1R - 426-89

REPORTS

DATE:

8/02/2004

FINAL

REPORT

RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
BD	M-16-2	M	16	21S	37E	Lea	eliminated		

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

Depth to Groundwater 72 feet NMOCD SITE ASSESSMENT RANKING SCORE: 10

Date Started 4/6/2004 Date Completed 7/15/2004 OCD Witness No

Soil Excavated 400 cubic yards Excavation Length 30 Width 30 Depth 12 feet

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

FINAL ANALYTICAL RESULTS: **Sample Date** 4/13/2004 **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 ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
SIDEWALLS	0.0	<10.0	<10.0	912
BOTTOM	0.0	<10.0	<10.0	1310
REMEDIATED	0.0	<10.0	<10.0	1140
SOIL BORE @ 38 ft	2.3	<10.0	<10.0	202

CHLORIDE FIELD TESTS

LOCATION	DEPTH (ft)	ppm
Vertical	5	117
at jct. box	6	199
	7	148
	8	241
	9	235
	10	779
	11	1302
	12	1009
	13	1475
	14	1057
soil bore	15	933
	20	1109
	25	1068
	30	483
	35	271
	36	231
	37	208
	38	179
4-wall comp.	n/a	998
bottom comp.	12	1241
remed. backfill	n/a	1140

General Description of Remedial Action: This junction box site was delineated using a backhoe while PID field screenings and chloride field tests were conducted at regular intervals. All PID readings throughout the 30 x 30 x 12-ft-deep excavation were 0.0 ppm and laboratory analysis confirmed non-detect TPH concentrations; NMOCD guidelines were met. To 14 ft BGS, chloride concentrations did not exhibit a vertical decline with depth so on 7/15/04, a soil bore was initiated to further investigate chloride concerns. The hollow stem auger was advanced to a depth of 38 ft BGS where a conclusive trend of chloride decline was observed, indicating non-saturated vadose conditions (see graph). The excavated soils were blended on site and backfilled into the hole to 6 ft BGS where a 1 ft compacted clay barrier was installed to safeguard against further downward migration of chloride. The remaining soils were backfilled on top of the clay and contoured to the surrounding terrain. This junction box has been eliminated. The disturbed surface will be seeded with a blend of native vegetation and will be monitored for growth.

enclosures: chloride graph, photos, lab results, PID screenings, soil bore log, clay test, diagram

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

SITE SUPERVISOR Joe Gatts SIGNATURE Joe Gatts COMPANY RICE Operating Company

REPORT ASSEMBLED BY Kristin Farris Pope SIGNATURE Kristin Farris Pope

DATE 8/2/2004 TITLE Project Scientist

BD jct. M-16-2

undisturbed junction box prior to excavation (looking west) 1/27/2004

delineation & excavation (looking south) 4/8/2004

looking north at 30 x 30 x 12-ft-deep excavation 4/13/2004

installing and compacting clay barrier at 6 ft BGS 5/11/2004

BD jct. M-16-2

testing clay liner at 6 ft BGS 5/12/2004

backfilling 5/19/2004

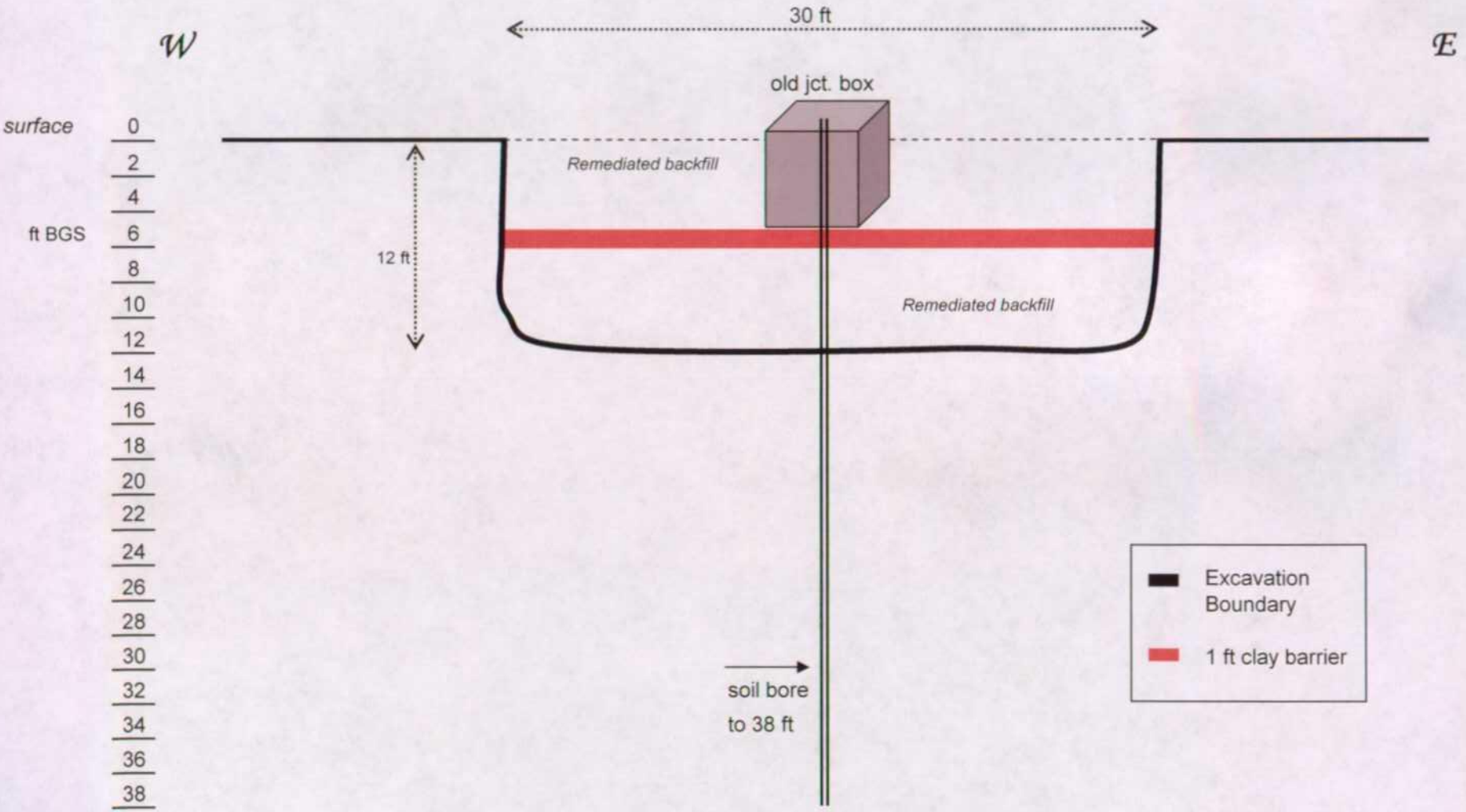
soil bore delineation 7/15/2004

seeding surface; identification plate in foreground 9/8/2004

BD jct. M-16-2

30 x 30 x 12 ft

Excavation Cross-Section

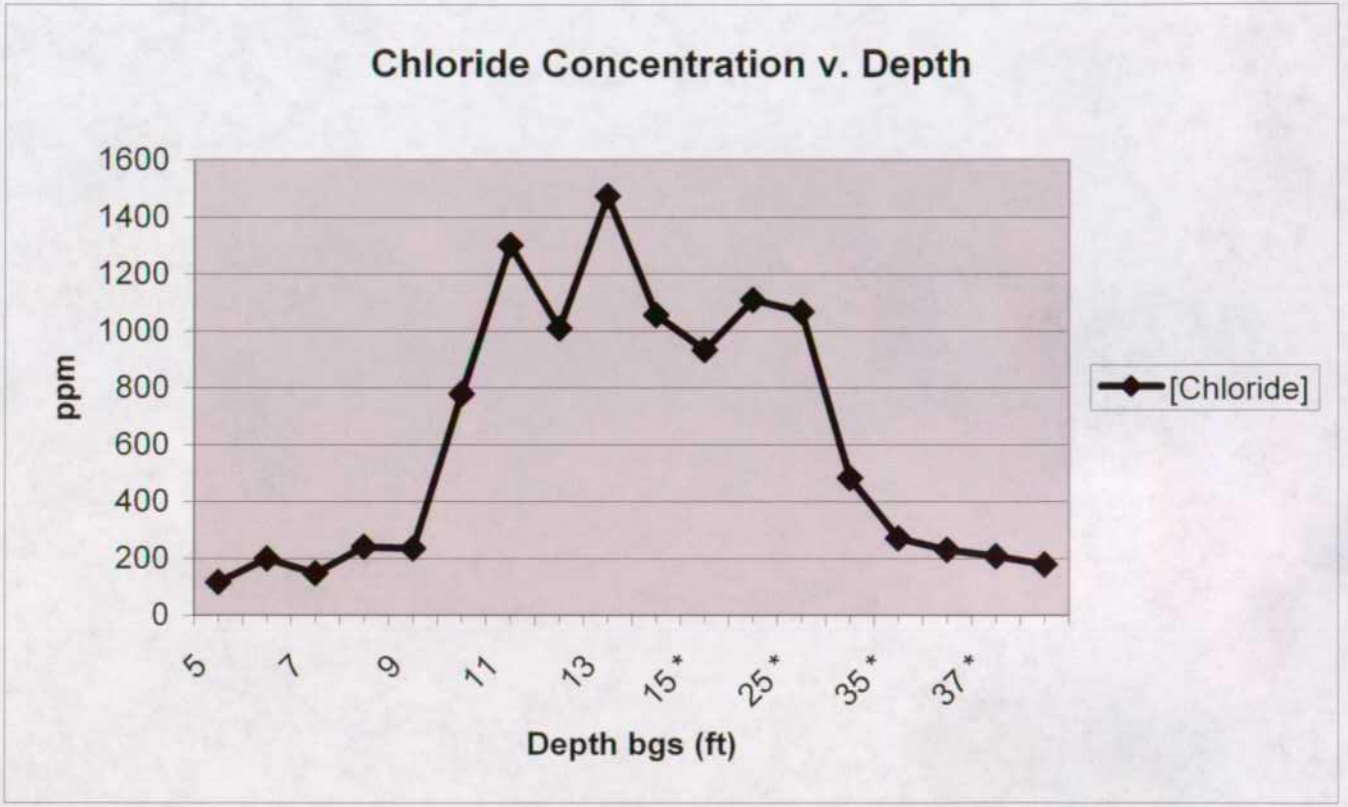


BD jct. M-16-2

T21S, R37E

Vertical Delineation at Source

Depth bgs (ft)	[Cl⁻] ppm
5	117
6	199
7	148
8	241
9	235
10	779
11	1302
12	1009
13	1475
14	1057
15 *	933
20 *	1109
25 *	1068
30 *	483
35 *	271
36 *	231
37 *	208
38 *	179



* Soil bore samples

Groundwater = 72 ft

LOG OF BORING
K. Farris
RICE Operating Company

Logger:	Drew Parker; Mort Bates	**Client:**	**Well ID:**
Driller:	Atkins Engineering Associates, Inc.	RICE Operating Company	
Drilling Method:	Hollow Stem Auger	**Project Name:**	
Start Date:	7/15/2004	jct. M-16-2	**SB-1**
End Date:	7/15/2004	**Location:**	
Notes:	10 ft south of former junction box	BD SWD System	
	TD = 38 ft Groundwater = 72 ft	Sec. 16, T21S, R37E	
		Lea County, NM	

Depth (feet)	Split Spoon chloride	Split Spoon PID	Description	Lithology	bore hole	Additional Notes
0.0			0 - 15 ft SILTY SANDS w/CALICHE loose, tan & white, dry		remainder of borehole backfilled with drill cuttings	
1.0						
2.0						
3.0						
4.0						
5.0						
6.0						
7.0						
8.0						
9.0						
10.0						
11.0						
12.0						
13.0						
14.0						
15.0	933	9.4				
16.0			15 - 20 ft SILTY GRAVELS loose, reddish tan, dry			
17.0						
18.0						
19.0						
20.0	1109	2.6				
21.0			20 - 25 ft SILTY GRAVELS w/CALICHE loose, tan to white, dry			
22.0						
23.0						
24.0						
25.0	1068	5.3				
26.0			25 - 38 ft SILTY GRAVELS w/CALICHE loose, white to gray, dry			
27.0						
28.0						
29.0						
30.0	483	5.6				
31.0						
32.0						
33.0						
34.0						bentonite seal
35.0	271	4.2				
36.0	231	2.5				
37.0	208	4.5				
38.0	179	2.3				lab = 202 ppm Cl

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: KRISTIN FARRIS
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 04/13/04
Reporting Date: 04/14/04
Project Number: NOT GIVEN
Project Name: M-16-2
Project Location: BD

Sampling Date: 04/13/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE		04/13/04	04/13/04	04/14/04
H8602-1	4 WALL COMP.	<10.0	<10.0	912
H8602-2	REMD. BACKFILL	<10.0	<10.0	1140
H8602-3	BOTT. COMP. 12'BGS	<10.0	<10.0	1310
Quality Control		834	823	950
True Value QC		800	800	1000
% Recovery		104	103	95.0
Relative Percent Difference		7.4	3.6	6.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl^-: Std. Methods 4500-Cl^-B
*Analyses performed on 1:4 w:v aqueous extracts.

Chemist

4/14/04
Date

H8602.XLS

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page ____ of ____

		BILL TO	
Company Name:	Rice Operating	P.O. #:	
Project Manager:	Kristen Farris	Company:	
Address:	122 W. Taylor	Attn:	
City:	Hobbs State: NM Zip: 88240	Address:	
Phone #:	393-9174 Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	M-16-2	Phone #:	
Project Location:	BD	Fax #:	
Sampler Name:	J. Gatts		

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Cl.	TPH 8015
H8602-1	4 WALL Comp	C				X					X		4/13/04	12:30	X	X
-2	Round Backfill	C				X					X		4/13/04	1:15	X	X
-3	Batt. Comp 12'bgs	C				X					X		4/13/04	12:45	X	X

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.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collection, including attorney's fees.

Sampler Relinquished:	Date:	Received By:	
	Time:		
Relinquished By: J. Gatts	Date: 4/13/04	Received By: (Lab Staff) Burgess Cook	
	Time: 3:30		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition: Cool: ☒ Yes ☐ No; Intact: ☒ Yes ☐ No	CHECKED BY: (Initials)

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

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

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Roy Rascon
Rice Operating Co.
122 W. Taylor
Hobbs, NM 88240

Project: M-16-2 Jct Soil Bore
Project Number: None Given
Location: BD

Lab Order Number: 4G20005

Report Date: 07/23/04

Rice Operating Co.	Project: M-16-2 Jct Soil Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	07/23/04 10:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
10' South Grab @ 38' Bgs	4G20005-01	Soil	07/15/04 12:30	07/20/04 08:00

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

Rice Operating Co.	Project: M-16-2 Jct Soil Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	07/23/04 10:16

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
10' South Grab @ 38' Bgs (4G20005-01) Soil									
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EG42013	07/20/04	07/22/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*83.2 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*77.4 %*	*70-130*		"	"	"	"	

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Rice Operating Co.	Project: M-16-2 Jct Soil Bore	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Roy Rascon	07/23/04 10:16

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
10' South Grab @ 38' Bgs (4G20005-01) Soil									
Chloride	**202**	20.0	mg/kg Wet	2	EG42111	07/20/04	07/21/04	SW 846 9253	
% Solids	**99.0**		%	1	EG42011	07/20/04	07/20/04	% calculation	

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Rice Operating Co. 122 W. Taylor Hobbs NM, 88240	Project: M-16-2 Jct Soil Bore Project Number: None Given Project Manager: Roy Rascon	Fax: (505) 397-1471 **Reported:** 07/23/04 10:16

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 EG42013 - Solvent Extraction (GC)										
Blank (EG42013-BLK1)				Prepared: 07/20/04 Analyzed: 07/22/04						
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	*47.1*		*mg/kg*	*50.0*		*94.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.9*		*"*	*50.0*		*75.8*	*70-130*			
LCS (EG42013-BS1)				Prepared: 07/20/04 Analyzed: 07/22/04						
Gasoline Range Organics C6-C12	470	10.0	mg/kg wet	500		94.0	75-125			
Diesel Range Organics >C12-C35	488	10.0	"	500		97.6	75-125			
Total Hydrocarbon C6-C35	958	10.0	"	1000		95.8	75-125			
Surrogate: 1-Chlorooctane	*39.6*		*mg/kg*	*50.0*		*79.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*40.6*		*"*	*50.0*		*81.2*	*70-130*			
Calibration Check (EG42013-CCV1)				Prepared: 07/20/04 Analyzed: 07/22/04						
Gasoline Range Organics C6-C12	420		mg/kg	500		84.0	80-120			
Diesel Range Organics >C12-C35	474		"	500		94.8	80-120			
Total Hydrocarbon C6-C35	894		"	1000		89.4	80-120			
Surrogate: 1-Chlorooctane	*57.2*		*"*	*50.0*		*114*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.3*		*"*	*50.0*		*84.6*	*70-130*			
Matrix Spike (EG42013-MS1)	**Source: 4G20004-01**			Prepared: 07/20/04 Analyzed: 07/22/04						
Gasoline Range Organics C6-C12	481	10.0	mg/kg dry	549	ND	87.6	75-125			
Diesel Range Organics >C12-C35	514	10.0	"	549	ND	93.6	75-125			
Total Hydrocarbon C6-C35	995	10.0	"	1100	ND	90.5	75-125			
Surrogate: 1-Chlorooctane	*51.6*		*mg/kg*	*50.0*		*103*	*70-130*			
Surrogate: 1-Chlorooctadecane	*41.9*		*"*	*50.0*		*83.8*	*70-130*			
Matrix Spike Dup (EG42013-MSD1)	**Source: 4G20004-01**			Prepared: 07/20/04 Analyzed: 07/22/04						
Gasoline Range Organics C6-C12	471	10.0	mg/kg dry	549	ND	85.8	75-125	2.10	20	
Diesel Range Organics >C12-C35	492	10.0	"	549	ND	89.6	75-125	4.37	20	
Total Hydrocarbon C6-C35	963	10.0	"	1100	ND	87.5	75-125	3.27	20	
Surrogate: 1-Chlorooctane	*53.5*		*mg/kg*	*50.0*		*107*	*70-130*			
Surrogate: 1-Chlorooctadecane	*39.0*		*"*	*50.0*		*78.0*	*70-130*			

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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 EG42011 - General Preparation (Prep)										
Blank (EG42011-BLK1)				Prepared & Analyzed: 07/20/04						
% Solids	100		%							
Duplicate (EG42011-DUP1)		**Source: 4G16012-01**		Prepared & Analyzed: 07/20/04						
% Solids	99.0		%		98.0			1.02	20	
Batch EG42111 - Water Extraction										
Blank (EG42111-BLK1)				Prepared: 07/20/04 Analyzed: 07/21/04						
Chloride	ND	20.0	mg/kg Wet							
Matrix Spike (EG42111-MS1)		**Source: 4G20003-01**		Prepared: 07/20/04 Analyzed: 07/21/04						
Chloride	2200	20.0	mg/kg Wet	500	1720	96.0	80-120			
Matrix Spike Dup (EG42111-MSD1)		**Source: 4G20003-01**		Prepared: 07/20/04 Analyzed: 07/21/04						
Chloride	2210	20.0	mg/kg Wet	500	1720	98.0	80-120	0.454	20	
Reference (EG42111-SRM1)				Prepared: 07/20/04 Analyzed: 07/21/04						
Chloride	5000		mg/kg	5000		100	80-120			

Notes and Definitions

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: 7-23-04

Raland K. Tuttle, QA Officer
Celey D. Keene, Lab Director, Org. Tech Director
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sara Molina, Chemist
Sandra Biezugbe, 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: M-16-2 JCT. Soil bor
Project #:
Project Loc: BD
PO #: 783

4G20005

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers (4oz glass)	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For (TCLP / TOTAL): [redacted] / CL / [redacted]	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
-01	10' South grab @ 38' BGS	7/15/04	12:30	1	X									X		X			X												

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7/19/04	3:00	[signature]	7/19	1800
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
[signature]	7/20	8 am	[signature]	7-20-04	0800

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
Rec 3.0°C

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

Client: Rice Operating Co.

Date/Time: 07-20-04 @ 0845

Order #: 4G20005

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	3.0 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:

_____

_____

_____

_____

_____

_____

_____

_____

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
CALIBRATION GAS
GAS COMPOSITION: ISOBUTYLENE
AIR
LOT NO: 02-22-30
EXP. DATE: 11/20/04
METER READING
ACCURACY: 99.8

SERIAL NO: 104412

100 PPM
BALANCE
FILL DATE: 5/20/03
ACCURACY: + or - 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE
BD	M-16-2	M	16	21	37

SAMPLE	PID RESULT	SAMPLE	PID RESULT
15' West 5'	0	N. WALL	0
15' West 6'	0	4 WALL comp	0
15' West 7'	0	Bott. Comp	0
15' West 8'	0	Remd. Backfill	0
15' West 9'	0		
15' West 10'	0		
15' West 11'	0		
15' West 12'	0		
15' West 13'	0		
15' West 14'	0		
N. WALL	0		
S. WALL	0		
E. WALL	0		

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

Joe Gatto
Signature

4/13/04
Date

LABORATORY TEST REPORT

PETTIGREW & ASSOCIATES, P.A.

1110 N. GRIMES
HOBBS, NM 88240
(505) 393-9827

AASHTO R18

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

To: Rice Operating
Attn: Carolyn Haynes
122 W. Taylor
Hobbs, NM 88240

Material: Red Clay

Test Method: ASTM: D 2922

Project: BD M - 16-2

Date of Test: May 12, 2004

Depth: Finished Subgrade

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG-1	Center of Pit	102.4	17.5	

Control Density: 109.5
ASTM: D 698

Optimum Moisture: 16.6%

Required Compaction: 95%

Lab No.: 04

Copies To: Rice

RECEIVED
MAY 20 2004
RICE OPERATING
HOBBS, NM

PETTIGREW & ASSOCIATES

BY: S.E.T.