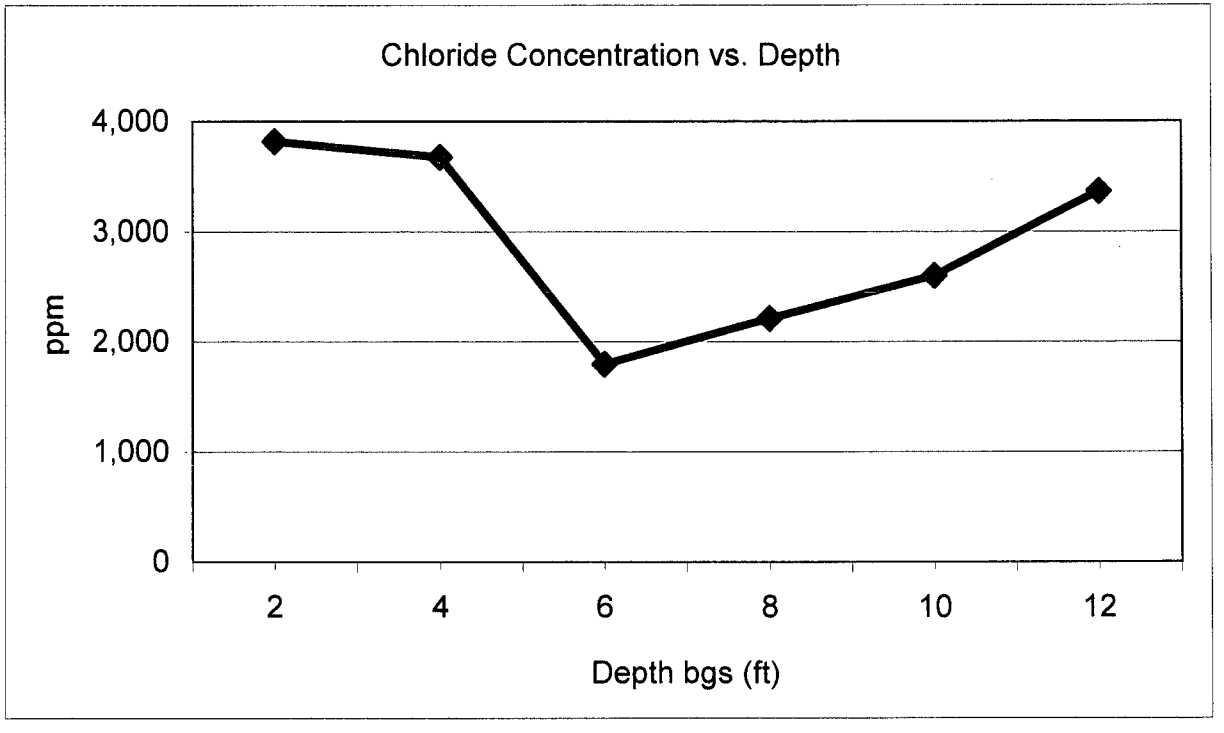


Justis Jct M-10

Unit 'M', Sec. 10, T24S, R37E

Backhoe samples at 10 ft. east of the junction (source)

Depth bgs (ft)	[Cl^-] ppm
2	3,818
4	3,677
6	1,797
8	2,214
10	2,602
12	3,366



Groundwater = 108 ft