

# **LINN ENERGY**

2130 W. Bender Blvd.  
Hobbs, NM 88241  
Phone 575.738.1739

## **J.L. Keel B #25**

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# **Closure Report**

API 30-015-05088

BLM Event No. 11NU094TG

Release Date: June 24, 2011

Unit Letter L, Section 6, Township 17S, Range 31E

# Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

**November 28, 2012**

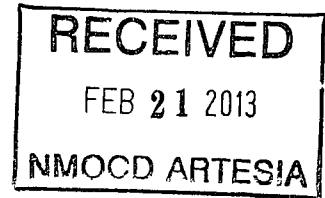
Mike Bratcher

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau – District 2

811 S. First St.

Artesia, NM 88210



**RE: TERMINATION REQUEST**

**Linn Energy – J.L. Keel B #025 AD**

**UL/L sec. 6 T17S R31E**

**API No. 30-015-05088**

**BLM Event No. 11NU094TG**

Mr. Bratcher:

Linn Energy has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the site referenced above.

## **Background and Previous Work**

The site is an accidental discharge of produced water associated with the J.L. Keel B #025. An injection line ruptured and released fluids onto pasture land. The site is located approximately 4 miles northeast of Loco Hills, in unit letter 'L' of section 6, T17S, R31E in Eddy County, New Mexico.

On October 17, 2012, RECS personnel collected samples from a soil bore (SB-1) drilled at the site (Figure, Appendix A). Samples were collected at surface, 5 ft., 10 ft., and at 10 ft. intervals thereafter to a depth of 80 ft. below ground surface (bgs). The samples were submitted to a laboratory for chloride, TPH, and BTEX analyses (Appendix C). The soil bore was advanced past red bed clay, and was left open to accumulate potential groundwater. On October 20, 2012, contract personnel used a Solinist water meter to determine if any groundwater had accumulated within the soil bore. No groundwater was detected at the total depth of 77.12 ft. bgs (Appendix A). The soil bore was plugged in full with bentonite.

On October 26, 2012, a Corrective Action Plan (CAP) was submitted to the BLM detailing remediation plans for the site. Given that the site is within a known area of no groundwater, the impacted area would be excavated to 3 ft. bgs. The excavation walls would contain no more than 250 mg/kg chloride. Final grab samples collected from the sidewalls and bottom would be submitted to a commercial laboratory for chloride and TPH confirmation. Excavated soils would be removed to a NMOCD approved disposal facility. The excavation would be backfilled with clean, imported soil, and the top 2 ft. of the excavation would be backfilled with topsoil similar

to the native terrain. The site would be contoured to the surrounding landscape with erosion controls. The site would be seeded with BLM seed mix #2 and #4 in a 50/50 mix. Subsequently, a written report requesting termination status of the site regulatory file would be submitted.

On November 1, 2012, BLM approved the CAP with the stipulation that the excavation bottom be delineated an additional 3 ft below the existing 3 ft. depth, in 1 ft. intervals. Laboratory results from these samples would determine further activities at the site.

On November 6, 2012, a vertical sample point was advanced a further 3 ft. bgs within the existing 3 ft. excavation. Samples were collected and field tested at 1 ft. intervals. The samples were submitted to a laboratory for chloride and TPH analyses. The samples contained 160 mg/kg chloride or less and 508 mg/kg DRO or less.

On November 14, 2012, grab samples from the excavation walls and bottom were field tested and submitted to a laboratory for chloride, TPH, and BTEX analyses (Appendix C). The Pt.2 Bottom sample contained 608 mg/kg chloride, and the S Wall E End sample contained 416 mg/kg chloride. Remaining samples contained chloride levels of 144 mg/kg or less, DRO of 57 mg/kg or less, and non-detect BTEX levels.


Impacted soils were removed to a NMOCD approved disposal facility. The excavation was backfilled with clean, imported soil similar to the native terrain. The site was contoured to the surrounding landscape with erosion controls installed. The site will be seeded with BLM seed mix #2 and #4 in a 50/50 mix. See Appendix B for photographs of field activities.

## **Conclusion**

Due to the removal of impacted soils and the absence of groundwater in the area, RECS, on behalf of Linn Energy, submits the final form C-141 (Appendix D) and respectfully requests the closure of the regulatory file for this site.

RECS appreciates the opportunity to work with you on this project. Please call me at the number below if you have any questions or comments.

Sincerely,



Bruce Baker  
Head Foreman  
RECS  
(575) 631-5157

Attachments:

Figure 1: Site Plat with Soil Bore and Vertical Lab Data  
Figure 2: Site Plat with Excavation Lab Data  
Appendix A: Soil Bore Log and Letter of Groundwater Verification  
Appendix B: Site Photographs  
Appendix C: Laboratory Results  
Appendix D: Final Form C-141

# Figures

**RICE Environmental Consulting and Safety (RECS)**

P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293

# Soil Bore and Vertical Lab Data

PROPOSED PAD CORNER

Vertical #2

Depth	CI-	GRO	DRO
4'	32	<50	99.1
5'	48	<50	508
6'	160	<10	<10



LINN INJECTION LINE

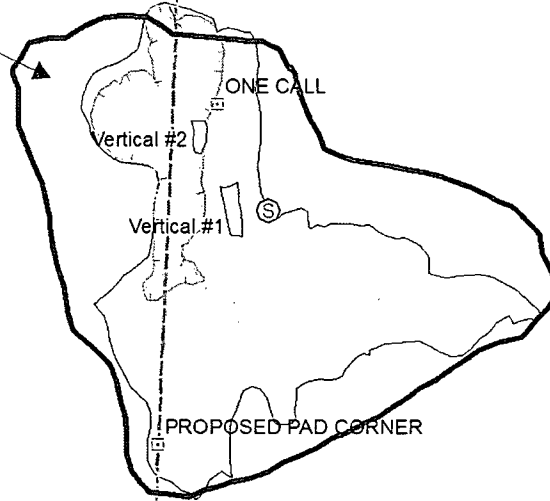
SB-1

Depth	CI-	GRO	DRO	B	T	E	X
SS	320	<10	<10	<0.05	<0.05	<0.05	<0.15
5'	608	<10	<10	<0.05	<0.05	<0.05	<0.15
10'	2480	<10	<10	<0.05	<0.05	<0.05	<0.15
20'	1380	<10	<10	<0.05	<0.05	<0.05	<0.15
30'	3760	<10	<10	<0.05	<0.05	<0.05	<0.15
40'	1880	<10	<10	<0.05	<0.05	<0.05	<0.15
50'	2560	<10	<10	<0.05	<0.05	<0.05	<0.15
60'	1230	<10	<10	<0.05	<0.05	<0.05	<0.15
70'	1260	<10	<10	<0.05	<0.05	<0.05	<0.15
80'	1180	<10	<10	<0.05	<0.05	<0.05	<0.15

PROPOSED WELL

PROPOSED PAD EDGE

106' x 82' x 3'



## Legend

- Ⓢ SOIL BORE #1
- Ⓜ STAKES
- ⦿ WELLHEAD
- ▭ EXCAVATION
- BURIED PIPELINE
- PAD
- ▭ VERTICAL
- ▭ PREVIOUS EXCAVATION
- ▭ STAIN (4,328 sq ft)

DGW = None

Landowner: BLM

BLM Event # 11NU094TG



**LINN**  
**J. L. KEEL B**  
**#25 AD**  
 UL/L SECTION 6  
 T-17-S R-31-E  
 EDDY COUNTY, NM

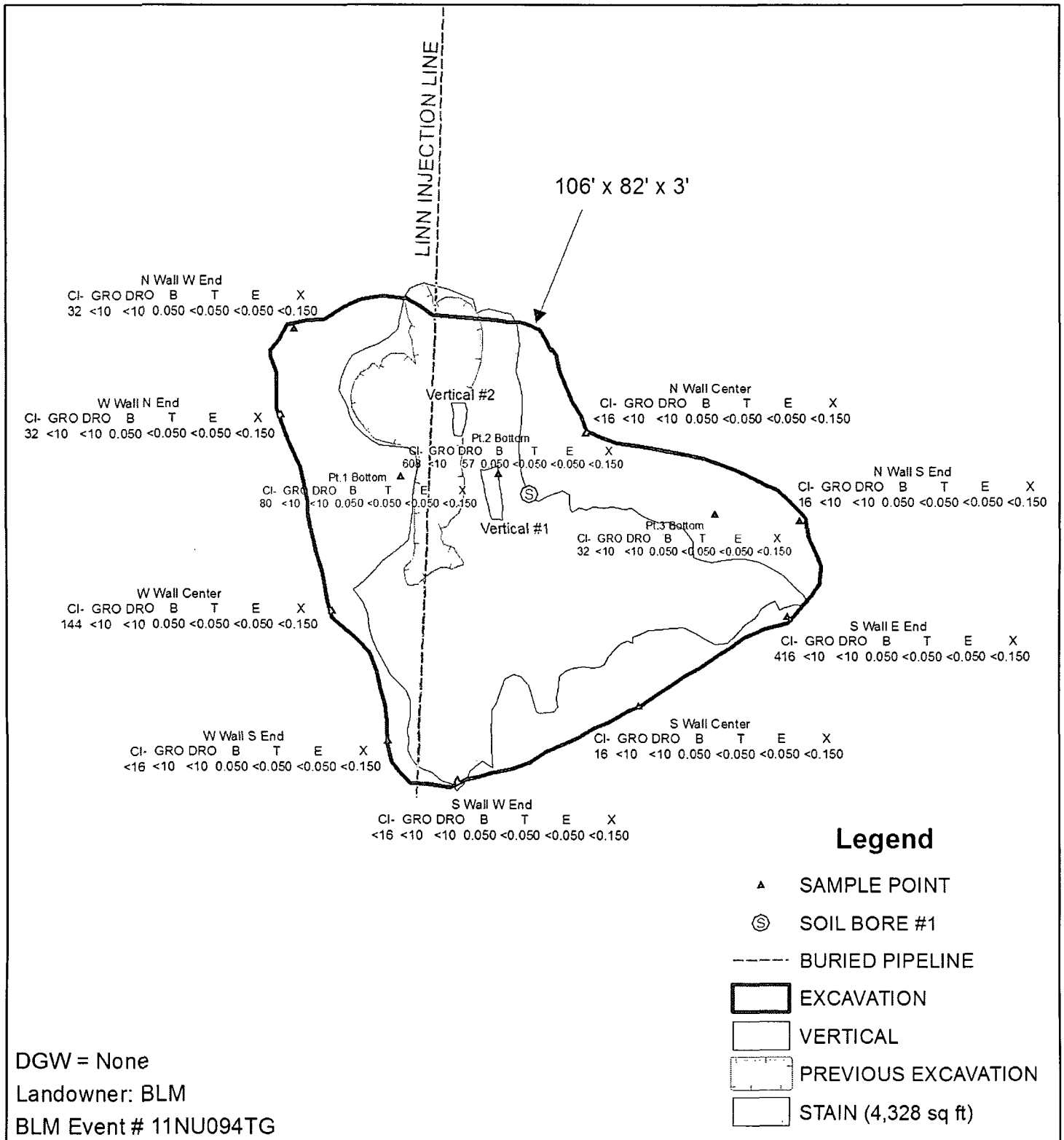
Figure 1



0 40 80  
 Feet

GPS date: 11/6/12 DH  
 Drawing date: 11/7/12  
 Drafted by: A.C. Ruth

# Excavation Lab Data



**LINN**  
**J. L. KEEL B**  
**#25 AD**  
 UL/L SECTION 6  
 T-17-S R-31-E  
 EDDY COUNTY, NM

**Figure 2**



0 30 60  
 Feet

GPS date: 11/6/12 DH  
 Drawing date: 11/7/12  
 Drafted by: A.C. Ruth

# Appendix A

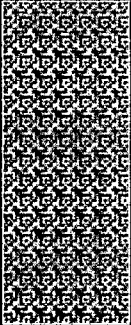
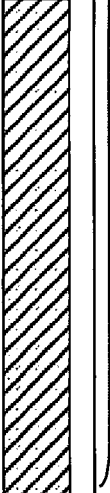
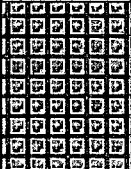
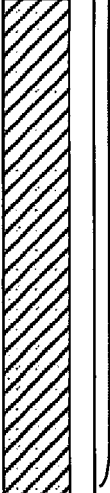
## Soil Bore Log and Letter of Groundwater Verification

**RICE Environmental Consulting and Safety (RECS)**

P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293



Logger:	Kyle Norman					
Driller:	Harrison & Cooper, Inc.					
Drilling Method:	Air rotary		Linn Energy J.L.	Well ID:		
Start Date:	10/17/2012		Keel B #25	SB-1		
End Date:	10/17/2012	Project Consultant: RECS				
Comments: The soil bore is located 8 ft east of the trench. All samples were from cuttings.			Location: UL/L sec. 6 T-17-S R-31-E			
DRAFTED BY: L. Weinheimer			Lat: 32°51'40.266"N	County: Eddy		
TD = 82 ft			Long: 103°54'55.056"W	State: NM		
Depth (feet)	Chloride tests	GRO	DRO	Description	Lithology	Well Construction
SS	320	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
5 ft	608	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
10 ft	2480	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
20 ft	1380	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
30 ft	3760	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
40 ft	1880	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
50 ft	2560	<10	<10			
B <0.05 T <0.05						
E <0.05 X <0.15						
60 ft	1230	<10	<10			

Depth (feet)	Chloride tests	GRO	DRO	Description	Lithology	Well Construction
	B <0.05 T <0.05			Red Sandy Clay		
	E <0.05 X <0.15					
70 ft	1260	<10	<10			
	B <0.05 T <0.05					
	E <0.05 X <0.15					
80 ft	1180	<10	<10			
	B <0.05 T <0.05			RED BED CLAY		
	E <0.05 X <0.15					
82 ft						

*Arc Environmental*

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

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October 22, 2012

Mr. Hack Conder  
RICE Environmental Consulting and Safety  
112 West Taylor  
Hobbs, New Mexico 88240

**Re: LINN Operating JL Keel B #025**

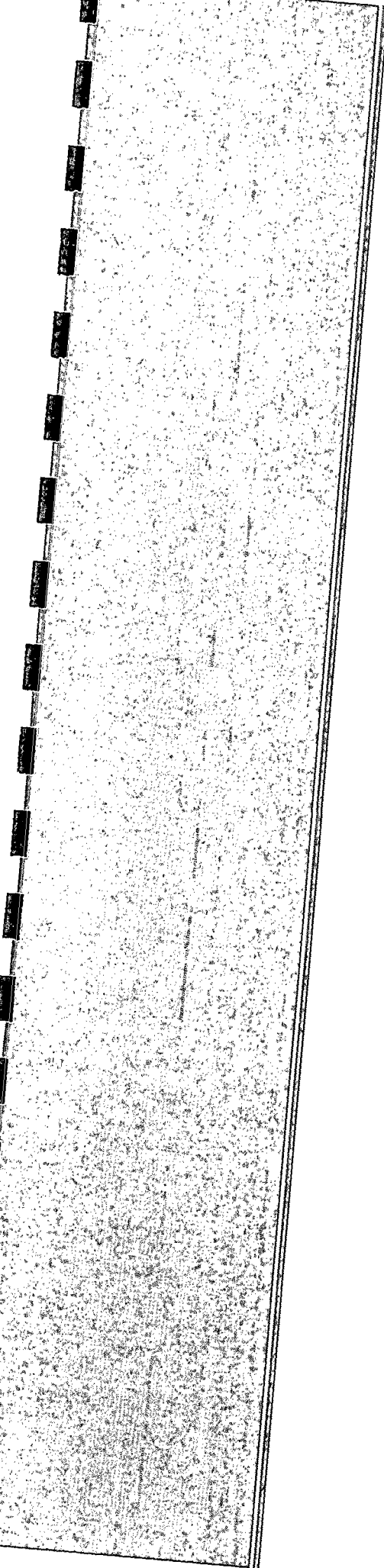
Mr. Conder,

On Saturday October 20, 2012 soil bore #1 at the JL Keel B #025, Eddy County T17S, R31E, Sec 6 Unit Letter L was checked with a Solinist Water Level Meter for water accumulation within the borehole. The meter indicated no water within the borehole at the total depth of 77.12 feet.

Sincerely,  
*Arc Environmental*

*Rozanne Johnson*  
Rozanne Johnson

*Electronic Copy:* Hack Conder  
Bruce Baker

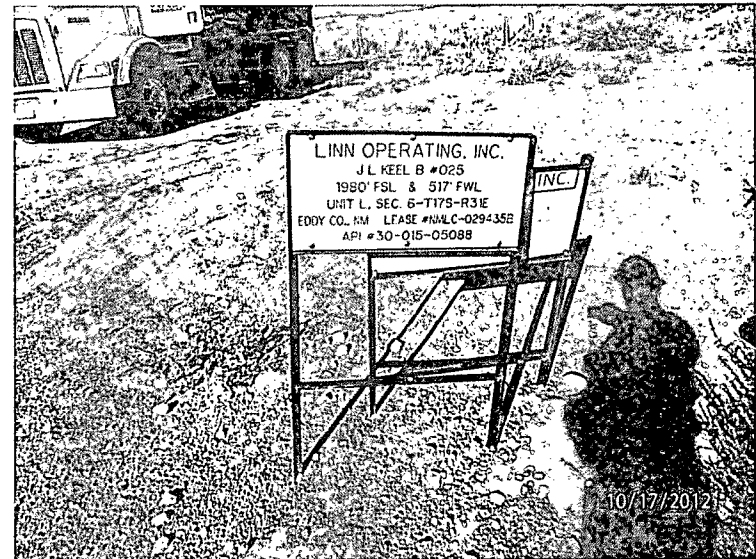


# Appendix B

Site Photographs

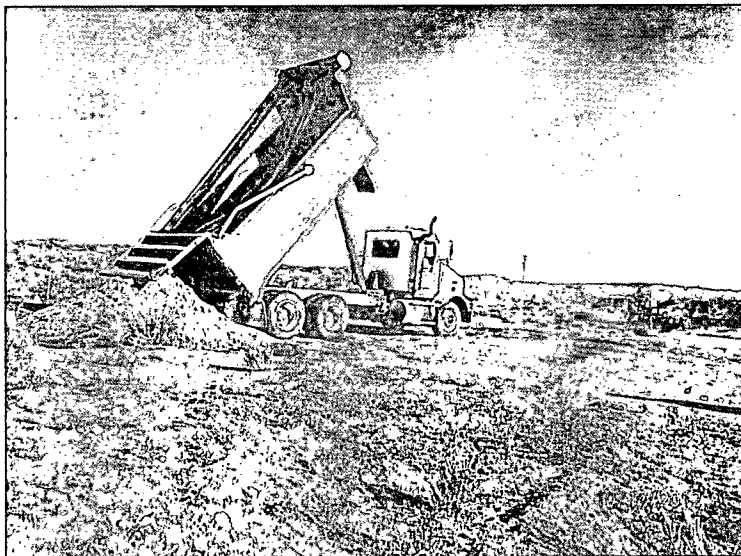
RICE Environmental Consulting and Safety (RECS)  
P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293

**J.L. Keel B #025**  
Unit L, Section 6, T17S, R31E



Location sign, facing west

10/17/12



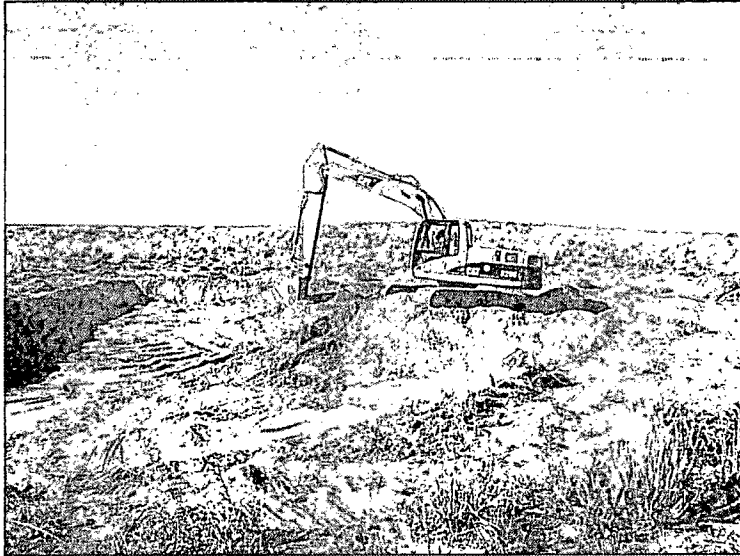
Importing backfill for vertical, facing north

10/17/12



Digging Vertical #1, facing south

10/17/12



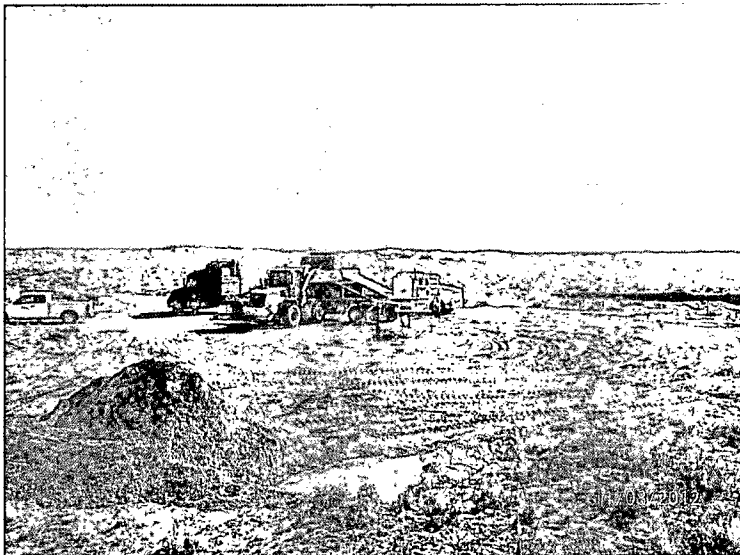
Excavating, facing west

11/5/12



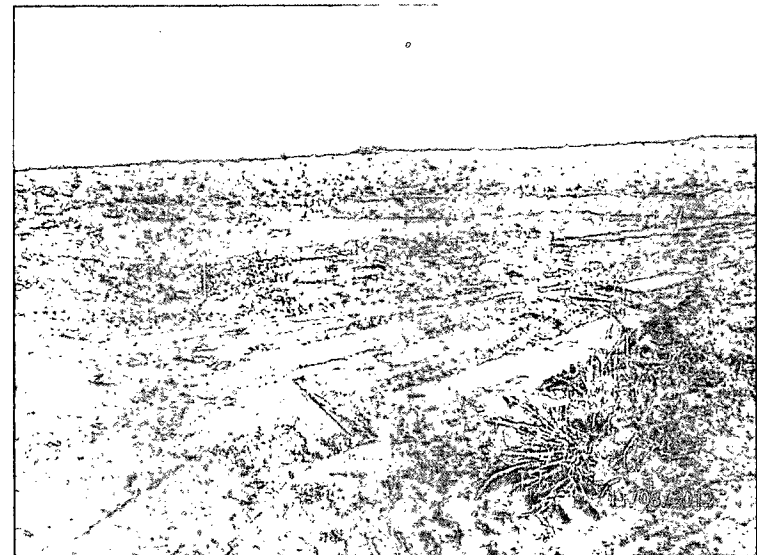
Sampling Vertical #2, facing west

11/6/12



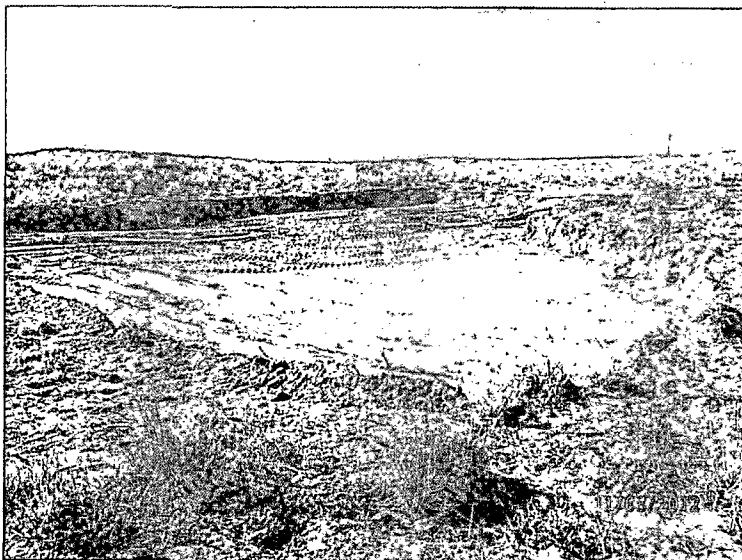
Exporting spoil pile, facing southeast

11/8/12



Excavation, facing east

11/8/12



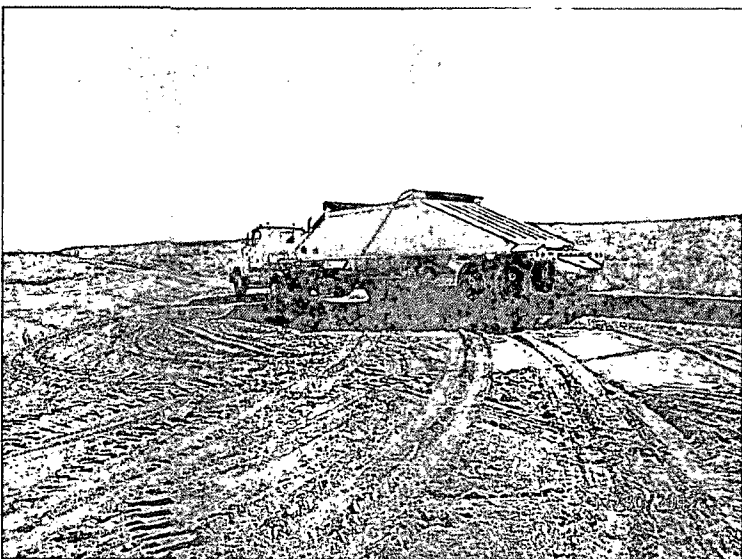
Excavation, facing west

11/8/12



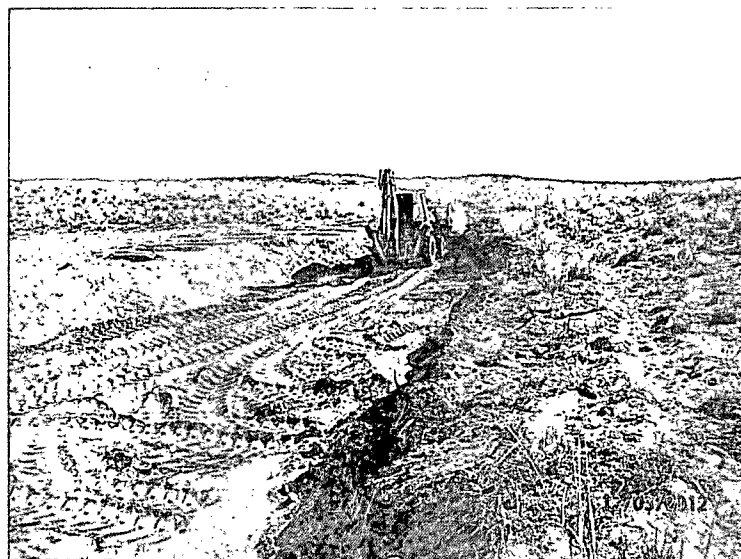
Collecting sample, facing north

11/14/12



Importing topsoil, facing southeast

11/30/12



Backfilling, facing south east

12/3/12





Site complete, facing south

12/5/12



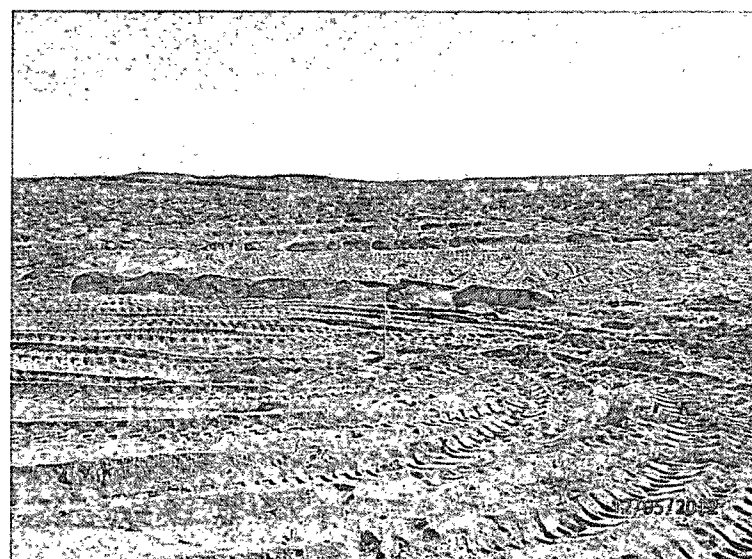
Site complete, facing north

12/5/12



Site complete, facing east

12/5/12



Site complete, facing southeast

12/5/12



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	10/18/2012	Sampling Date:	10/17/2012
Reported:	10/24/2012	Sampling Type:	Soil
Project Name:	J.L. KEEL B #25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 1 @ SURFACE (H202541-01)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIB) 102 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	10/22/2012	ND	416	104	400	3.92	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/23/2012	ND	179	89.5	200	1.14	
DRO >C10-C28	<10.0	10.0	10/23/2012	ND	176	87.9	200	0.0370	

Surrogate: 1-Chlorooctane 82.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.3 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	10/18/2012	Sampling Date:	10/17/2012
Reported:	10/24/2012	Sampling Type:	Soil
Project Name:	J.L. KEEL B #25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 1 @ 5' (H202541-02)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	10/22/2012	ND	416	104	400	3.92	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	179	89.5	200	1.14	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	176	87.9	200	0.0370	

Surrogate: 1-Chlorooctane 70.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 69.2 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 10/18/2012  
 Reported: 10/24/2012  
 Project Name: J.L. KEEL B #25  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 10/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: SB 1 @ 10' (H202541-03)**

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

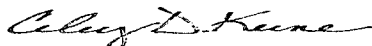
Surrogate: 1-Chlorooctane 74.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 79.2 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	10/18/2012	Sampling Date:	10/17/2012
Reported:	10/24/2012	Sampling Type:	Soil
Project Name:	J.L. KEEL B #25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 1 @ 20' (H202541-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1380	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

Surrogate: 1-Chlorooctane 79.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.6 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 10/18/2012  
 Reported: 10/24/2012  
 Project Name: J.L. KEEL B #25  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 10/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Caley D. Keene

**Sample ID: SB 1 @ 30' (H202541-05)**

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

Surrogate: 1-Chlorooctane 71.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 76.5 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 10/18/2012  
 Reported: 10/24/2012  
 Project Name: J.L. KEEL B #25  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 10/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: SB 1 @ 40' (H202541-06)**

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

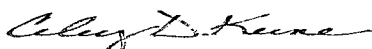
Surrogate: 1-Chlorooctane 75.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 81.2 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 10/18/2012  
Reported: 10/24/2012  
Project Name: J.L. KEEL B #25  
Project Number: NONE GIVEN  
Project Location: NONE GIVEN

Sampling Date: 10/17/2012  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SB 1 @ 50' (H202541-07)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

Surrogate: 1-Chlorooctane 74.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 78.5 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	10/18/2012	Sampling Date:	10/17/2012
Reported:	10/24/2012	Sampling Type:	Soil
Project Name:	J.L. KEEL B #25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 1 @ 60' (H202541-08)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

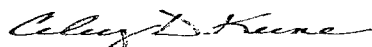
Surrogate: 1-Chlorooctane 79.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 86.0 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 10/18/2012  
 Reported: 10/24/2012  
 Project Name: J.L. KEEL B #25  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 10/17/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: SB 1 @ 70' (H202541-09)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

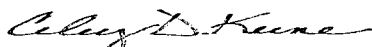
Surrogate: 1-Chlorooctane 76.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.0 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	10/18/2012	Sampling Date:	10/17/2012
Reported:	10/24/2012	Sampling Type:	Soil
Project Name:	J.L. KEEL B #25	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NONE GIVEN		

**Sample ID: SB 1 @ 80' (H202541-10)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2012	ND	1.98	99.0	2.00	2.23	
Toluene*	<0.050	0.050	10/22/2012	ND	2.15	108	2.00	2.85	
Ethylbenzene*	<0.050	0.050	10/22/2012	ND	2.16	108	2.00	2.30	
Total Xylenes*	<0.150	0.150	10/22/2012	ND	6.54	109	6.00	2.75	

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	10/22/2012	ND	416	104	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/19/2012	ND	166	83.2	200	5.81	
DRO >C10-C28	<10.0	10.0	10/19/2012	ND	159	79.4	200	9.04	

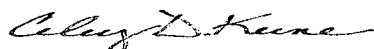
Surrogate: 1-Chlorooctane 72.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 75.4 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

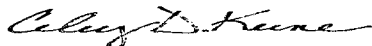
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

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\*=Accredited Analyte

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---

Celest D. Keene, Lab Director/Quality Manager

**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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Page 13 of 13

Company Name: RECS				<b>BILL TO</b>												<b>ANALYSIS REQUEST</b>											
Project Manager: Bruce Baker				P.O. #:												<div style="display: flex; flex-direction: column; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chlorides</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH 8015 M</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Texas TPH</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Complete Cations/Anions</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TDS</div> </div>											
Address:				Company:																							
City: Hobbs State: NM Zip: 88240				Attn:																							
Phone #: Fax #:				Address:																							
Project #: Project Owner:				City:																							
Project Name:				State: Zip:																							
Project Location: J.L. Keel B # 25				Phone #:																							
Sampler Name: Kyle Norman				Fax #:																							
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	GRAB OR (COMP. # CONTAINERS)	MATRIX	PRESERV.	SAMPLING																						
			GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	DATE	TIME																					
H202541-																											
01	SB1 @ Surface	G 1	✓	✓	10-17-12	3:05	✓	✓	✓																		
02	SB1 @ 5'	G 1	✓	✓	10-17-12	3:08	✓	✓	✓																		
03	SB1 @ 10'	G 1	✓	✓	10-17-12	3:12	✓	✓	✓																		
04	SB1 @ 20'	G 1	✓	✓	10-17-12	3:20	✓	✓	✓																		
05	SB1 @ 30'	G 1	✓	✓	10-17-12	4:00	✓	✓	✓																		
06	SB1 @ 40'	G 1	✓	✓	10-17-12	4:20	✓	✓	✓																		
07	SB1 @ 50'	G 1	✓	✓	10-17-12	4:29	✓	✓	✓																		
08	SB1 @ 60'	G 1	✓	✓	10-17-12	4:32	✓	✓	✓																		
09	SB1 @ 70'	G 1	✓	✓	10-17-12	5:10	✓	✓	✓																		
10	SB1 @ 80'	G 1	✓	✓	10-17-12	5:18	✓	✓	✓																		

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Relinquished By:	Date: 10-18-12	Received By:	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
<i>Kyle Norman</i>	Time: 9:40	<i>Chloe Greene</i>	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		email results	
Delivered By: (Circle One)		Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		Cool Intact	CDN	
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

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

#26

November 09, 2012

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: J.L. KEEL B #025

Enclosed are the results of analyses for samples received by the laboratory on 11/07/12 9:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

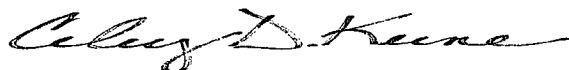
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, 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

Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 11/07/2012  
 Reported: 11/09/2012  
 Project Name: J.L. KEEL B #025  
 Project Number: BLM # 11NU094TG  
 Project Location: NONE GIVEN

 Sampling Date: 11/06/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: VERTICAL #2 @ 4' (H202710-01)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	11/07/2012	ND	416	104	400	0.00	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	11/08/2012	ND	189	94.5	200	4.87	
<b>DRO &gt;C10-C28</b>	<b>99.1</b>	50.0	11/08/2012	ND	204	102	200	9.18	

Surrogate: 1-Chlorooctane 88.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.4 % 63.6-154

**Sample ID: VERTICAL #2 @ 5' (H202710-02)**

Chloride, SM4500CI-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	11/07/2012	ND	416	104	400	0.00	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	11/08/2012	ND	189	94.5	200	4.87	
<b>DRO &gt;C10-C28</b>	<b>508</b>	50.0	11/08/2012	ND	204	102	200	9.18	


Surrogate: 1-Chlorooctane 92.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 108 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	11/07/2012	Sampling Date:	11/06/2012
Reported:	11/09/2012	Sampling Type:	Soil
Project Name:	J.L. KEEL B #025	Sampling Condition:	Cool & Intact
Project Number:	BLM # 11NU094TG	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

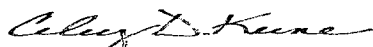
**Sample ID: VERTICAL #2 @ 6' (H202710-03)**

Chloride, SM4500Cl-B			mg/kg							Analyzed By: HM
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>160</b>	16.0	11/07/2012	ND	416	104	400	0.00		
TPH 8015M			mg/kg							Analyzed By: MS
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	11/08/2012	ND	189	94.5	200	4.87		
DRO >C10-C28	<10.0	10.0	11/08/2012	ND	204	102	200	9.18		
<i>Surrogate: 1-Chlorooctane</i>			<i>91.9 %</i>		<i>65.2-140</i>					
<i>Surrogate: 1-Chlorooctadecane</i>			<i>105 %</i>		<i>63.6-154</i>					

Cardinal Laboratories

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Caley D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

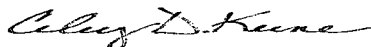
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Celey D. Keene, Lab Director/Quality Manager





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 5 of 5

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



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

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November 19, 2012

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: J. L. KEEL #025

Enclosed are the results of analyses for samples received by the laboratory on 11/14/12 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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 (V1, 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

Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 11/14/2012  
 Reported: 11/19/2012  
 Project Name: J. L. KEEL #025  
 Project Number: EVENT #11NU094TG  
 Project Location: NONE GIVEN

 Sampling Date: 11/14/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: N. WALL CENTER (H202769-01)**

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/19/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	211	105	200	3.20	

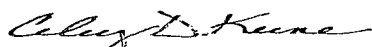
Surrogate: 1-Chlorooctane 86.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.0 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 11/14/2012  
 Reported: 11/19/2012  
 Project Name: J. L. KEEL #025  
 Project Number: EVENT #11NU094TG  
 Project Location: NONE GIVEN

 Sampling Date: 11/14/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S. WALL CENTER (H202769-02)**

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 118 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/19/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	211	105	200	3.20	

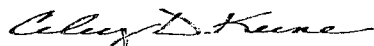
Surrogate: 1-Chlorooctane 82.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.5 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 11/14/2012  
 Reported: 11/19/2012  
 Project Name: J. L. KEEL #025  
 Project Number: EVENT #11NU094TG  
 Project Location: NONE GIVEN

 Sampling Date: 11/14/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S. WALL E. END (H202769-03)**

BTEX 8021B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7		
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7		
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0		
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2		
Total BTEX	<0.300	0.300	11/16/2012	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	11/19/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	211	105	200	3.20	


Surrogate: 1-Chlorooctane 86.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.2 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 11/14/2012  
Reported: 11/19/2012  
Project Name: J. L. KEEL #025  
Project Number: EVENT #11NU094TG  
Project Location: NONE GIVEN

Sampling Date: 11/14/2012  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: W. WALL S. END (H202769-05)**

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 121 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/19/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	206	103	200	1.52	

Surrogate: 1-Chlorooctane 80.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.1 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 11/14/2012  
 Reported: 11/19/2012  
 Project Name: J. L. KEEL #025  
 Project Number: EVENT #11NU094TG  
 Project Location: NONE GIVEN

 Sampling Date: 11/14/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: N. WALL W. END (H202769-07)**

BTEX 8021B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7		
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7		
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0		
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2		
Total BTEX	<0.300	0.300	11/16/2012	ND						

Surrogate: 4-Bromofluorobenzene (PID) 120 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/19/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	206	103	200	1.52	

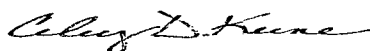
Surrogate: 1-Chlorooctane 76.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 84.7 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	11/14/2012	Sampling Date:	11/14/2012
Reported:	11/19/2012	Sampling Type:	Soil
Project Name:	J. L. KEEL #025	Sampling Condition:	Cool & Intact
Project Number:	EVENT #11NU094TG	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 2 BOTTOM (H202769-08)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7		
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7		
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0		
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2		
Total BTEX	<0.300	0.300	11/16/2012	ND						

Surrogate: 4-Bromofluorobenzene (PID) 122 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	11/19/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	57.0	10.0	11/16/2012	ND	206	103	200	1.52	

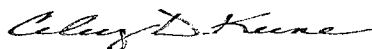
Surrogate: 1-Chlorooctane 83.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 92.4 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	11/14/2012	Sampling Date:	11/14/2012
Reported:	11/19/2012	Sampling Type:	Soil
Project Name:	J. L. KEEL #025	Sampling Condition:	Cool & Intact
Project Number:	EVENT #11NU094TG	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: W. WALL CENTER (H202769-09)**

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 120 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	11/19/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	206	103	200	1.52	

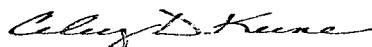
Surrogate: 1-Chlorooctane 83.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.6 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	11/14/2012	Sampling Date:	11/14/2012
Reported:	11/19/2012	Sampling Type:	Soil
Project Name:	J. L. KEEL #025	Sampling Condition:	Cool & Intact
Project Number:	EVENT #11NU094TG	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: W. WALL N. END (H202769-10)**

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/19/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	206	103	200	1.52	

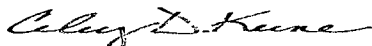
Surrogate: 1-Chlorooctane 76.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.2 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	11/14/2012	Sampling Date:	11/14/2012
Reported:	11/19/2012	Sampling Type:	Soil
Project Name:	J. L. KEEL #025	Sampling Condition:	Cool & Intact
Project Number:	EVENT #11NU094TG	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: N. WALL S. END (H202769-11)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7		
Toluene*	<0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7		
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0		
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2		
Total BTEX	<0.300	0.300	11/16/2012	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 119 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/19/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	206	103	200	1.52	

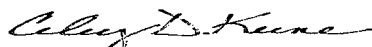
Surrogate: 1-Chlorooctane 85.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.3 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 11/14/2012  
 Reported: 11/19/2012  
 Project Name: J. L. KEEL #025  
 Project Number: EVENT #11NU094TG  
 Project Location: NONE GIVEN

 Sampling Date: 11/14/2012  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BOTTOM PT. 1 (H202769-12)**

BTEX 8021B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/17/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	<0.050	0.050	11/17/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/17/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/17/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/17/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 120 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/19/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	191	95.3	200	1.29	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	206	103	200	1.52	

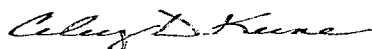
Surrogate: 1-Chlorooctane 81.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.8 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

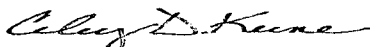
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

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Celey D. Keene, Lab Director/Quality Manager

[illegible]



2 of 2

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Rees</u>		BILL TO		ANALYSIS REQUEST																		
Project Manager: <u>Bruce Baker</u>		P.C. #:																				
Address:		Company:																				
City: State: Zip:		Attn:																				
Phone #: Fax #:		Address:																				
Project #: Project Owner:		City:																				
Project Name: <u>SIL, Rees H # 25</u>		State: Zip:																				
Project Location:		Phone #:																				
Sampler Name: <u>DOR HAN'S Event # 11/14/09 JLC</u>		Fax #:																				
FOR LAB USE ONLY	Lab I.D.	Sample I.D.	MATRIX	PRESERV	SAMPLING																	
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME									
	<u>H702369</u>	<u>N. Van't S. end</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>11-14-12</u>	<u>12:43</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
	<u>12</u>	<u>Better PT 1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>11-14-12</u>	<u>13:44</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						

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Relinquished By: <u>[Signature]</u>	Date: <u>11/14/12</u> Time: <u>4:50</u>	Received By: <u>[Signature]</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
			Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
			<u>B Baker</u> <u>JH center</u>	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<u>[Signature]</u>		

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

December 07, 2012

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: J. L. KEEL #025

Enclosed are the results of analyses for samples received by the laboratory on 12/03/12 8:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

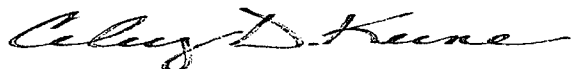
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, 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

Lab Director/Quality Manager



**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	12/03/2012	Sampling Date:	11/29/2012
Reported:	12/07/2012	Sampling Type:	Soil
Project Name:	J. L. KEEL #025	Sampling Condition:	Cool & Intact
Project Number:	EVENT #11NU094TG	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: IMPORTED SOIL (H202894-01)**

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/06/2012	ND	1.88	93.8	2.00	17.8	
Toluene*	<0.050	0.050	12/06/2012	ND	2.04	102	2.00	17.2	
Ethylbenzene*	<0.050	0.050	12/06/2012	ND	1.96	98.0	2.00	18.3	
Total Xylenes*	<0.150	0.150	12/06/2012	ND	5.92	98.6	6.00	18.5	
Total BTEX	<0.300	0.300	12/06/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 122 % 89.4-126

Chloride, SM4500CI-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/04/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/04/2012	ND	193	96.3	200	5.17	
DRO >C10-C28	<10.0	10.0	12/04/2012	ND	212	106	200	6.38	

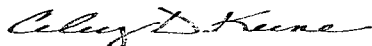
Surrogate: 1-Chlorooctane 84.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.1 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

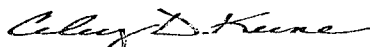
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



BILL TO						ANALYSIS REQUEST														
Company Name: <i>RIO</i>						P.O. #:														
Project Manager: <i>Bruce Butler</i>						Company:														
Address:						Attn:														
City: State: Zip:						Address:														
Phone #: Fax #:						City:														
Project #: Project Owner:						State: Zip:														
Project Name: <i>F.L. KELH 95</i>						Phone #:														
Project Location:						Fax #:														
Sampler Name: <i>D.R. Harris Phone 110409476</i>																				
FOR LAB USE ONLY						MATRIX	PRESERV	SAMPLING												
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						
<i>112028512</i>	<i>Amber Soil</i>	<i>G</i>	<i>1</i>			<i>✓</i>				<i>✓</i>			<i>11-29-02</i>	<i>9:00</i>	<i>✓</i>	<i>11-29-02</i>	<i>4-B-Try</i>			

Relinquished By: <i>Shelita Hays</i>		Date: <i>12/3/12</i>	Received By: <i>Wendi Hansen</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: <i>4:25</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS: <i>H. Lindner - e-mail received R. Barker - note - not sent</i>	
Time:					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:			Sample Condition Cool Intact <input checked="" type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: (Initials) <i>WPH</i>	

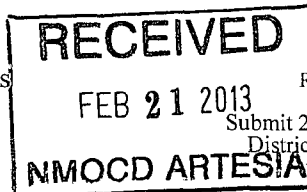
# Appendix D

Final Form C-141

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 5630 Hobbs, NM 88241  
Phone 575.393.4411 Fax 575.393.0293

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505



Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Linn Energy	Contact	Gary Wink
Address	2310 W. Bender, Hobbs, NM 88240	Telephone No.	575-738-1739 ext. 1218
Facility Name	J.L. Keel B #25	Facility Type	Injection Well
Surface Owner	BLM	Mineral Owner	Unknown
		Lease No.	30-015-05088

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	6	17S	31E					Eddy

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

#### NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	Unknown	Volume Recovered	Unknown
Source of Release	Injection line	Date and Hour of Occurrence	Unknown	Date and Hour of Discovery	6/24/2011
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			
If a Watercourse was Impacted, Describe Fully.*					
Describe Cause of Problem and Remedial Action Taken.* Injection line ruptured and released fluids onto pasture land.					
Describe Area Affected and Cleanup Action Taken.* The leak affected 4,328 square feet of pasture. The impacted soils were scraped to 3' below ground surface and removed to a NMOC D approved disposal facility. Representative soil samples of the excavation bottom were submitted for laboratory confirmation. The excavation was backfilled with clean imported soil similar to that of the native terrain, and the site was contoured to the surrounding landscape with erosion controls. The site will be seeded with BLM seed mix #2 and #4.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC D rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC D marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC D acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Signature: <i>Gary W. Wink</i>		OIL CONSERVATION DIVISION			
Printed Name: Gary Wink		Approved by District Supervisor:			
Title: Production Foreman		Approval Date:		Expiration Date:	
E-mail Address: gawink@linneenergy.com		Conditions of Approval:		Attached <input type="checkbox"/>	
Date: 2/20/13		Phone: (575) 738-1739 ext. 1218			

\* Attach Additional Sheets If Necessary