1R - 423-18

WORKPLANS

Date:
3-8-10

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

CERTIFIED MAIL
RETURN RECIEPT NO. 7008 1140 0001 3072 4536

March 8, 2010

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: **INVESTIGATION & CHARACTERIZATION PLAN**
Justis P-2 vent (NMOCD Case # 1R423-18)
Unit P, Sec. 2, T25S, R37E

Mr. Hansen,

RICE Operating Company (ROC) proposes to address potential environmental concerns at the above-referenced site in the Justis SWD system. ROC is the service provider (operator) for the Justis 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/usage basis. Environmental projects of this nature require System Party AFE approval prior to work commencing at the site. In general, project funding is not forthcoming until NMOCD approves the work plan. Therefore, your timely review of this submission is greatly appreciated.

For all such environmental projects, ROC will choose the path forward that:

- Protects public health,
- Provides the greatest net environmental benefit,
- Complies with NMOCD Rules, and
- Is supported by good science.

Each site shall generally have three submissions:

1. This Investigation and Characterization Plan (ICP) is proposed for gathering data and site characterization and assessment.

2. Upon evaluating the data and results from the ICP, a recommended remedy will be submitted in a Corrective Action Plan (CAP) if warranted.

3. Finally, after implementing the remedy, a Termination Request with final documentation will be submitted.

Background and Previous Work

The site is located approximately 5 miles north-east of Jal, New Mexico in Unit P, Sec. 2, T25S, R37E as shown on the Site Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 86 +/- feet.

In 2005 ROC initiated work on the former Justis P-2 vent junction box after the site was bypassed during line replacement/upgrade program. The site was delineated using a backhoe and soil samples were screened at regular intervals for both hydrocarbons and chlorides. The excavation reached dimensions of 30 x 30 x 6 feet bgs where composite samples were taken for laboratory verification. Laboratory tests of the site showed low gasoline range organics (GRO) while the diesel range organics (DRO) ranged from non-detect to 688 mg/kg in the soil. Chlorides at the site ranged from 1700 mg/kg for the bottom composite at 6 ft bgs to 1220 mg/kg on the 4-wall composite. At 6 feet bgs, a clay layer was installed to inhibit further chloride migration. The soils were blended with imported soil and then backfilled into the excavation. The area was contoured to the surrounding landscape, seeded, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations.

On November 5, 2009, a soil bore was drilled at the center of the former junction box to determine the downward extent of chlorides and hydrocarbons at the site. Laboratory samples taken at 66 feet bgs showed a chloride concentration of 4,680 mg/kg and at 81 feet bgs the chloride concentration was 288 mg/kg. Both samples were non-detect for gasoline and diesel range organics.

ROC proposes additional investigative work at the site to determine if there is potential for groundwater degradation from residual chlorides and/or hydrocarbons at the site.

Proposed Work Elements

1. Conduct vertical and lateral delineation of residual soil hydrocarbons and chlorides.
    a. Vertical sampling will be conducted until either one of the following criteria is met in the field.
        i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of $\leq$ 250 ppm.
        ii. Three samples in which PID readings decrease and the third sample has a PID reading of $\leq$ 100 ppm.
        iii. The sampling reaches the capillary fringe.
2. If warranted, install a monitor well to provide direct measurement of the potential groundwater impact at the site. (All monitor wells will be installed by EPA, NMOCD, and industry standards.)
3. Evaluate the risk of groundwater impact based on the information obtained.

If the evaluation of the site shows no threat to groundwater from residual chlorides and/or hydrocarbons, then only a vadose zone remedy will be undertaken. However, if groundwater shows impact from residual chlorides and/or hydrocarbons, a CAP will be developed to address these concerns.

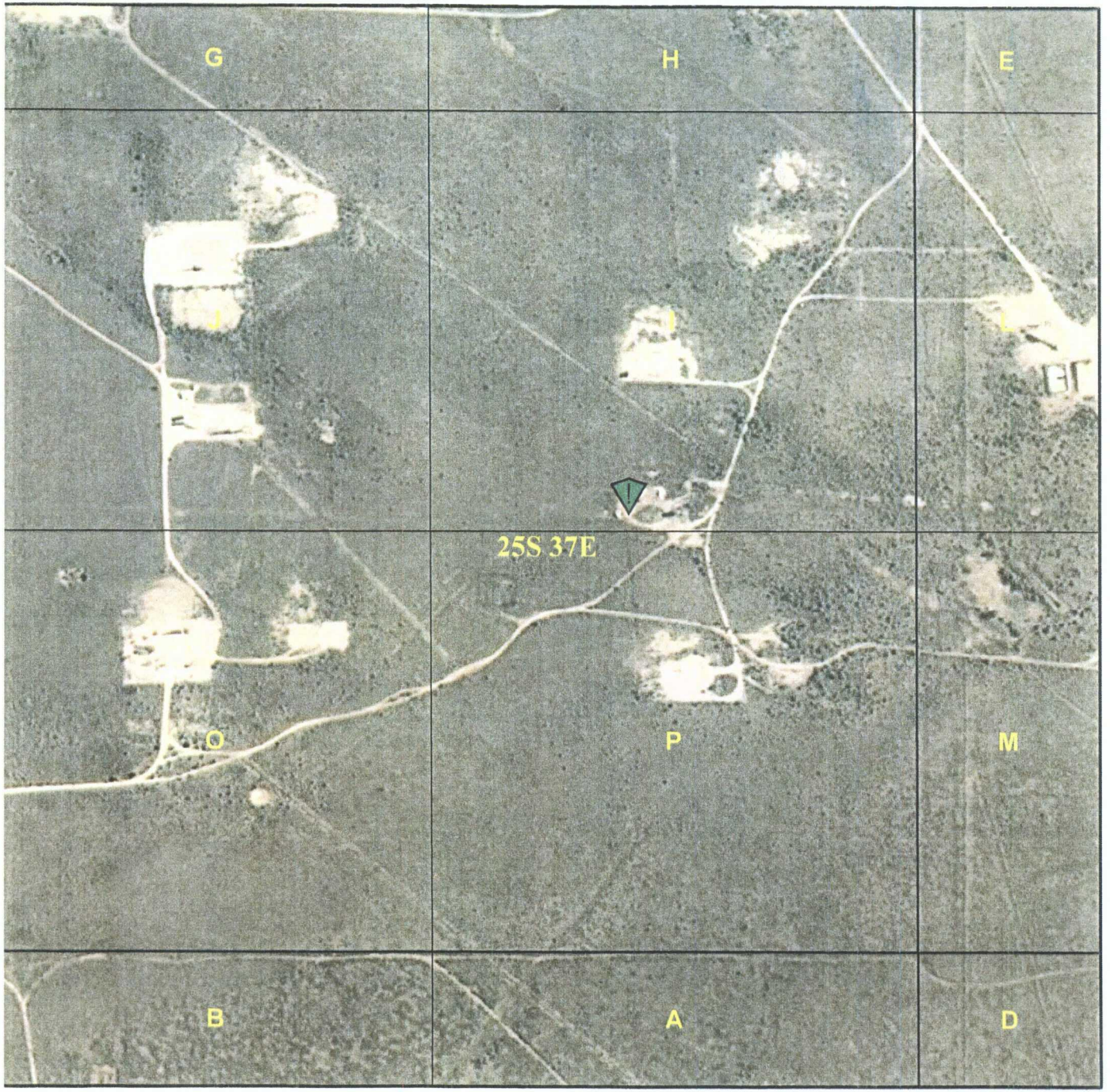
ROC appreciates the opportunity to work with you on this project. Please call Katie Jones or myself at (575) 393-9174 if you have any questions or wish to discuss the site.

Sincerely,

Hack Conder
Environmental Manager

Enclosures: Figure 1, Junction Box Disclosure Report

Location of site



RICE OPERATING COMPANY
ROC
SINCE 1955

122 W. Taylor
Hobbs, NM 88240
Phone (575) 393-9174
Fax (575) 397-1471

Justis P-2 vent

Legals: UL: P sec. 2 T25S R37E
Owner: State

Drawing date: 2-17-10
Revision date:
Drafted by: Lara Weinheimer

N
W E
S

FIGURE 1

RICE OPERATING COMPANY
JUNCTION BOX DISCLOSURE* REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length 5'	Width 5'	Depth 4'
Justis	P-2 vent	P	2	25S	37E	Lea	eliminated		

LAND TYPE: BLM ___ STATE X FEE LANDOWNER _____ OTHER _____

Depth to Groundwater 86 feet NMOCD SITE ASSESSMENT RANKING SCORE: 50*

Date Started 1/4/2005 Date Completed 11/5/2009 OCD Witness no

Soil Excavated 200.0 cubic yards Excavation Length 30 Width 30 Depth 6 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL ANALYTICAL RESULTS:

Sample Date 1/10/2005, 1/17/2005, 11/5/2009 Sample Depth 6 ft, 66 ft, 81 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.	0.1	ND	35.1	1,220
BOTTOM COMP.	0.1	J[6.79]	688	1,700
REMEDIATED BACKFILL	0.1	J[6.31]	132	596
SB #1 66 ft GRAB	6.8	<10.0	<10.0	4,680
SB #1 81 ft GRAB	4.8	<10.0	<10.0	288

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
4-wall comp.	n/a	1120
bottom comp.	6'	1759
SOIL BORING at the junction source (11/5/2009)	3'	868
	6'	598
	9'	877
	12'	892
	15'	917
	18'	1,251
	21'	1,255
	24'	1,354
	27'	1,801
	30'	1,738
	33'	2,050
	36'	2,573
	39'	1,717
	42'	1,372
	45'	1,280
	48'	1,495
	51'	1,836
	54'	1,540
	57'	1,069
	60'	3,345
	63'	1,213
	66'	3,362
	69'	1,646
	72'	1,782
	75'	1,040
	78'	705
	81'	556

General Description of Remedial Action: This junction box was addressed during the pipeline replacement/upgrade program. After the former junction box was removed, an investigation was conducted at the former junction box site using a backhoe to collect soil samples at regular intervals creating an excavation with overall dimensions of approximately 30x30x6 ft. Chloride field tests were performed on each sample which yielded elevated concentrations. Organic vapors were measured using a PID which yielded low concentrations. The excavated soil was remediated on site with clean, imported soil. Representative composite samples were collected from the excavation walls, bottom, and remediated backfill and sent to a commercial laboratory for analysis of chloride and TPH. Laboratory analysis confirmed elevated concentrations of chloride and low concentrations of TPH. A 1-ft thick clay barrier was installed at the bottom of the excavation at 6-5 ft below ground surface (BGS) and a compaction test was performed on 5/8/2006. The remediated backfill was returned to the 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 the clay below. On 10/20/2006, 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 depth of chloride presence, a soil bore was initiated at the former junction box site on 11/5/2009 with soil samples collected at regular intervals. Chloride field tests were performed on each sample which yielded elevated concentrations. The 66 and 81 ft samples were sent to a commercial laboratory for analysis of chloride and TPH. Lab analysis yielded low concentrations of TPH and elevated chloride concentrations that decreased with depth. The entire borehole was plugged with bentonite to the ground surface. NMOCD was notified of potential groundwater impact on 11/20/2009. **Inactive well 435 ft SW and cattle water pond 980 ft SE.*

ADDITIONAL EVALUATION IS *HIGH* PRIORITY

enclosures: photos, lab results, PID (field) screenings, bore log, cross-section, compaction test, 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 Katie Jones INITIAL

PROJECT LEADER Larry Bruce Baker Jr. SIGNATURE Larry Bruce Baker Jr. DATE 1-19-07

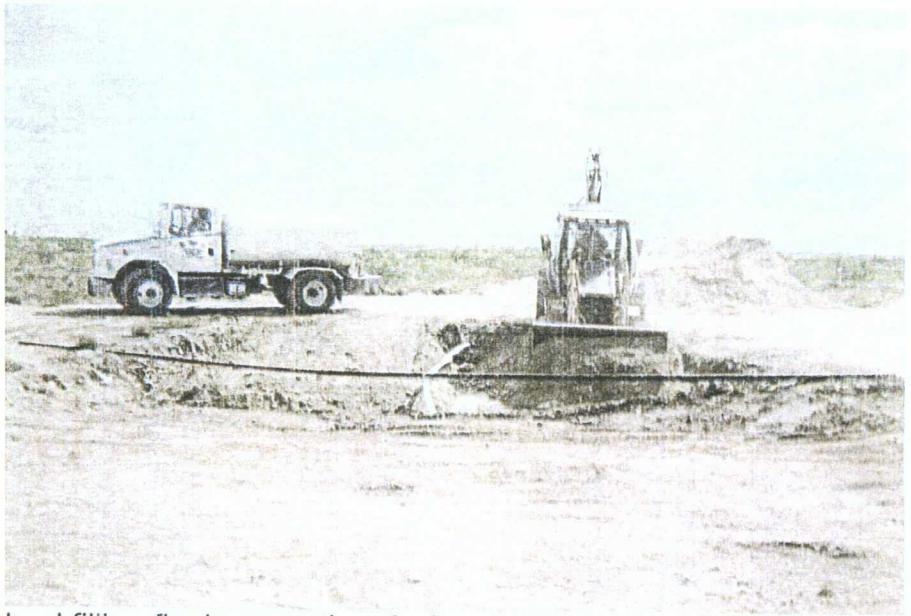
*This site is a "DISCLOSURE." It will be placed on a prioritized list of similar sites for further consideration.

Justis P-2 vent

Unit P, Section 2, T25S, R37E

former junction box site, facing north 12/9/2004

installing a clay barrier, facing west 5/5/2006



backfilling final excavation, facing east 5/10/2006

site complete with clay marker, facing north 5/15/2006

seeding backfilled site 10/20/2006

drilling SB #1 at the former junction box site 11/5/2009

plugging SB #1 with bentonite 11/5/2009

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Joe Gatts
Rice Operating Co.
122 W. Taylor
Hobbs, NM 88240

Project: Justis P-2
Project Number: None Given
Location: None Given

Lab Order Number: 5A21002

Report Date: 01/24/05

Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/24/05 16:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Remd Backfill	5A21002-01	Soil	01/17/05 15:30	01/21/05 07:50

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Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/24/05 16:42

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Remd Backfill (5A21002-01) Soil									
Gasoline Range Organics C6-C12	J [6.31]	10.0	mg/kg dry	1	EA52110	01/21/05	01/21/05	EPA 8015M	J
Diesel Range Organics >C12-C35	132	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	132	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*121 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*127 %*	*70-130*		"	"	"	"	

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Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/25/05 12:14

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Remd Backfill (5A21002-01) Soil									
Chloride	596	5.00	mg/kg Wet	2	EA52405	01/21/05	01/21/05	SW 846 9253	
% Moisture	7.2		%	1	EA52405	01/21/05	01/24/05	% calculation	

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Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/24/05 16:42

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA52110 - Solvent Extraction (GC)										
Blank (EA52110-BLK1)				Prepared & Analyzed: 01/21/05						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*41.7*		*mg/kg*	*50.0*		*83.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*46.9*		"	*50.0*		*93.8*	*70-130*			
LCS (EA52110-BS1)				Prepared & Analyzed: 01/21/05						
Gasoline Range Organics C6-C12	448	10.0	mg/kg wet	500		89.6	75-125			
Diesel Range Organics >C12-C35	545	10.0	"	500		109	75-125			
Total Hydrocarbon C6-C35	993	10.0	"	1000		99.3	75-125			
Surrogate: 1-Chlorooctane	*51.8*		*mg/kg*	*50.0*		*104*	*70-130*			
Surrogate: 1-Chlorooctadecane	*49.7*		"	*50.0*		*99.4*	*70-130*			
Calibration Check (EA52110-CCV1)				Prepared & Analyzed: 01/21/05						
Gasoline Range Organics C6-C12	441		mg/kg	500		88.2	80-120			
Diesel Range Organics >C12-C35	539		"	500		108	80-120			
Total Hydrocarbon C6-C35	980		"	1000		98.0	80-120			
Surrogate: 1-Chlorooctane	*50.0*		"	*50.0*		*100*	*70-130*			
Surrogate: 1-Chlorooctadecane	*43.7*		"	*50.0*		*87.4*	*70-130*			
Matrix Spike (EA52110-MS1)	**Source: 5A21003-01**			Prepared & Analyzed: 01/21/05						
Gasoline Range Organics C6-C12	530	10.0	mg/kg dry	582	ND	91.1	75-125			
Diesel Range Organics >C12-C35	600	10.0	"	582	ND	103	75-125			
Total Hydrocarbon C6-C35	1130	10.0	"	1160	ND	97.4	75-125			
Surrogate: 1-Chlorooctane	*58.9*		*mg/kg*	*50.0*		*118*	*70-130*			
Surrogate: 1-Chlorooctadecane	*57.6*		"	*50.0*		*115*	*70-130*			
Matrix Spike Dup (EA52110-MSD1)	**Source: 5A21003-01**			Prepared & Analyzed: 01/21/05						
Gasoline Range Organics C6-C12	520	10.0	mg/kg dry	582	ND	89.3	75-125	1.90	20	
Diesel Range Organics >C12-C35	603	10.0	"	582	ND	104	75-125	0.499	20	
Total Hydrocarbon C6-C35	1120	10.0	"	1160	ND	96.6	75-125	0.889	20	
Surrogate: 1-Chlorooctane	*59.7*		*mg/kg*	*50.0*		*119*	*70-130*			
Surrogate: 1-Chlorooctadecane	*58.1*		"	*50.0*		*116*	*70-130*			

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Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/25/05 12:14

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA52105 - Water Extraction										
Blank (EA52105-BLK1)				Prepared & Analyzed: 01/21/05						
Chloride	ND	2.50	mg/kg Wet							
Matrix Spike (EA52105-MS1)		Source: 5A20007-01		Prepared & Analyzed: 01/21/05						
Chloride	489	5.00	mg/kg Wet	500	0.00	97.8	80-120			
Matrix Spike Dup (EA52105-MSD1)		Source: 5A20007-01		Prepared & Analyzed: 01/21/05						
Chloride	489	5.00	mg/kg Wet	500	0.00	97.8	80-120	0.00	20	
Reference (EA52105-SRM1)				Prepared & Analyzed: 01/21/05						
Chloride	5050	2.50	mg/kg Wet	5000		101	80-120			
Batch EA52405 - General Preparation (Prep)										
Blank (EA52405-BLK1)				Prepared: 01/21/05 Analyzed: 01/24/05						
% Moisture	0.001		%							
Duplicate (EA52405-DUP1)		Source: 5A21002-01		Prepared: 01/21/05 Analyzed: 01/24/05						
% Moisture	7.3		%		7.2			1.38	20	

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Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Celey D. Keene Date: 01/25/05

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763

Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Roy Rascon
Company Name: Rice Operating
Company Address: 122 W. Taylor
City/State/Zip: Hobbs NM 88240
Telephone No: 505 393-9174
Fax No: 505 397-1471
Sampler Signature: Joe Scott

Project Name: Justis P-2
Project #:
Project Loc:
PO #:

Lab # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (Specify)	Analyze For (TCLP: / TOTAL:): TDS / Cl / ~~SO4~~	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030							RUSH TAT (Pre-Schedule)	Standard TAT
SA21002 -01	REMO Backfill	1/17/05	3:30	1	X									X		X			X												

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Joe Scott	1/19/05	4:30			
Relinquished by:	Date	Time	Received by ELOT: From Drop Box	Date	Time
[illegible]	1/21/05	5:30	Jeanne McMurray	01-21-05	0750

Sample Containers Intact? (Y)
Temperature Upon Receipt: 0.5 C
Laboratory Comments: 4oz glass on ice

Environmental Lab of T[illegible]as
Variance / Corrective Action Report – Sample Log-In

Client: Rice Operating Co

Date/Time: 01-21-05 @ 0750

Order #: 5A21002

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	0.5 C
Shipping container/cooler in good condition?	(Yes)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	(Not present)
Custody Seals intact on sample bottles?	Yes	No	(Not present)
Chain of custody present?	(Yes)	No	
Sample Instructions complete on Chain of Custody?	(Yes)	No	
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	(Yes)	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	No	
Samples properly preserved?	(Yes)	No	
Sample bottles intact?	(Yes)	No	
Preservations documented on Chain of Custody?	(Yes)	No	
Containers documented on Chain of Custody?	(Yes)	No	
Sufficient sample amount for indicated test?	(Yes)	No	
All samples received within sufficient hold time?	(Yes)	No	
VOC samples have zero headspace?	(Yes)	No	Not Applicable

Other observations:

_____

_____

_____

Variance Documentation:

Contact Person: -_____ Date/Time: _____ Contacted by: _____

Regarding:

_____

_____

_____

Corrective Action Taken:

_____

_____

_____

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_____

_____

_____

_____

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Joe Gatts

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: Justis P-2

Project Number: None Given

Location: None Given

Lab Order Number: 5A11004

Report Date: 01/17/05

Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/17/05 15:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bottom Comp. 6'	5A11004-01	Soil	01/10/05 11:45	01/11/05 07:40
4 Wall Comp.	5A11004-02	Soil	01/10/05 11:30	01/11/05 07:40

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Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bottom Comp. 6' (5A11004-01) Soil									
Gasoline Range Organics C6-C12	J [6.79]	10.0	mg/kg dry	1	EA51108	01/11/05	01/15/05	EPA 8015M	J
Diesel Range Organics >C12-C35	688	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	688	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*95.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*89.2 %*	*70-130*		"	"	"	"	
4 Wall Comp. (5A11004-02) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA51108	01/11/05	01/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	35.1	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	35.1	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*95.6 %*	*70-130*		"	"	"	"	

Rice Operating Co.	Project: Justis P-2	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	Reported:
Hobbs NM, 88240	Project Manager: Joe Gatts	01/17/05 15:06

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bottom Comp. 6' (5A11004-01) Soil									
Chloride	1700	20.0	mg/kg Wet	2	EA51412	01/11/05	01/14/05	SW 846 9253	
% Moisture	11.9		%	1	EA51113	01/11/05	01/12/05	% calculation	
4 Wall Comp. (5A11004-02) Soil									
Chloride	1220	20.0	mg/kg Wet	2	EA51412	01/11/05	01/14/05	SW 846 9253	
% Moisture	1.2		%	1	EA51113	01/11/05	01/12/05	% calculation	

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Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA51108 - Solvent Extraction (GC)										
Blank (EA51108-BLK1)				Prepared: 01/11/05 Analyzed: 01/14/05						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*45.2*		*mg/kg*	*50.0*		*90.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*40.0*		"	*50.0*		*80.0*	*70-130*			
Blank (EA51108-BLK2)				Prepared: 01/11/05 Analyzed: 01/15/05						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*44.7*		*mg/kg*	*50.0*		*89.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*44.6*		"	*50.0*		*89.2*	*70-130*			
LCS (EA51108-BS1)				Prepared: 01/11/05 Analyzed: 01/14/05						
Gasoline Range Organics C6-C12	476	10.0	mg/kg wet	500		95.2	75-125			
Diesel Range Organics >C12-C35	452	10.0	"	500		90.4	75-125			
Total Hydrocarbon C6-C35	928	10.0	"	1000		92.8	75-125			
Surrogate: 1-Chlorooctane	*45.3*		*mg/kg*	*50.0*		*90.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.2*		"	*50.0*		*72.4*	*70-130*			
LCS (EA51108-BS2)				Prepared: 01/11/05 Analyzed: 01/15/05						
Gasoline Range Organics C6-C12	445	10.0	mg/kg wet	500		89.0	75-125			
Diesel Range Organics >C12-C35	507	10.0	"	500		101	75-125			
Total Hydrocarbon C6-C35	952	10.0	"	1000		95.2	75-125			
Surrogate: 1-Chlorooctane	*52.7*		*mg/kg*	*50.0*		*105*	*70-130*			
Surrogate: 1-Chlorooctadecane	*44.6*		"	*50.0*		*89.2*	*70-130*			
Calibration Check (EA51108-CCV1)				Prepared: 01/11/05 Analyzed: 01/14/05						
Gasoline Range Organics C6-C12	454		mg/kg	500		90.8	80-120			
Diesel Range Organics >C12-C35	525		"	500		105	80-120			
Total Hydrocarbon C6-C35	979		"	1000		97.9	80-120			
Surrogate: 1-Chlorooctane	*46.7*		"	*50.0*		*93.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*44.7*		"	*50.0*		*89.4*	*70-130*			

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA51108 - Solvent Extraction (GC)										
Calibration Check (EA51108-CCV2)				Prepared: 01/11/05 Analyzed: 01/15/05						
Gasoline Range Organics C6-C12	474		mg/kg	500		94.8	80-120			
Diesel Range Organics >C12-C35	488		"	500		97.6	80-120			
Total Hydrocarbon C6-C35	962		"	1000		96.2	80-120			
Surrogate: 1-Chlorooctane	*52.8*		"	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*46.0*		"	*50.0*		*92.0*	*70-130*			
Matrix Spike (EA51108-MS1)	Source: 5A10012-13			Prepared: 01/11/05 Analyzed: 01/14/05						
Gasoline Range Organics C6-C12	555	10.0	mg/kg dry	571	ND	97.2	75-125			
Diesel Range Organics >C12-C35	612	10.0	"	571	ND	107	75-125			
Total Hydrocarbon C6-C35	1170	10.0	"	1140	ND	103	75-125			
Surrogate: 1-Chlorooctane	*50.6*		*mg/kg*	*50.0*		*101*	*70-130*			
Surrogate: 1-Chlorooctadecane	*49.8*		"	*50.0*		*99.6*	*70-130*			
Matrix Spike (EA51108-MS2)	Source: 5A10012-21			Prepared: 01/11/05 Analyzed: 01/15/05						
Gasoline Range Organics C6-C12	514	10.0	mg/kg dry	554	ND	92.8	75-125			
Diesel Range Organics >C12-C35	562	10.0	"	554	ND	101	75-125			
Total Hydrocarbon C6-C35	1080	10.0	"	1110	ND	97.3	75-125			
Surrogate: 1-Chlorooctane	*58.6*		*mg/kg*	*50.0*		*117*	*70-130*			
Surrogate: 1-Chlorooctadecane	*63.0*		"	*50.0*		*126*	*70-130*			
Matrix Spike Dup (EA51108-MSD1)	Source: 5A10012-13			Prepared: 01/11/05 Analyzed: 01/14/05						
Gasoline Range Organics C6-C12	526	10.0	mg/kg dry	571	ND	92.1	75-125	5.37	20	
Diesel Range Organics >C12-C35	614	10.0	"	571	ND	108	75-125	0.326	20	
Total Hydrocarbon C6-C35	1140	10.0	"	1140	ND	100	75-125	2.60	20	
Surrogate: 1-Chlorooctane	*52.8*		*mg/kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*49.5*		"	*50.0*		*99.0*	*70-130*			
Matrix Spike Dup (EA51108-MSD2)	Source: 5A10012-21			Prepared: 01/11/05 Analyzed: 01/15/05						
Gasoline Range Organics C6-C12	515	10.0	mg/kg dry	554	ND	93.0	75-125	0.194	20	
Diesel Range Organics >C12-C35	534	10.0	"	554	ND	96.4	75-125	5.11	20	
Total Hydrocarbon C6-C35	1050	10.0	"	1110	ND	94.6	75-125	2.82	20	
Surrogate: 1-Chlorooctane	*48.1*		*mg/kg*	*50.0*		*96.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*45.5*		"	*50.0*		*91.0*	*70-130*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA51113 - General Preparation (Prep)										
Blank (EA51113-BLK1)				Prepared: 01/11/05 Analyzed: 01/17/05						
% Moisture	0.0		%							
Duplicate (EA51113-DUP1)		Source: 5A10006-01		Prepared: 01/11/05 Analyzed: 01/17/05						
% Moisture	6.9		%		5.9			15.6	20	
Batch EA51412 - Water Extraction										
Blank (EA51412-BLK1)				Prepared: 01/11/05 Analyzed: 01/14/05						
Chloride	ND	20.0	mg/kg Wet							
Matrix Spike (EA51412-MS1)		Source: 5A07008-01		Prepared: 01/11/05 Analyzed: 01/14/05						
Chloride	489	20.0	mg/kg Wet	500	0.00	97.8	80-120			
Matrix Spike Dup (EA51412-MSD1)		Source: 5A07008-01		Prepared: 01/11/05 Analyzed: 01/14/05						
Chloride	500	20.0	mg/kg Wet	500	0.00	100	80-120	2.22	20	
Reference (EA51412-SRM1)				Prepared & Analyzed: 01/14/05						
Chloride	5000		mg/kg	5000		100	80-120			

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 1-18-05

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763

Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Roy Rascon
Company Name: Rice Operating
Company Address: 122 W. Taylor
City/State/Zip: Hobbs NM 88240
Telephone No: 505-393-9174
Fax No: 505-397-1471
Sampler Signature: [signature]

Project Name: Justis P-2
Project #:
Project Loc:
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Water	Sludge	Soil	Other (specify):	TDS (Cl)	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RUSH TAT (Pre-Schedule)	Standard TAT
5A11004 .01	Bottom Comp 6'	1/10/05	11:45	1	X									X		X			X						
.02	4 WALL comp	1/10/05	11:30	1	X									X		X			X						

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	1/10/05	4:30			
Relinquished by: [signature]	1/11/05	5:10	Received by ELOT: [signature]	01-11-05	0740

Drop Box

Sample Containers Intact?
Temperature Upon Receipt:
Laboratory Comments: 4oz glass

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Rice Operating Co.

Date/Time: 01-11-05 @ 0740

Order #: 5A11004

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	-0.5 C
Shipping container/cooler in good condition?	(Yes)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	(Not present)
Custody Seals intact on sample bottles?	Yes	No	(Not present)
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	(No)	see below
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	(Yes)	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	No	
Samples properly preserved?	(Yes)	No	
Sample bottles intact?	(Yes)	No	
Preservations documented on Chain of Custody?	(Yes)	No	
Containers documented on Chain of Custody?	(Yes)	No	
Sufficient sample amount for indicated test?	(Yes)	No	
All samples received within sufficient hold time?	(Yes)	No	
VOC samples have zero headspace?	(Yes)	No	Not Applicable

Other observations: -TDS, Cl, SAR, EC + TPH 8015M was marked on COC

Variance Documentation:

Contact Person: - Ray Rascon Date/Time: 01-11-05 @ 0930 Contacted by: Jeanne McMinn

Regarding:

analysis request

Corrective Action Taken:

Run only Cl^- + 8015M

RICE OPERATING COMPANY

122 WEST TAYLOR
HOBBS, NEW MEXICO 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471

VOC FIELD TEST REPORT FORM

MINI RAE PLUS CLASSIC PHOTOIONIZATION GAS DETECTOR

MODEL NO: PGM 761S
SERIAL NO: 104412
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE 100 PPM
AIR BALANCE
LOT NO: 03-2475
FILL DATE: 8/13/03
EXP. DATE: 2/13/05
ACCURACY: +or -2%
METER READING
ACCURACY: 100.'

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
dustis	P-2	P	2	25	37

SAMPLE	PID RESULT	SAMPLE	PID RESULT
15' N. WALL	0.'		
15' S. WALL	0.'		
15' E. WALL	0.'		
15' W. WALL	0.'		
Bottom Comp 6'	0.'		
4 WALL comp	0.'		
REMD. BACKFILL	0.'		

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

Joe Ratt — Signature
Environmental Tech. — Title
11/10/05 — Date

Logger:	Lara Weinheimer
Driller:	Harrison & Cooper, Inc. Drilling
Consultant:	N/A - ROC Junction Box Upgrade Plan
Drilling Method:	Air rotary
Start Date:	11/5/2009
End Date:	11/5/2009

RICE OPERATING COMPANY

Project Name: Justis jct. P-2 Well ID: SB #1

Comments: All samples from cuttings. Located at source

Drafted by: Lara Weinheimer

TD = 81 ft GW = 84 ft

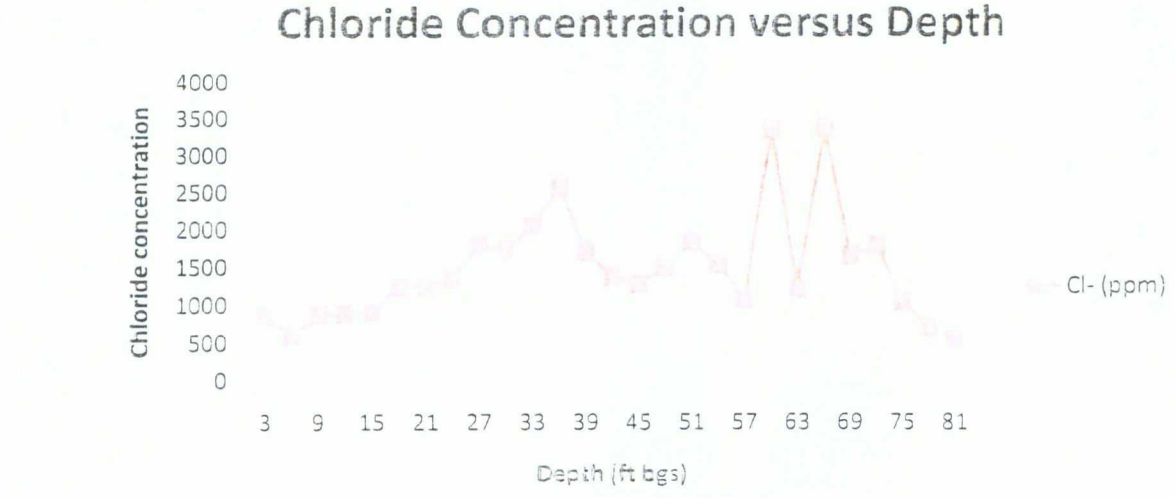
Location: UL/P sec. 2 T25S R37E
Lat: N32°9'21.486" County: Lea
Long: W103°7'39.582" State: NM

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				0 - 6 ft		
3	868		3.8	VERY FINE TO FINE SAND; CALICHE		
				brown, dry, no odor		
6	598		6.1			
				6 - 9 ft		
				VERY FINE TO FINE SAND; CALICHE		
9	877		7.2	orangey brown, very slightly moist, no odor		
				9 - 15 ft		
12	892		6.8	FINE TO MEDIUM SAND; CALICHE		
				orangey brown, slightly moist, no odor		
15	917		4.2			
				15 - 27 ft		
18	1251		4.4	FINE TO MEDIUM SAND; CALICHE		
				reddish-orange, slightly moist, no odor		
21	1255		3.3			
24	1354		4.7			
27	1801		3.5			

				27 - 30 ft
				FINE TO MEDIUM SAND; CALICHE
30	1738		4.3	orangey brown, slightly moist, no odor
				30 - 36 ft
				FINE TO MEDIUM SAND; CALICHE
33	2050		5.6	light orangey brown, dry, no odor
36	2573		6.2	
39	1717		3.6	36 - 51 ft
				VERY FINE TO FINE SAND
42	1372		4.7	orangey brown, slightly moist, no odor
45	1280		4.7	
48	1495		8	
51	1836		6	
				51 - 54 ft
				VERY FINE TO FINE SAND
54	1540		6.4	light brown, dry, no odor
				54 - 57 ft
				VERY FINE TO FINE SAND
57	1069		6.7	orangey brown, slightly moist, no odor
				57 - 60 ft
				VERY FINE TO FINE SAND, SANDSTONE
60	3345		7.7	orangey brown, slightly moist no odor

bentonite seal

				60 - 66 ft VERY FINE TO FINE SAND, ROCKY light brown, moist, no odor
63	1213		6.1	
66	3362		6.8	
				66 - 72 ft VERY FINE TO FINE SAND light orangey brown, dry, no odor
69	1646		6.2	
72	1782		5.7	
				72 - 81 ft VERY FINE TO FINE SAND light brown, dry, no odor
75	1040		5.8	
78	705		4	
81	556		4.8	



RICE OPERATING COMPANY

122 West Taylor ~ Hobbs, NM 88240
PHONE: (575) 393-9174 FAX: (575) 397-1471

PID METER CALIBRATION & FIELD REPORT FORM

CK	✓	MODEL: PGM 7300	SERIAL NO: 590-000183
MODEL		MODEL: PGM 7300	SERIAL NO: 590-000504
NO.		MODEL: PGM 7600	SERIAL NO: 110-12383
		MODEL: PGM 7600	SERIAL NO: 110-02920

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO:	924908	EXPIRATION DATE:	7-29-2012
FILL DATE:	7-30-09	METER READING ACCURACY:	99.9

ACCURACY: +/- 2%

SYSTEM	SITE	UNIT	SECTION	TOWNSHIP	RANGE
Justis	jct P-2	P	2	T25S	R37E

SAMPLE ID: soil bore #1

DEPTH	PID
3'	3.8
6'	6.1
9'	7.2
12'	6.8
15'	4.2

DEPTH	PID
33'	5.6
36'	6.2
39'	3.6
42'	4.7
45'	4.7

DEPTH	PID
63'	6.1
66'	6.8
69'	6.2
72'	5.7
75'	5.8

DEPTH	PID

DEPTH	PID
18'	4.4
21'	3.3
24'	4.7
27'	4.5
30'	4.3

DEPTH	PID
48'	5.0
51'	6.0
54'	6.4
57'	6.7
60'	7.7

DEPTH	PID
78'	4.0
81'	4.8

DEPTH	PID

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

Signature _____ Date 11-5-09

SITE MAP

N ↑

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: HACK CONDER
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 11/06/09
Reporting Date: 11/11/09
Project Owner: NOT GIVEN
Project Name: JUSTIS JCT P-2
Project Location: JUSTIS JCT P-2

Sampling Date: 11/05/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
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		11/10/09	11/10/09	11/10/09
H18680-1	SB#1 @ 66'	<10.0	<10.0	4,680
H18680-2	SB#1 @ 81'	<10.0	<10.0	288
Quality Control		448	508	500
True Value QC		500	500	500
% Recovery		89.6	102	100
Relative Percent Difference		0.5	1.5	< 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

Date

H18680 TCL RICE

ARDINAL 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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Rice Operating Company
Project Manager: Hack Conder
Address: 122 West Taylor
City: Hobbs State: NM Zip: 88240
Phone #: 393-9174 Fax #: 397-1471
Project #: Project Owner:
Project Name: [illegible] P-2
Project Location: [illegible] P-2
Sampler Name: Lara Weinheimer

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

ANALYSIS REQUEST

Lab I.D. (FOR LAB USE ONLY)	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
[illegible]-1	[illegible] 6'	G	1			✓					✓		11-5-09	[illegible]	✓	✓		
-2	[illegible] 8'	G	1			✓					✓		11-5-09	[illegible]	✓	✓		

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: L. Weinheimer Date: 11-6-09 Time: [illegible]
Received By: [signature]
Relinquished By: Date: Time:
Received By:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Sample Condition Cool Intact ☑ Yes ☑ Yes ☐ No ☐ No
CHECKED BY: (Initials) [initials]

Phone Result: ☐ Yes ☑ No Add'l Phone #:
Fax Result: ☐ Yes ☑ No Add'l Fax #:
REMARKS:
email results

Hconder@riceswd.com; jpurvis@riceswd.com;
Lweinheimer@riceswd.com

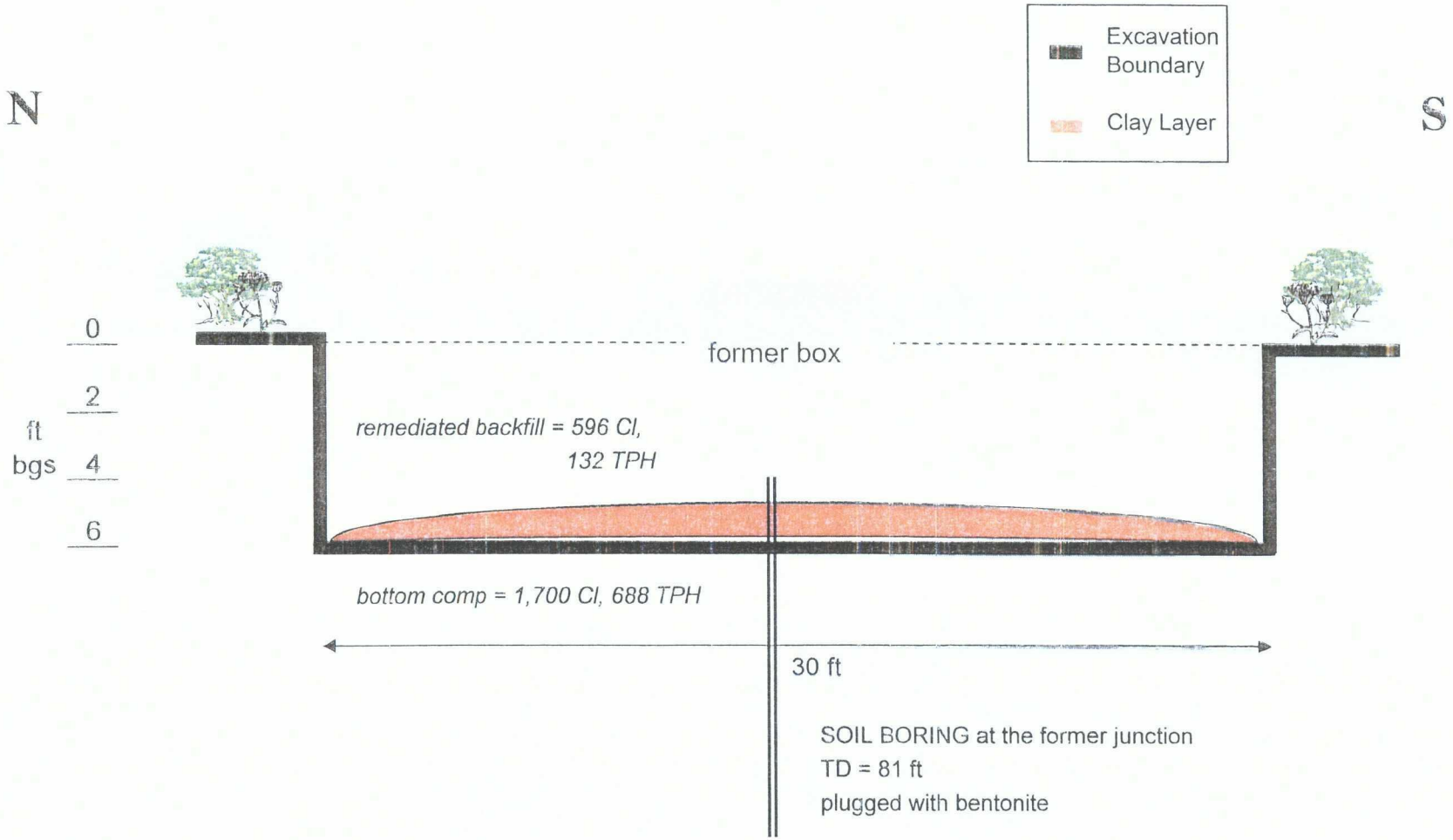
† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

NEED SAMPLES BACK, PLEASE

Justis P-2 vent

Unit 'P', Section 2, T25S, R37E

Excavation Cross-Section

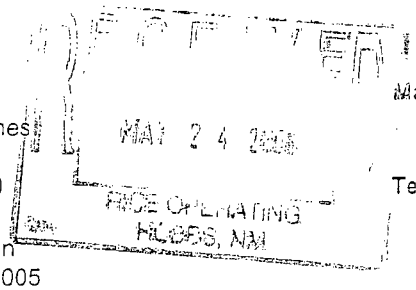


LABORATORY TEST REPORT

PETTIGREW & ASSOCIATES, P.A.
1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827

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

AASHTO R18



To:	Rice Operating Attn: Carolyn Haynes 122 W. Taylor Hobbs, NM 88240	Material:	Red Clay
		Test Method::	ASTM: D 2922
Project:	General Information Project No. 2006.1005		
Date of Test:	May 8, 2006	Depth:	5' Below Finished Subgrade
		Depth of Probe:	6"

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG 5	Justis P-2 - 15' N. & 15' E. of the SW Corner	95.4	22.4	

Control Density: 105.9
ASTM: D 698

Optimum Moisture: 17.6

Required Compaction: 95%

Lab No.: 06 2861-2862

Copies To: Rice

PETTIGREW & ASSOCIATES

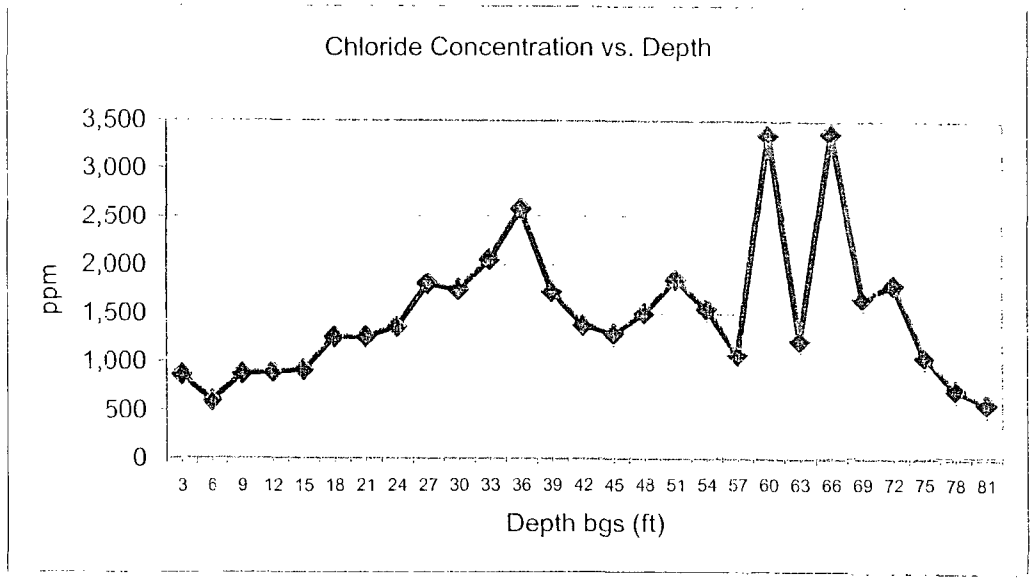
BY: _____ P.E.

Justis P-2 vent

Unit 'P', Sec. 2, T17S, R35E

Soil Bore samples at the junction (source)

Depth bgs (ft)	[Cl] ppm
3	868
6	598
9	877
12	892
15	917
18	1,251
21	1,255
24	1,354
27	1,801
30	1,738
33	2,050
36	2,573
39	1,717
42	1,372
45	1,280
48	1,495
51	1,836
54	1,540
57	1,069
60	3,345
63	1,213
66	3,362
69	1,646
72	1,782
75	1,040
78	705
81	556



Groundwater = 86 ft