1R - 426-312

REPORTS

DATE:

3-28-12

BD Jct. H-7
2011

CLOSURE

RICE *Operating Company*
122 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax: (575) 397-1471

May 1, 2012

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: Termination Request
BD Jct. H-7: UL/H, Sec. 7, T22S, R38E
RICE Operating Company – Blinebry-Drinkard SWD System

Mr. Hansen:

Rice Operating Company (ROC) is the service provider (agent) for the BD Saltwater Disposal (SWD) System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background
In 2010, ROC initiated work on the former Jct. H-7. The site is located in UL/H, Sec. 7, T22S, R38E. NM OSE records indicate that groundwater would likely be encountered at a depth of approximately 54 +/- feet but after encountering red bed clay while drilling a source soil bore, it was verified there is no groundwater at this site. The site was delineated using a backhoe to collect soil samples at regular intervals, creating a 20x25x12 ft deep excavation. Each sample was field titrated for chlorides and field screened using a PID for hydrocarbons, resulting in chloride concentrations that did not relent with depth and low concentrations of TPH. The excavated soil was blended on site and representative composite samples of the excavation bottom, the excavation walls, and the blended backfill were sent to a commercial for analysis of chloride and TPH, resulting in a 4-WALL chloride concentration of 464 mg/kg, a gasoline range organics (GRO) concentration below detectable limits and diesel range organics (DRO) concentration of 13.3 mg/kg. The bottom composite resulted in chloride concentrations of 2,080 mg/kg, and concentrations of GRO and DRO below detectable limits. The blended backfill resulted in a chloride concentration of 976 mg/kg, and concentrations of GRO and DRO below detectable limits. The blended backfill was returned to the excavation to 5 ft BGS. From 5-4 ft BGS, a 1 ft thick clay liner was installed with a compaction test performed on 12/2/2010. The excavation was backfilled with clean imported soil to

ground surface and contoured to the surrounding area. On 12/26/2010, the site was seeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate.

To further investigate the depth of chloride presence, a soil bore was initiated on 4/13/2011 at 9 ft northwest of the former junction box. The boring advanced to a total depth of 55 ft BGS with soil samples collected at regular intervals to a depth of 50 ft. The 40 ft and 50 ft samples were taken to a commercial laboratory for analysis of chloride and TPH, resulting in a concentration of 5,800 mg/kg and concentrations of GRO and DRO below detectable limits at 40 ft BGS. The sample resulted in chloride concentrations of 2,200 mg/kg, a GRO concentration below detectable limits, and a DRO concentration of 10.6 mg/kg at 50 ft BGS. To verify depth to groundwater, the boring continued to a depth of 55 ft where red bed clay was encountered, indicating the bottom of the aquifer. Since no groundwater was encountered, the bore was packed open to allow any possible groundwater to accumulate. On 4/18/2011, Arc Environmental was on site to gauge the bore for groundwater accumulation and found no water in the bore. The entire bore hole was plugged with bentonite to ground surface. On 1/4/2012, the site was reseeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. The junction box final report, photo documentation, boring log, laboratory analysis, PID sheet, letter of bore hole condition, cross-section diagram, compaction test, hydraulic conductivity, proctor, chloride graph, and revegetation form are attached.

Recommendations

Site investigation demonstrates that residual chloride and hydrocarbons in the vadose zone will not with reasonable probability contaminate groundwater in excess of NMOCD standards. This site meets the requirements of the NMOCD-approved Revised Junction Box Upgrade Work Plan (July 16, 2003). As such, ROC request termination of the regulatory file, or similar closure status.

Please contact me at (575)393-9174 if you have any questions or wish to discuss this site. Thank you for your time and consideration.

Sincerely,
RICE Operating Company

Hack Conder
Environmental Manager

enclosures

RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length 9'	Width 5'	Depth 5'
Blinebry-Drinkard (BD)	Jct. H-7	H	7	22S	38E	Lea	Moved 30' NW		

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

Depth to Groundwater None feet NMOCD SITE ASSESSMENT RANKING SCORE: 0

Date Started 11/9/2010 Date Completed 12/6/2010 OCD Witness No

Soil Excavated 222.2 cubic yards Excavation Length 20 Width 25 Depth 12 feet

Soil Disposed 84 cubic yards Offsite Facility Sundance Services, Inc. Location Eunice, NM

FINAL ANALYTICAL RESULTS:

Sample Date 11/24/2010, 4/13/2011 **Sample Depth** 12', 40', 50'

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	13.3	464
BOTTOM COMP.	0.8	<10.0	<10.0	2,080
BLENDED BACKFILL	0.9	<10.0	<10.0	976
SB 1 @ 40'	0.6	<10.0	<10.0	5,800
SB 1 @ 50'	0.1	<10.0	10.6	2,200

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	N/A	359
bottom comp.	12'	1,288
blended backfill	N/A	518
background	6"	55
SB 1 at 9' northwest of junction (source)	15'	422
	20'	1,040
	25'	5,000
	30'	4,485
	35'	5,939
	40'	6,490
	50'	2,475
	55'	2,376

General Description of Remedial Action: This junction was addressed 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 producing a 20x25x12-ft excavation. Chloride field tests performed on each sample yielded elevated 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 composite samples of the blended backfill, the excavation walls, and the bottom of the excavation were collected. The composite 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). On 12/2/2010, a 1-ft. thick clay liner was installed at 5-ft. BGS with a compaction test performed on 12/2/2010. A total of 84 cubic yards of excavated soil was hauled to a NMOCD approved facility for disposal. The excavation was backfilled with clean imported soil to ground surface and contoured to the surrounding area.The site was seeded on 12/26/2010 with a blend of native vegetation and is expected to return to a productive capacity at a normal rate. A new watertight junction box was built 30-ft. northwest. To further investigate the depth of chloride, a soil bore was initiated on 4/13/2011. The boring was advanced to a total depth of 55-ft. BGS with soil samples collected at regular intervals. Chloride field tests were performed on each sample and organic vapors were measured using a PID. The 40-ft. and 50-ft. samples were taken to a commerical laboratory for analysis of chloride and TPH which yielded low TPH and chloride concentrations that did not relent with depth. Red bed clay was encountered at 50-ft. BGS which indicated the bottom of the aquifer. Since no groundwater was encountered, the bore was advanced to 55-ft. BGS and packed open to allow any possible groundwater to accumulate. On 4/18/2011, Arc Environmental was on site to gauge the bore for groundwater accumulation. They found no water in the bore. The entire bore was plugged with bentonite to ground surface. On 1/4/2012, the site was reseeded with a blend of native vegetation and is expected to return to a productive capacity at a normal rate.

enclosures: photos, boring log, lab results, PID (field) screenings, letter of bore hole condition, cross-section, compaction test, hydraulic conductivity, proctor, chloride curve, revegetation form

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

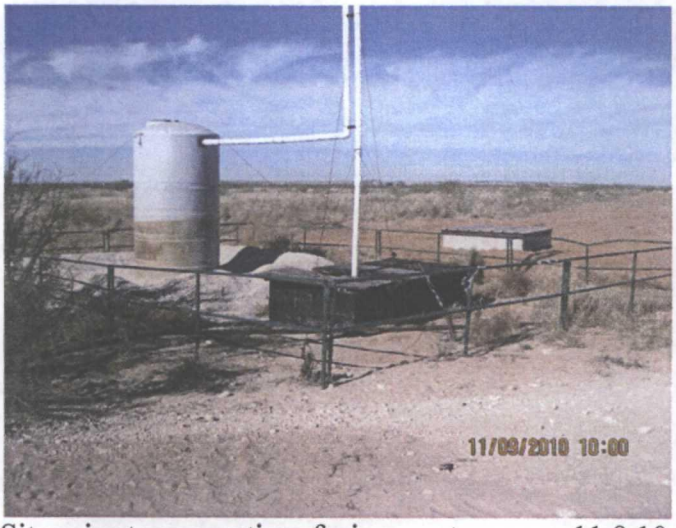
SITE SUPERVISOR REPORT John R. Harrison SIGNATURE signature not available

ASSEMBLED BY Laura Peña SIGNATURE Laura Peña COMPANY RICE OPERATING COMPANY

PROJECT LEADER Larry Bruce Baker, Jr. SIGNATURE Larry Bruce Baker Jr. DATE 3-28-12

BD Jct. H-7

Unit H, Section 7, T22S, R38E



Site prior to excavation, facing west 11.9.10

Excavating source, facing west 11.9.10

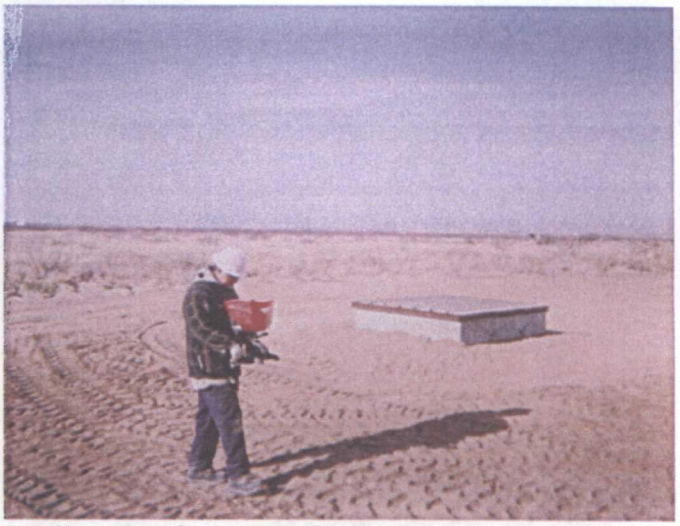
Collecting a sample, facing west 11.24.10

Backfilling site, facing north 12.2.10

Importing clay for liner, facing north 12.2.10

Exporting soil, facing northeast 12.2.10

Performing clay compaction test 12.2.10

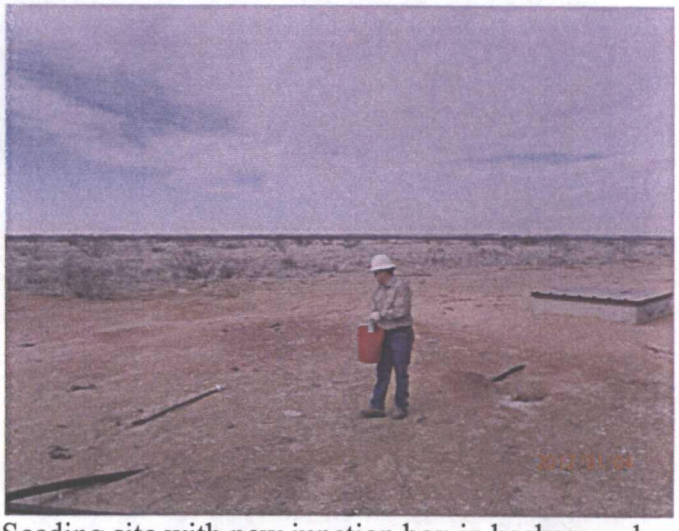


Seeding site, facing south 12.26.10

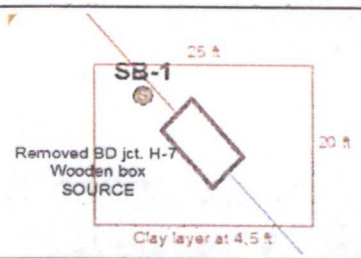
Drilling SB-1, facing west 4.13.11

Plugging SB-1 with bentonite, facing west 4.29.11

Completed SB-1, facing west 4.29.11

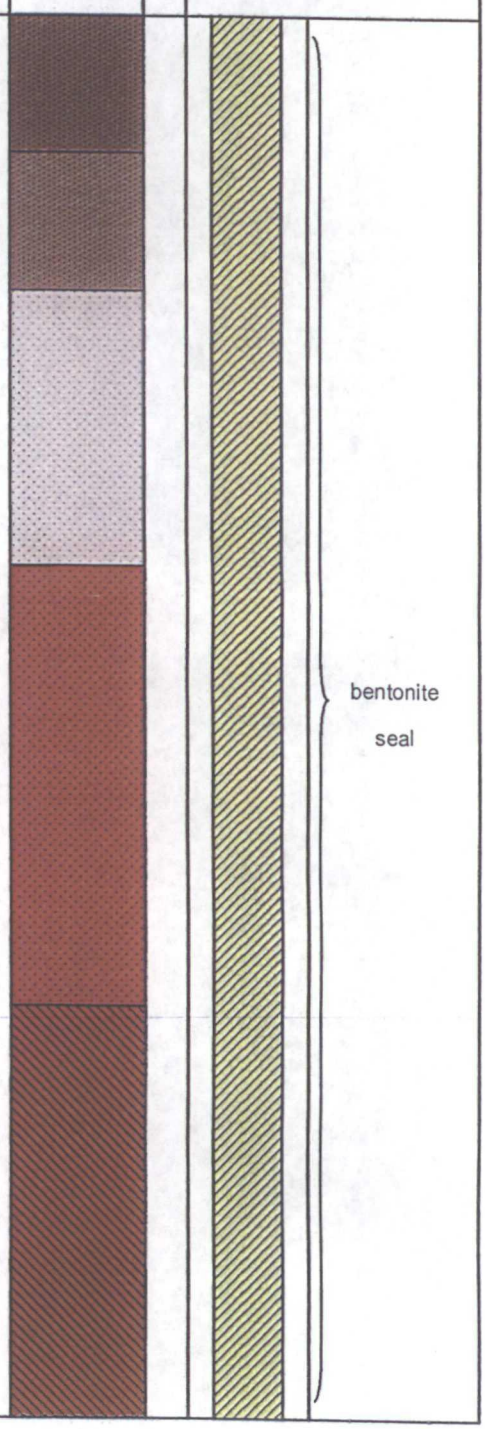


Seeding site with new junction box in background, facing southeast 1.4.12

Logger:	Jordan Woodfin		RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC
Driller:	Harrison & Cooper, Inc.		**Project Name:** BD jct. H-7 **Well ID:** SB-1
Drilling Method:	Air rotary		**Project Consultant:** Junction Box Plan
Start Date:	4/13/2011		**Location:** UL/H sec. 7 T22S R38E
End Date:	4/13/2011		**Lat:** 32°24'36.765"N **Long:** 103°5'43.43"W **County:** Lea **State:** NM

Comments: Located 9 ft north-west of the former junction box site.
All samples from cuttings.
DRAFTED BY: L. Weinheimer
TD = 55 ft GW = none

Depth (feet)	chloride field tests	LAB	PID	Description
				Brown fine sand mix with caliche
15 ft	422		0.8	
				Light brown fine sand with small caliche fragments
20 ft	1040		0.3	
				Tan very fine sand
25 ft	5000		0.3	
30 ft	4485		0.1	
				Red very fine sandy clay
35 ft	5939		0.2	
40 ft	6490	Cl- 5800	0.6	
		GRO <10		
		DRO <10		
45 ft	2475		0.4	
				Red clay
50 ft	2376	Cl- 2200	0.1	
		GRO <10		NO SAMPLE TAKEN RED BED CLAY
		DRO 10.6		
55 ft				



CARDINAL Laboratories

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

April 18, 2011

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD JCT H-7

Enclosed are the results of analyses for samples received by the laboratory on 04/13/11 16:27.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	04/13/2011	Sampling Date:	04/13/2011
Reported:	04/18/2011	Sampling Type:	Soil
Project Name:	BD JCT H-7	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	BD JCT H-7		

Sample ID: SB 1 @ 40' (H100751-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5800**	16.0	04/14/2011	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/16/2011	ND	209	104	200	1.98	
DRO >C10-C28	<10.0	10.0	04/16/2011	ND	207	103	200	6.74	

Surrogate: 1-Chlorooctane	*87.8 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*86.6 %*	*70-130*

Sample ID: SB 1 @ 50' (H100751-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2200**	16.0	04/14/2011	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/16/2011	ND	209	104	200	1.98	
DRO >C10-C28	**10.6**	10.0	04/16/2011	ND	207	103	200	6.74	

Surrogate: 1-Chlorooctane	*92.5 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*94.6 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES

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: Hack Conder	P.O. #:
Address: 122 West 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 Jct H-7	State: Zip:
Project Location: BD Jct H-7	Phone #:
Sampler Name: Jordan Woodfin	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	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TPH 8015 M Extended Thru C40					
H10015l-1	SB 1 @ 40'		1			✓					✓		4/13/11	11:30	✓	✓									
2	SB 1 @ 50'		1			✓					✓		4/13/11	11:55	✓	✓									

Relinquished By: Jordan Woodfin	Date: 4/13/11 Time: 4:27	Received By: Jodi Henson	Phone Result: ☐ Yes ☑ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☑ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: Yes / No Intact: Yes / No	CHECKED BY: (Initials)	REMARKS: email results

Hconder@riceswd.com; jwoodfin@rice-ecs.com; Lweinheimer@rice-ecs.com kjones@riceswd.com

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

#26

NEED SAMPLES BACK, PLEASE

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

CK. MODEL NO.			
		MODEL: PGM 7300	SERIAL NO: 590-000508
		MODEL: PGM 7300	SERIAL NO: 590-000504
	X	MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-000183

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : 927041	EXPIRATION DATE: 11-16-11
METER READING ACCURACY: 100	

ACCURACY : +/- 2%

COMPANY
RICE OPERATING

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	H-7	H	7	22 S	38 E

SAMPLE ID	PID	SAMPLE ID	PID
SB #1			
15'	0.8		
20'	0.3		
25'	0.3		
30'	0.1		
35'	0.2		
40'	0.6		
45'	0.4		
50'	0.1		
-			

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

SIGNATURE: Jordan Woodf DATE: 4-13-11

CARDINAL Laboratories

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

December 02, 2010

Bruce Baker

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD H-7 JCT (22/38)

Enclosed are the results of analyses for samples received by the laboratory on 11/24/10 14:16.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene
Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Bruce Baker
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/24/2010	Sampling Date:	11/24/2010
Reported:	12/02/2010	Sampling Type:	Soil
Project Name:	BD H-7 JCT (22/38)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: 5 PT. BOTTOM COMP (H021395-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2080**	16.0	11/30/2010	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/02/2010	ND	170	85.2	200	7.41	
DRO >C10-C28	<10.0	10.0	12/02/2010	ND	167	83.5	200	3.90	

Surrogate: 1-Chlorooctane	*100 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*104 %*	*70-130*

Sample ID: 4 WALL COMP (H021395-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	11/30/2010	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/02/2010	ND	170	85.2	200	7.41	
DRO >C10-C28	**13.3**	10.0	12/02/2010	ND	167	83.5	200	3.90	

Surrogate: 1-Chlorooctane	*100 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*110 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Bruce Baker
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/24/2010	Sampling Date:	11/24/2010
Reported:	12/02/2010	Sampling Type:	Soil
Project Name:	BD H-7 JCT (22/38)	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: BLENDED BACKFILL (H021395-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**976**	16.0	11/30/2010	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/02/2010	ND	170	85.2	200	7.41	
DRO >C10-C28	<10.0	10.0	12/02/2010	ND	167	83.5	200	3.90	

Surrogate: 1-Chlorooctane	*98.0 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*103 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	KCC Operating Company
Project Manager:	Bruce Baker
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	BUH-7 SDS 2238
Project Location:	
Sampler Name:	

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	TPH	Chlorides
H21395-1	SPT Bottom Comp	C				✓					✓		11/4/10	9:45	✓	✓
2	4 Wall Comp	C				✓					✓		11/4/10	10:00	✓	✓
3	Blended Barrel	C				✓					✓		11/4/10	10:15	✓	✓

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: 11/5/10 Time: 8:10	Received By: Addie Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler UPS - Bus - Other:	Sample Condition Cool ✓ Intact ✓ ☑ Yes ☐ Yes ☐ No ☐ No	CHECKED BY: (Initials)	REMARKS: Katie Bruce Robert

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

#26

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

PID METER CALIBRATION & FIELD REPORT FORM

CK. MODEL NO.			
	x	MODEL: PGM 7300	SERIAL NO: 590-000508
		MODEL: PGM 7300	SERIAL NO: 590-000504
		MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-000183

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : 930737	EXPIRATION DATE: 6/16/2013
METER READING ACCURACY: 100.0	

ACCURACY : +/- 2%

COMPANY
Rice Operating Company

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	Jct H-7	H	7	22S	38E

SAMPLE ID	PID	SAMPLE ID	PID
Blended Backfill	0.9		
5 Pt. Bottom Composite	0.8		
4 Wall Composite	3.1		

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

SIGNATURE: Not Available

DATE: 11/23/10

Arc Environmental
P. O. Box 1772
Lovington, New Mexico 88260
(575) 631-9310
Rozanne Johnson ~ rozanne@valornet.com

April 18, 2011

Mr. Hack Conder
RICE Operating Company
112 West Taylor
Hobbs, New Mexico 88240

Re: BD Junction H-7

Mr. Conder,

On Monday April 18, 2011 soil bore #1 at the BD Junction H-7, Lea County T22S, R38E, Sec 7 Unit Letter H was checked with a Solinist Water Level Meter for water accumulation within the borehole. The meter indicated no water within the borehole to the total depth of 51.62 feet.

Sincerely,
Arc Environmental

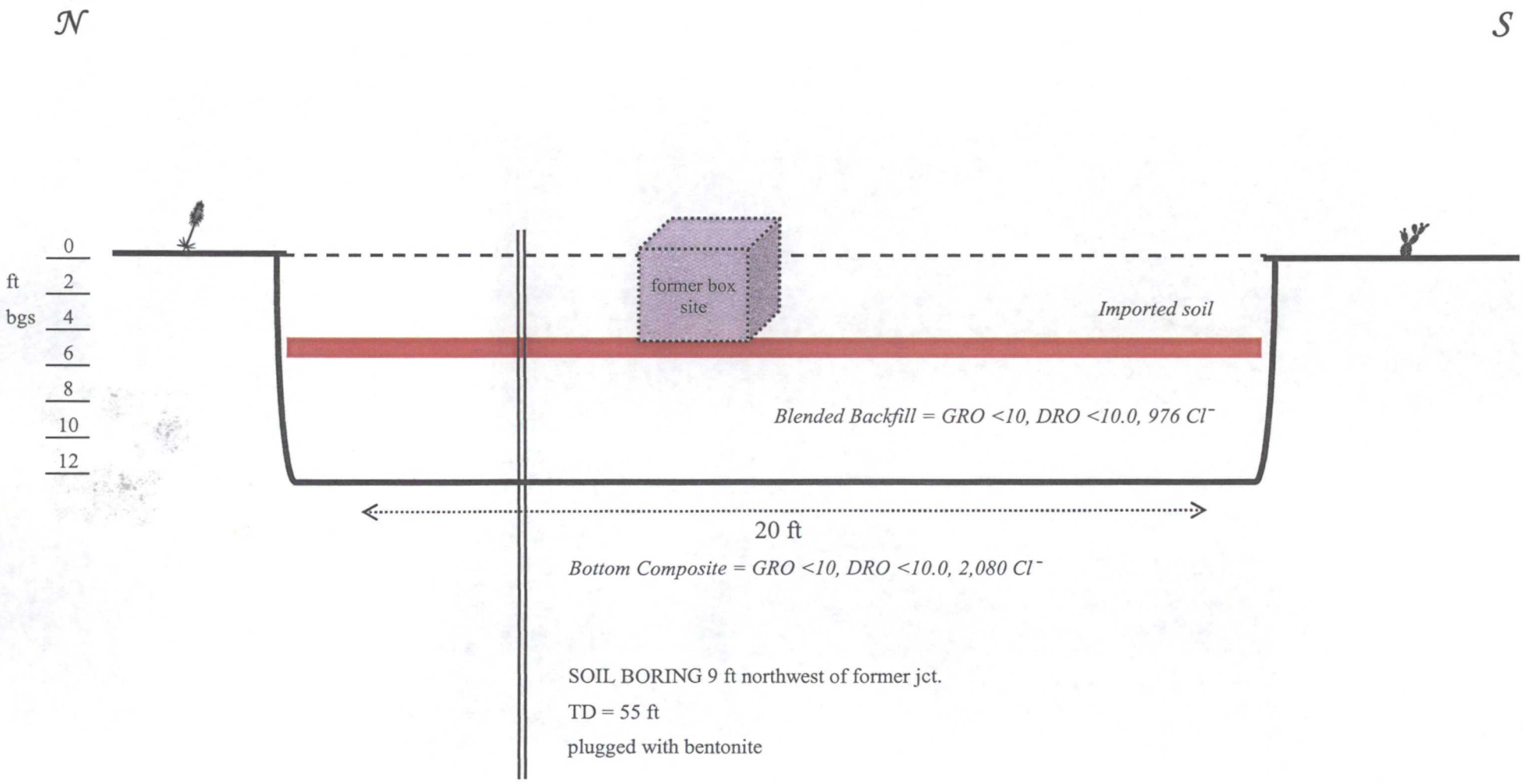
Rozanne Johnson
Rozanne Johnson

Electronic Copy: Hack Conder
Katie Jones

BD Jct. H-7

Unit H, Section 7, T22S, R38E

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 H-7 Jct (22/38)
Project No. 2010.1355

Date of Test: December 2, 2010

Depth: See Below

Depth of Probe: 6"

Test No.	Location	Dry Density % Max	% Moisture	Depth
SG 1	6' S. & 8' E. of NW Corner	101.8	13.1	FSG

Control Density: 101.1
ASTM: D 698

Optimum Moisture: 19.0%

Required Compaction: 90-95%

Densometer ID: 5071

Lab No.: 10 11662-11663

Copies To: Rice Operating

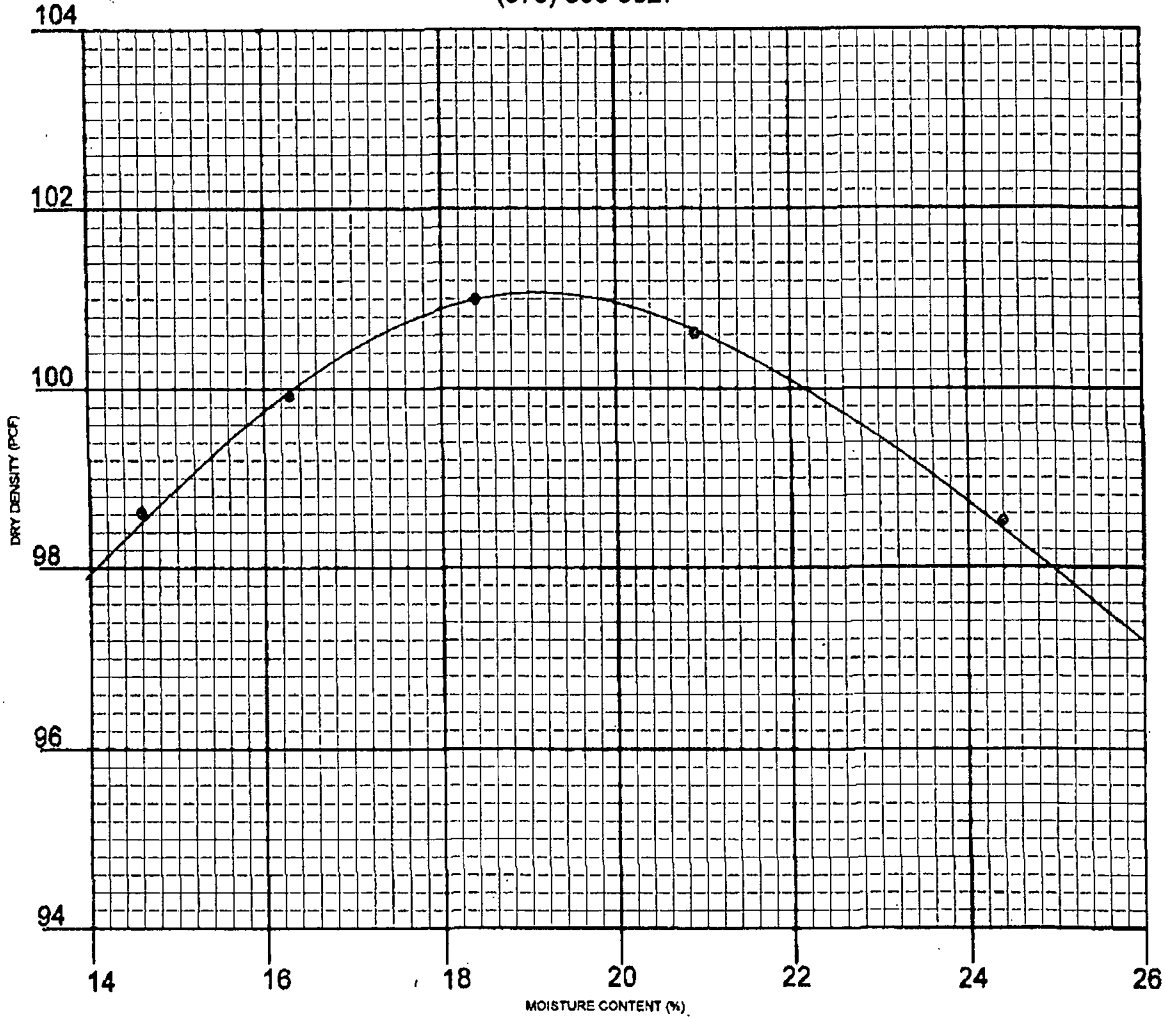
PETTIGREW & ASSOCIATES

BY: _____

BY: for Debra Hicks P.E.

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

AASHTO R18



General Information

CLIENT: Rice Operating PROJECT: Project No. 2010.1026

SAMPLE LOCATION: Wallach Pit

SOIL DESCRIPTION: Wallach Red Clay

SOIL CLASSIFICATION: ______ TEST METHOD: ASTM: D 698

ATTERBERG: LL ____ PI ____ Sampled & Delivered 8/13/10

DATE: 8/13/10 LAB NO. 10 5904-5906

DRY WEIGHT LB/CU. FT. 101.1 MOISTURE CONTENT % 19.0

SIEVE ANALYSIS - % PASSING									

PETTIGREW & ASSOCIATES

BY: Erica M Hart

BY: [signature] P.E

COPIES: Rice Operating

Home Office - 1717 East Erwin Street
Tyler, Texas 75702-6398
Office: (903) 595-4421 Lab: (903) 595-6402 Fax: (903) 595-6113
Area Offices
210 Beech Street Texarkana, AR 71854 (870) 772-0013
707 West Cotton St. Longview, TX 75604 (903) 758-0402

Acct ID: PETTIGREW File ID: C4535-101 Date Sampled: 08/19/2010
Report Date: 08/27/2010 Sampled By: Client
Project: Pettigrew Associates - Project #2010.1026, Hobbs, NM By Order Of: Erica Hart
Location: Material Origin: Wallach Pit, Sample Location: N/G Order Number:
Client: Pettigrew & Associates, Hobbs, NM
Contractor: Not Given

REPORT: **FLEXIBLE WALL PERMEAMETER** LAB NO: 9881
Test Method: See Below

TEST RESULTS Report No: 1-1201-000005
Page 1 of 2

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

Project : Rice Operating Project 2010.1026 for Pettigrew & Associates, P.A., Hobbs, NM
Date: 8/25/2010 Panel Number : P 2 ; ASTM D 5084
Project No. : C 4535-101 Permometer Data

Boring No.:		ap =	0.031416 cm2	Set Mercury to Pipet Rp at	Equilibrium	1.8	cm3
Sample:	9881	aa =	0.767120 cm2		Pipet Rp	6.7	cm3
Depth (ft):		M1 =	0.030160	C = 0.000448509	Annulus Ra	1.5	cm3
Other Location:	Wallach Pit	M2 =	1.040853	T = 0.203785086			

Material Description : Red Clay (Clients Sample No 10 5904-5906) Lab Molded @~95% ASTM D 698

SAMPLE DATA

					Before Test		After Test	
Wet Wt. sample + ring or tare :			507.52	g				
Tare or ring Wt. :			0.0	g	Tare No.:	T 9	Tare No.:	T 2
Wet Wt: of Sample :			507.52	g	Wet Wt.+tare:	850.98	Wet Wt.+tare	728.58
Diameter :	2.72	in	6.90	cm2	Dry Wt.+tare:	716.43	Dry Wt.+tare	621.60
Length :	2.75	in	6.99	cm	Tare Wt:	220.51	Tare Wt:	216.59
Area:	5.79	in^2	37.35	cm2	Dry Wt.:	495.92	Dry Wt.:	405.01
Volume :	15.94	in^3	261.23	cm3	Water Wt.:	134.53	Water Wt.:	106.98
Unit Wt.(wet):	121.23	pcf	1.94	g/cm^3	% moist.:	27.1	% moist.:	26.4
Unit Wt.(dry):	95.36	pcf	1.53	g/cm^3				

Assumed Specific Gravity: 2.65 Max Dry Density(pcf) = 101.1 OMC = 19
% of max = 94.3 +/- OMC = 8.13
Calculated % saturation: 95.26 Void ratio (e) = 0.73 Porosity (n)= 0.42

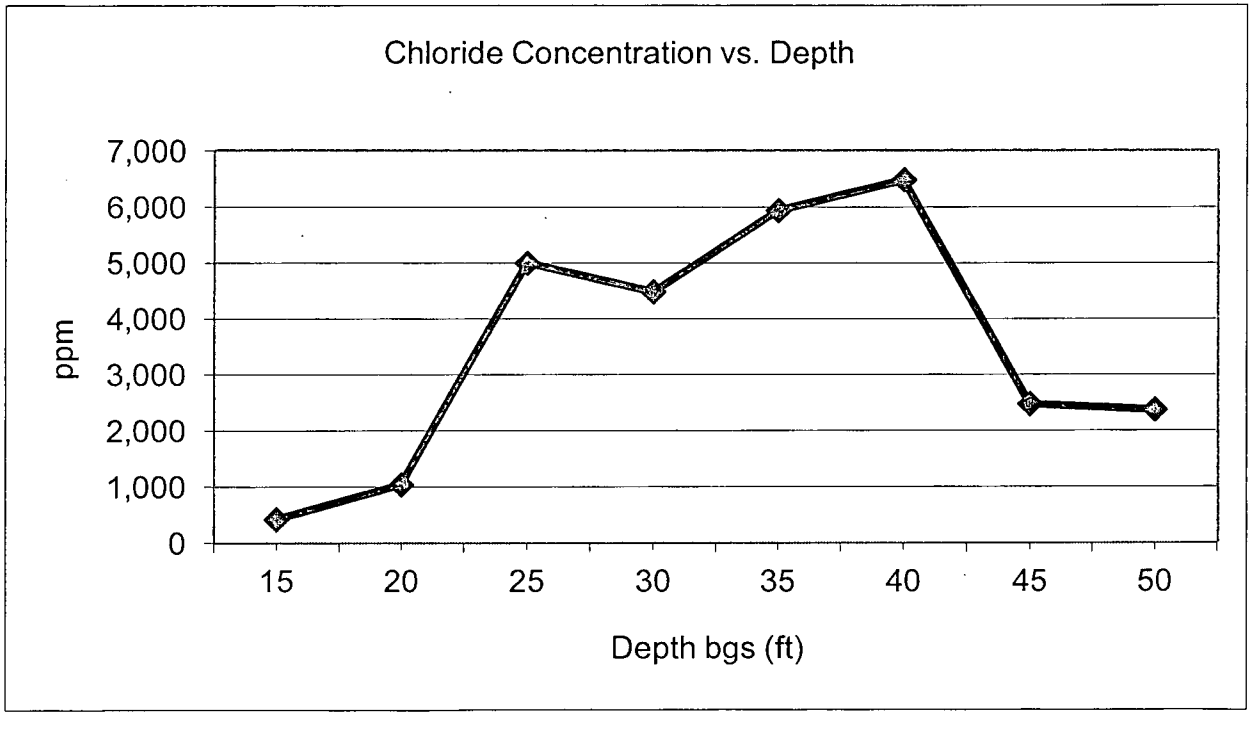
Charge: Pettigrew & Associates Attn: Erica Hart
Orig: Pettigrew & Associates, Hobbs, NM Attn: Erica Hart
1-ec Pettigrew & Associates, Hobbs, NM Attn: Erica Hart
E-Mail: ehart@pettigrew.us

BD Jct. H-7

Unit 'H', Sec. 7, T22S, R38E

Soil Bore samples at 9 ft northwest of the junction (source)

Depth bgs (ft)	[Cl] ppm
15	422
20	1,040
25	5,000
30	4,485
35	5,939
40	6,490
45	2,475
50	2,376



Groundwater = None

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC
RECS

PO Box 5630
Hobbs, NM 88241
Phone: (575) 393-4411
Fax: (575) 393-0293

REVEGETATION FORM

1. General Information

Site name: BD JCT H-7						
U/L H	Section 7	Township 22S	Range 38E	County LEA	Latitude N 32.41007	Longitude W 103.09509
Contact Name: HACK CONDER						
Email: HCONDER@RICESWD.COM						
Site size: 5,000 square feet				Map detail of site attached ☐		
Additional information:						

2. Soils **Do not rip caliche subsoils; caliche rocks brought to the surface by ripping shall be removed.*

Salvaged from site ☐	Bioremediated ☐	Imported ☒	Blended ☐	Depth (in):
Texture:	Describe soil & subsoil: Topsoil and sand			
Soil prep methods:	Rip ☐ Depth(in):	Disc ☐ Depth (in):	Rollerpack ☐	
Date completed: 12/3/2010				

3. Bioremediation

Fertilizer ☐	Hay ☐	Other ☐
Type:		Describe:
Lbs/acre:		

4. Seeding **Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

Custom seed mix ☒	Prescribed mix ☐	Seed mix name: 5lb Blue Grama	Seeding date: 1/4/12
Broadcast ☒ Method: Hand			
Soil conditions during seeding: Dry ☒ Damp ☐ Wet ☐			
Photos attached ☐ Number of photos:	Observations:		

5. Certification I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

Name: J. Kamplain	Title: Environmental Tech	Date: 1/4/12
Signature:		