



## **LINN ENERGY**

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

# HE West B 85

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## Termination Request

API No. 30-015-28387

Release Date: March 6<sup>th</sup>, 2014

Unit Letter K, Section 3, Township 17S, Range 31E

**March 10, 2015**

**Jeffery L. Robertson**  
BLM-CFO  
Natural Resource Specialist  
620 E. Greene Street  
Carlsbad, NM 88220

**RE: Termination Request  
Linn HE West B 85  
UL/K sec. 3 T17S R31E  
API No. 30-015-28387**

Mr. Robertson:

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

### **Background and Previous Work**

The site is located approximately 5.6 miles west of Maljamar, New Mexico at UL/K sec. 3 T17S R31E. The site is located in an area of no known groundwater.

On March 6<sup>th</sup>, 2014, Linn spotted a release on the side of the road that occurred when a previously repaired line split open. The line released a total of 1 barrel of oil and 3.5 barrels of produced water over 1,023 square feet of pasture land. The line was shut in and repaired. A vacuum truck was called to the site and recovered 2 to 3 barrels of fluid. BLM was notified of the release on March 17<sup>th</sup>, 2014, and an initial C-141 was submitted to BLM for their approval (Appendix A).

RECS personnel were on site beginning on March 7<sup>th</sup>, 2014 to assess the release. Two points within the release were sampled at the surface and with depth (Figure 1). The samples were field tested for chlorides and organic vapors. Based on the sampling data, verticals were installed at the two points to further delineate the release. The verticals were sampled at regular intervals, and the samples were field tested for chlorides and organic vapors. Representative samples from both verticals were taken to a commercial laboratory for analysis (Appendix B). Both verticals returned elevated laboratory chloride readings, and Point 2 returned Gasoline Range Organics (GRO), Diesel Range Organics (DRO) and BTEX readings above regulatory standards.

On June 2<sup>nd</sup>, 2014, soil bores were installed at both points to determine the vertical extent of the contamination (Appendix B). SB-1 was installed to the depth of 21 ft bgs, and SB-2 was installed to a depth of 48 ft bgs. As the bores were advanced, samples were taken at regular intervals and field tested for chlorides and organic vapors. Representative samples were taken to

a commercial laboratory for analysis. SB-1 returned chloride, GRO, DRO and BTEX readings below regulatory standards at 18 ft bgs and 21 ft bgs. SB-2 returned chloride readings of 416 mg/kg at 45 ft bgs and 48 ft bgs, DRO readings of 31.6 mg/kg at 45 ft bgs and 91.7 mg/kg at 48 ft bgs, and GRO and BTEX readings of non-detect at both 45 ft bgs and 48 ft bgs.

SB-3 was installed to determine whether groundwater existed beneath the site. SB-3 was installed to a depth of 69 ft bgs, and samples were taken at regular intervals and described for lithology. Red bed clay was encountered at a depth of 57 ft bgs. Red bed clay is an impermeable layer that indicates the bottom of the aquifer. The bore was left open for a minimum of 48 hours to allow any groundwater to accumulate in the bore. On June 4<sup>th</sup>, 2014, the bore was gauged and no groundwater was found in SB-3. The bore was plugged in entirety with bentonite.

Based on the sampling data, a Corrective Action Plan (CAP) was submitted to BLM on August 6<sup>th</sup>, 2014. BLM approved the CAP that same day. The CAP stated that the release would be excavated to 3 ft bgs. Once the excavation was completed, grab samples from the walls of the excavation would be taken and sent to a commercial laboratory to confirm that chlorides, GRO, DRO and BTEX readings were all below regulatory standards. At the base of the excavation, a 20-mil reinforced poly liner would be installed and properly seated.

The excavated soil would be taken to the HE West B 85 lease pad and direct buried (Figure 2). Caliche would be scraped from the pad and piled off to the side. A repository would be excavated to a volume which would encompass the excavated soil from the release, including an additional 4 ft cap of clean top soil (Figure 3). The repository would be lined in entirety with a 20-mil reinforced poly liner. The excavated soil from the release would then be placed in the lined repository, and the top of the repository would be capped with a 20-mil reinforced poly liner. Four feet of clean top soil would be placed over the capped repository, and the scraped caliche would be backfilled over the top soil.

The top soil removed from the lease pad to create the repository would be used to backfill the 3 ft excavation at the release site and to contour the site to the surrounding area. The disturbed area would be seeded with a blend of native vegetation.

Corrective actions began at the site on August 28<sup>th</sup>, 2014. The release area was excavated to a depth of 3 ft. Once the excavation was completed, grab samples from the walls of the excavation were taken and field tested for chlorides and organic vapors. The samples were then sent to a commercial laboratory for analyses (Appendix C). All four walls from the excavation returned chloride values at or near non-detectable levels. GRO, DRO and BTEX readings returned values of non-detect.

At the base of the 3 ft excavation, a 20-mil reinforced poly liner was installed and key set (Figure 4). A total of 84 cubic yards of contaminated soil was taken to the HE West B 85 lease pad to be direct buried. At the HE West B 85 lease pad, the caliche over the proposed repository was scraped and piled off to the side. The repository was excavated to 1,742 square feet to a depth of 9 ft bgs.

On September 19<sup>th</sup>, 2014, a request to backfill the site was sent to BLM. BLM approved the site to be backfilled on September 25<sup>th</sup>, 2014. A sample from excavated soil from the repository was sent to a commercial laboratory for analysis and returned a chloride reading of 32 mg/kg. This soil was taken to the 3 ft release excavation and used for backfill. The 3 ft excavation was backfilled with the repository soil and contoured to the surrounding location.

Once the repository excavation was completed, it was lined with a 20-mil reinforced poly liner. The contaminated soil from the release was backfilled into the lined repository and then seamed closed. Repository soil was backfilled over the liner to a depth of 4 ft, and the removed caliche was backfilled over the soil. To bring the repository excavation back up to surface level and to repair the lease pad, 48 cubic yards of clean caliche were imported to the site.

On October 30<sup>th</sup>, 2014, soil amendments were added to the disturbed area around the release excavation, and the site was seeded with LPC mix. Photo documentation of the field activities can be found in Appendix D.

Given that Linn has fulfilled the CAP requirements and received permission from BLM to backfill the site, Linn respectfully requests 'remediation termination' and site closure. A final C-141 can be found in Appendix E.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,



Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

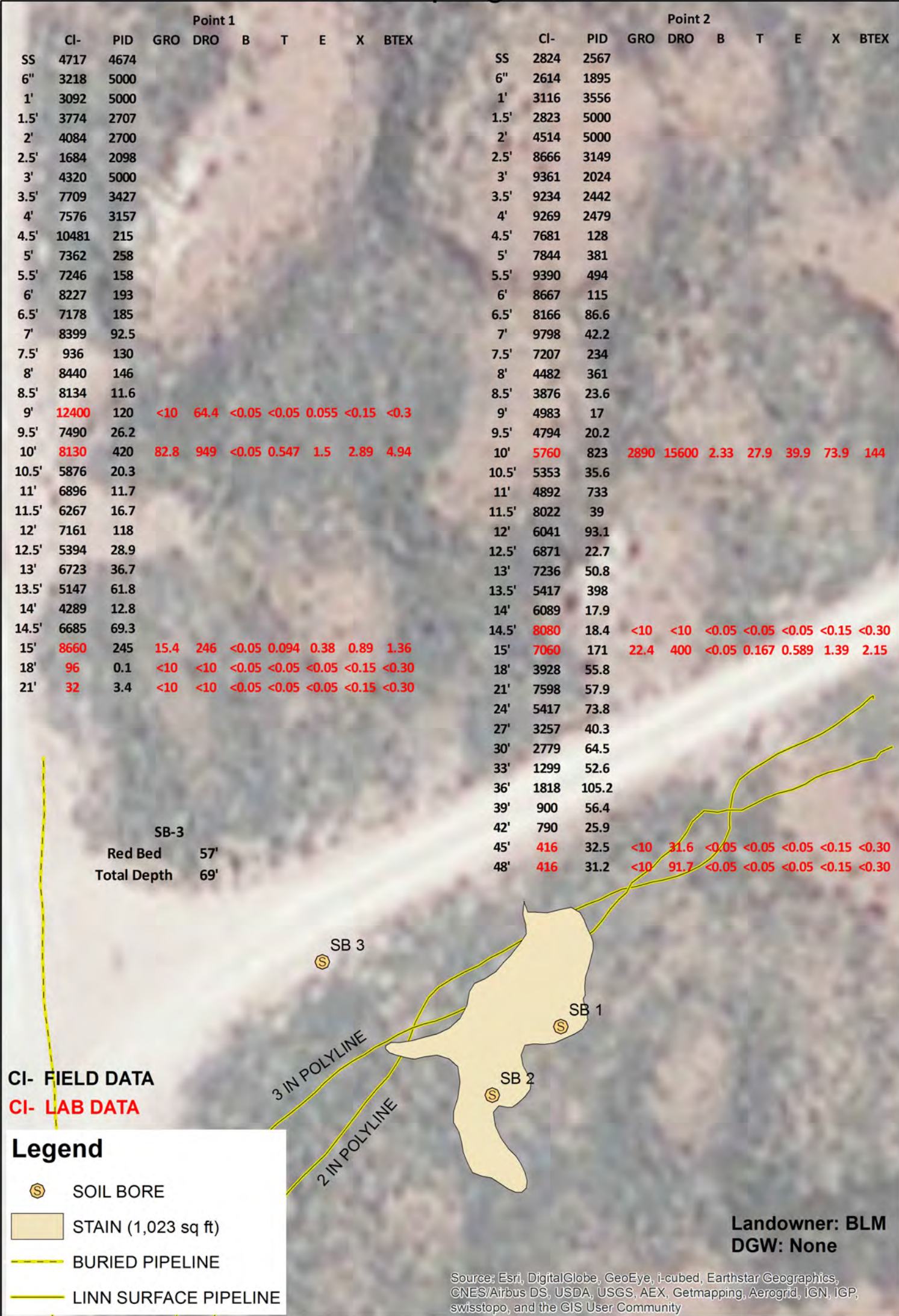
Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Location to Site for Direct Bury
- Figure 3 – Direct Bury Under Lease Pad
- Figure 4 – Excavation Data
- Appendix A – Initial C-141
- Appendix B – Soil Bore Installation Logs and Initial Sampling Labs
- Appendix C – Corrective Action Labs
- Appendix D – Photo Documentation
- Appendix E – Final C-141

# Figures



Initial Sampling Data





# Location to Site for Direct Bury



## ***LINN HE WEST B 85***

**Legals: UL/K sec. 3  
T-17-S R-31-E  
EDDY COUNTY, NM**

### Figure 2

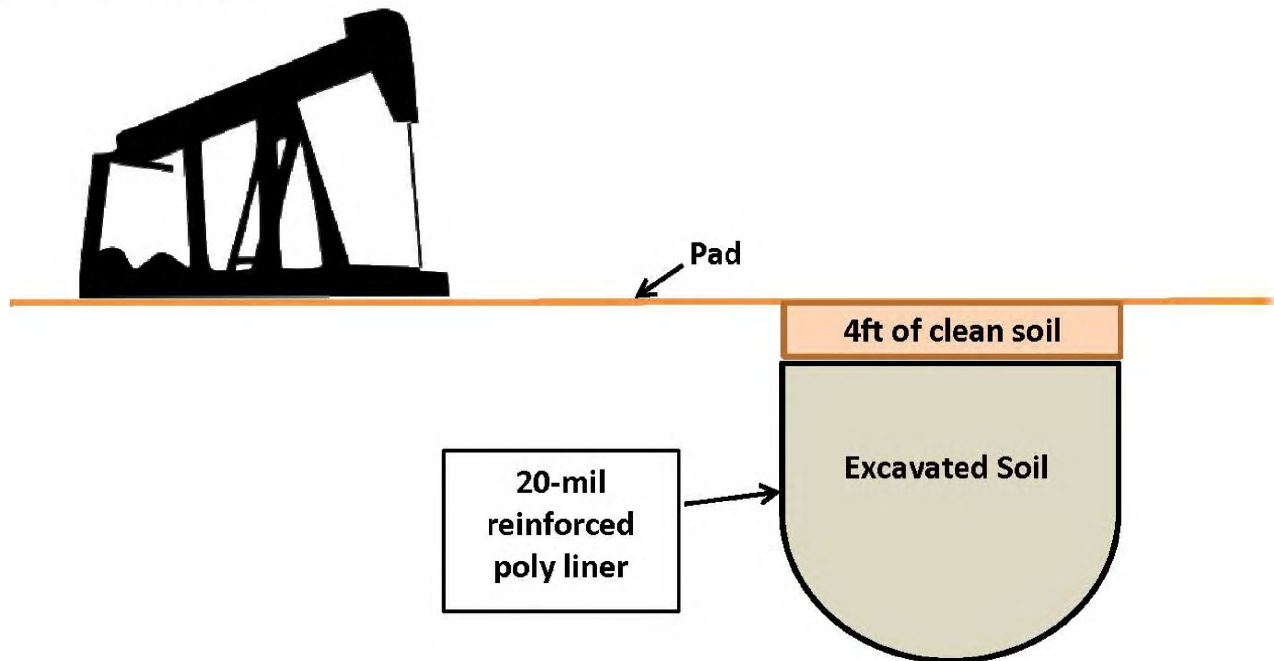


0 70 140  
 Feet

GPS date: 3/10/14 KH  
Drawing date: 7/30/14  
Drafted by: L. Weinheimer

# Direct Bury Under Lease Pad

Linn HE West B 85





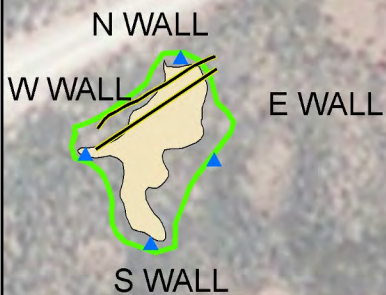
# Excavation Data

## Final Wall Sampling

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
North wall	96	0.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
South wall	<16	2.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
East wall	<16	3.7	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
West wall	32	0.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

## Backfill Sampling

CI- 32



Landowner: BLM  
DGW: None

CI- LAB DATA  
CI- FIELD DATA

Source  
USD/  
User

## Legend

- ▲ SAMPLE POINTS
- SURFACE PIPELINES
- ⬭ 3' EXCAVATION (2131 SQ FT)
- ⬭ 9' DEEP BURY EXCAVATION (1742 SQ FT)
- STAIN (1,023 sq ft)



**LINN HE  
WEST B 85**

Legals: UL/K sec. 3  
T-17-S R-31-E  
EDDY COUNTY, NM

Figure 4



0 50 100  
Feet

GPS date: 9/9/14 JB  
Drawing date: 9/10/14  
Drafted by: L. Weinheimer/ B. Cooper

# Appendix A

Initial C-141

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 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Linn Operating	Contact: Brian Wall	
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739	
Facility Name: HE West B 85	Facility Type: Oil	
Surface Owner: Federal	Mineral Owner:	API No.: 30-015-28387

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	03	17S	31E	2614	South line	2621	West Line	Eddy

Latitude: 32.86357 Longitude: -103.85696

### NATURE OF RELEASE


Type of Release: Oil / Produced Water	Volume of Release: 1 bbl/ 3.5 bbl	Volume Recovered: .5 bbl / 1.8 bbl
Source of Release: Poly pipeline	Date and Hour of Occurrence: 03/06/2014	Date and Hour of Discovery: 03/06/2014 10:45am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Burton- BLM	
By Whom? Brian Wall	Date and Hour 03/17/2014 0700	
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.\*: While driving toward well spotted leak on side of road. Found that splice where line had been repaired previously cracked open allowing oil and produced water to spill. Shut in valves to stop flow of fluids. Had roustabout crew make repairs to line and put well back into production. Had vacuum truck pick up as much fluid as possible. Recovered about 2 to 3 barrels of fluid.

Describe Area Affected and Cleanup Action Taken.\* : Total volume of fluids released was around 4.5 barrels. Section 3 T17S, R31E 2614 FSL 2621 FWL. LC-029426-B. Contact Diversified to delineate, in turn Diversified will cont BLM with PLA. Will excavate contaminated soils and haul to approved disposal. Return clean soils to cavity and return to natural terrain.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD 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, NMOCD 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.



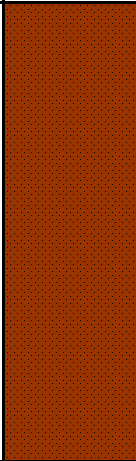
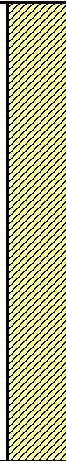
Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Brian Wall	Approved by District Supervisor:	
Title: Construction Foreman II	Approval Date:	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 03/07/2014	Phone: 806-367-0645	



\* Attach Additional Sheets If Necessary

# Appendix B

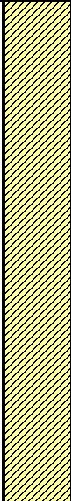

Soil Bore Installation Logs and Initial Sampling Labs





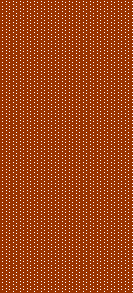
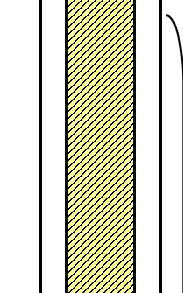
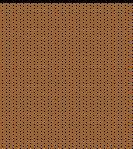
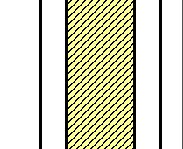
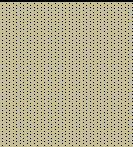
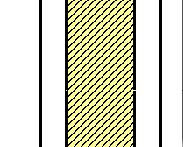
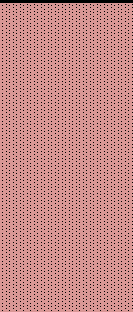
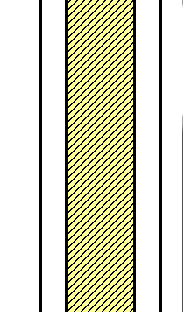
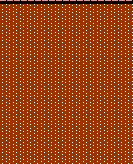
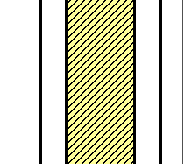
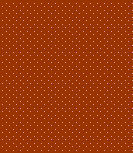
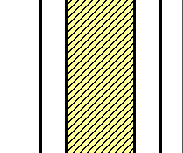
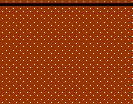
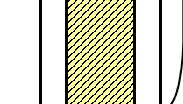
Logger:	Amber Groves							
Driller:	Harrison&Cooper			Project Name: Linn HE West B 85 Well ID: SB-1				
Drilling Method:	Air Rotary			Project Consultant: RECS				
Start Date:	6/2/2014			Location: UL/ K Sec. 3 T-17-S R-31-E				
End Date:	6/2/2014	Lat: 32°51'46.883"N County: Eddy						
Comments: All samples were taken from cuttings.				Long: 103°51'33.768"W State: NM				
DRAFTED BY: C. Uršanić								
TD = 21'				GW = None				
Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction
				RED SAND/NO ODOR				 Bentonite Seal
18 ft	265	Cl-96	0.1					
	B <0.05 T <0.05	GRO <10						
	E <0.05 X <0.15	DRO <10						
21 ft	199	Cl-32	3.4					
	B <0.05 T <0.05	GRO <10						
	E <0.05 X <0.15	DRO <10						

<b>Logger:</b> <b>Driller:</b> <b>Drilling Method:</b> <b>Start Date:</b> <b>End Date:</b>	Amber Groves Harrison&Cooper Air Rotary 6/2/2014 6/2/2014			
<b>Comments:</b> All samples were taken from cuttings. <div style="display: flex; justify-content: space-between;"> <span><b>DRAFTED BY:</b> C. Uršanić</span> <span><b>TD = 48'</b></span> <span><b>GW = None</b></span> </div>			<b>Project Name:</b> Linn HE West B 85 <b>Well ID:</b> SB-2 <b>Project Consultant:</b> RECS <b>Location:</b> UL/ K Sec. 3 T-17-S R-31-E <b>Lat:</b> 32°51'46.74"N <b>Long:</b> 103°51'34.078"W <b>County:</b> Eddy <b>State:</b> NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction	
				RED SAND/SLIGHT ODOR			Bentonite Seal
18 ft	3928		55.8				
21 ft	7598		57.9				
24 ft	5417		73.8				
27 ft	3257		40.3				
30 ft	2779		64.5				
33 ft	1299		52.6				
36 ft	1818		105.2				
39 ft	900		56.4				
				RED CLAY/SOME SAND			

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction	
42 ft	790		25.9	RED CLAY/SOME SAND					 Bentonite Seal
45 ft	310	CI- 416	32.5						
	B T <0.05 <0.05	GRO <10							
	E X <0.05 <0.15	DRO 31.6							
48 ft	331	CI- 416	31.2						
	B T <0.05 <0.05	GRO <10							
	E X <0.05 <0.15	DRO 91.7							

<b>Logger:</b>	Amber Groves		
<b>Driller:</b>	Harrison&Cooper		
<b>Drilling Method:</b>	Air Rotary		
<b>Start Date:</b>	6/4/2014		
<b>End Date:</b>	6/4/2014		<b>Project Name:</b> Linn H.E. West B #85 <b>Well ID:</b> SB-3 <b>Project Consultant:</b> RECS
<b>Comments:</b> No sampling was conducted. SB-3 installed to determine depth to groundwater. <b>DRAFTED BY:</b> C. Uršanič TD = 69' GW = None			<b>Location:</b> UL/ K Sec. 3 T-17-S R-31-E <b>Lat:</b> 32°51'47.025"N <b>County:</b> Eddy <b>Long:</b> 103°51'34.175"W <b>State:</b> NM

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				RED SAND/SMALL ROCKS		
3 ft						
6 ft				BROWN SAND		
9 ft						
				TAN SAND		
12 ft						
				LIGHT RED SAND		
15 ft						
18 ft				RED SAND/SMALL WHITE ROCKS		
21 ft						
				RED SAND/SOME CLAY		
24 ft						
				RED SAND/SMALL WHITE ROCKS		



Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction	
27 ft				RED SAND/SMALL WHITE ROCKS					
				RED SAND					
30 ft									
				LIGHT RED SAND					
33 ft									
				RED SAND					
36 ft									
				RED SAND/SOME CLAY					
39 ft									
42 ft									
				RED SAND/SMALL WHITE ROCKS					
45 ft									
48 ft									
				RED SAND/SMALL BLACK ROCKS					
51 ft									
54 ft				RED SAND/SOME CLAY					

Bentonite  
Seal

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction	
57 ft				RED SAND/CLAY					
				RED BED					
60 ft									
				RED SAND					
63 ft									
				RED SAND/CLAY					
66 ft									
				BROWN SAND					
69 ft									
				RED SAND					

April 02, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #85

Enclosed are the results of analyses for samples received by the laboratory on 03/26/14 16:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	03/26/2014	Sampling Date:	03/26/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 VERTICAL 9' (H400906-01)**

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	04/02/2014	ND	2.64	132	2.00	4.76	
Toluene*	<0.050	0.050	04/02/2014	ND	2.55	128	2.00	5.08	
<b>Ethylbenzene*</b>	<b>0.055</b>	0.050	04/02/2014	ND	2.51	126	2.00	4.96	
Total Xylenes*	<0.150	0.150	04/02/2014	ND	7.31	122	6.00	5.65	
Total BTEX	<0.300	0.300	04/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 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
<b>Chloride</b>	<b>12400</b>	16.0	03/31/2014	ND	400	100	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	03/31/2014	ND	222	111	200	9.86	
<b>DRO &gt;C10-C28</b>	<b>64.4</b>	10.0	03/31/2014	ND	198	99.0	200	1.31	

Surrogate: 1-Chlorooctane 93.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.9 % 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  
 JACOB KAMPLAIN  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	03/26/2014	Sampling Date:	03/26/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 VERTICAL 10' (H400906-02)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2014	ND	2.64	132	2.00	4.76	
<b>Toluene*</b>	<b>0.547</b>	0.050	04/02/2014	ND	2.55	128	2.00	5.08	
<b>Ethylbenzene*</b>	<b>1.50</b>	0.050	04/02/2014	ND	2.51	126	2.00	4.96	
<b>Total Xylenes*</b>	<b>2.89</b>	0.150	04/02/2014	ND	7.31	122	6.00	5.65	
<b>Total BTX</b>	<b>4.94</b>	0.300	04/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 140 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>8130</b>	16.0	03/31/2014	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>82.8</b>	10.0	03/31/2014	ND	222	111	200	9.86	
<b>DRO &gt;C10-C28</b>	<b>949</b>	10.0	03/31/2014	ND	198	99.0	200	1.31	

Surrogate: 1-Chlorooctane 108 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	03/26/2014	Sampling Date:	03/26/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 VERTICAL 15' (H400906-03)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/02/2014	ND	2.64	132	2.00	4.76	
<b>Toluene*</b>	<b>0.094</b>	0.050	04/02/2014	ND	2.55	128	2.00	5.08	
<b>Ethylbenzene*</b>	<b>0.380</b>	0.050	04/02/2014	ND	2.51	126	2.00	4.96	
<b>Total Xylenes*</b>	<b>0.890</b>	0.150	04/02/2014	ND	7.31	122	6.00	5.65	
<b>Total BTX</b>	<b>1.36</b>	0.300	04/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 134 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>8660</b>	16.0	03/31/2014	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>15.4</b>	10.0	03/31/2014	ND	222	111	200	9.86	
<b>DRO &gt;C10-C28</b>	<b>246</b>	10.0	03/31/2014	ND	198	99.0	200	1.31	

Surrogate: 1-Chlorooctane 97.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 116 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 03/26/2014  
Reported: 04/02/2014  
Project Name: H. E. WEST B #85  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 03/26/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: PT. 2 VERTICAL 10' (H400906-04)**

BTEx 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	2.33	2.00	04/01/2014	ND	2.28	114	2.00	8.45	
Toluene*	27.9	2.00	04/01/2014	ND	2.18	109	2.00	8.38	
Ethylbenzene*	39.9	2.00	04/01/2014	ND	2.13	106	2.00	8.60	
Total Xylenes*	73.9	6.00	04/01/2014	ND	6.26	104	6.00	7.23	
Total BTEX	144	12.0	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 132 % 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
<b>Chloride</b>	<b>5760</b>	16.0	03/31/2014	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	2890	100	03/31/2014	ND	222	111	200	9.86	
DRO >C10-C28	15600	100	03/31/2014	ND	198	99.0	200	1.31	

Surrogate: 1-Chlorooctane 465 % 65.2-140

Surrogate: 1-Chlorooctadecane 441 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 JACOB KAMPLAIN  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

Received:	03/26/2014	Sampling Date:	03/26/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 2 VERTICAL 14.5' (H400906-05)**

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	04/01/2014	ND	2.28	114	2.00	8.45		
Toluene*	<0.050	0.050	04/01/2014	ND	2.18	109	2.00	8.38		
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.13	106	2.00	8.60		
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.26	104	6.00	7.23		
Total BTEx	<0.300	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	8080	16.0	03/31/2014	ND	400	100	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	03/31/2014	ND	222	111	200	9.86	
DRO >C10-C28	<10.0	10.0	03/31/2014	ND	198	99.0	200	1.31	

Surrogate: 1-Chlorooctane 92.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.0 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	03/26/2014	Sampling Date:	03/26/2014
Reported:	04/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 2 VERTICAL 15' (H400906-06)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.28	114	2.00	8.45	
Toluene*	0.167	0.050	04/01/2014	ND	2.18	109	2.00	8.38	
Ethylbenzene*	0.589	0.050	04/01/2014	ND	2.13	106	2.00	8.60	
Total Xylenes*	1.39	0.150	04/01/2014	ND	6.26	104	6.00	7.23	
Total BTX	2.15	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 163 % 89.4-126

Chloride, SM4500CI-B			mg/kg					Analyzed By: AP	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>7060</b>	16.0	03/31/2014	ND	400	100	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	<b>22.4</b>	10.0	03/31/2014	ND	222	111	200	9.86	
DRO >C10-C28	<b>400</b>	10.0	03/31/2014	ND	198	99.0	200	1.31	

Surrogate: 1-Chlorooctane 96.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 115 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
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



# 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

Company Name: RECS				<b>BILL TO</b>				ANALYSIS REQUEST																															
Project Manager: JACOB KAMPLAIN				P.O. #:				<div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div>																															
Address:				Company:																																			
City: Hobbs State: NM Zip: 88240				Attn:																																			
Phone #: Fax #:				Address:																																			
Project #: Project Owner:				City:																																			
Project Name: <i>Lim Energy</i>				State: Zip:																																			
Project Location: <i>H.G. West B-85</i>				Phone #:																																			
Sampler Name: JOSHUA BALCOM				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											
<i>H4DD9D06</i>						<i>G 1</i>																				<i>3-26-14</i>		<i>1:00</i>											
<i>1</i>		<i>Pt. 1 Vertical 9'</i>				<i>G 1</i>																				<i>1:05</i>		<i>✓</i>											
<i>2</i>		<i>Pt. 1 Vertical 10'</i>				<i>G 1</i>																				<i>1:10</i>		<i>✓</i>											
<i>3</i>		<i>Pt. 1 Vertical 15'</i>				<i>G 1</i>																						<i>✓</i>											
<i>4</i>		<i>Pt. 2 Vertical 10'</i>				<i>G 1</i>																				<i>1:15</i>		<i>✓</i>											
<i>5</i>		<i>Pt. 2 Vertical 14.5'</i>				<i>G 1</i>																				<i>1:20</i>		<i>✓</i>											
<i>6</i>		<i>Pt. 2 Vertical 15'</i>				<i>G 1</i>																				<i>1:25</i>		<i>✓</i>											

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Relinquished By: <i>[Signature]</i>		Date: <i>3/26/14</i>		Received By: <i>[Signature]</i>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:	
Time: <i>14:15</i>		Time: <i>14:15</i>		Time: <i>14:15</i>		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:			
Time:		Time:		Time:		email results			
Delivered By: (Circle One)		Sample Condition		CHECKED BY: <i>[Signature]</i>		Knorman@rice-ecs.com jbalcom@rice-ecs.com			
Sampler - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>				Kjones@riceswd.com; jkamlain@rice-ecs.com			
		Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>				hconder@rice-ecs.com; Lweinheimer@rice-ecs.com			

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

*#54*



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

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June 09, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #85

Enclosed are the results of analyses for samples received by the laboratory on 06/02/14 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	06/02/2014	Sampling Date:	06/02/2014
Reported:	06/09/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SB 1 @ 18' (H401681-01)**

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	06/06/2014	ND	1.92	95.8	2.00	0.523	
Toluene*	<0.050	0.050	06/06/2014	ND	2.04	102	2.00	0.675	
Ethylbenzene*	<0.050	0.050	06/06/2014	ND	1.83	91.6	2.00	0.338	
Total Xylenes*	<0.150	0.150	06/06/2014	ND	5.80	96.7	6.00	0.173	
Total BTX	<0.300	0.300	06/06/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	96.0	16.0	06/05/2014	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	06/06/2014	ND	133	66.4	200	7.86	
DRO >C10-C28	<10.0	10.0	06/06/2014	ND	148	73.9	200	11.8	

Surrogate: 1-Chlorooctane 147 % 65.2-140

Surrogate: 1-Chlorooctadecane 148 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	06/02/2014	Sampling Date:	06/02/2014
Reported:	06/09/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SB 1 @ 21' (H401681-02)**

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	06/06/2014	ND	1.92	95.8	2.00	0.523	
Toluene*	<0.050	0.050	06/06/2014	ND	2.04	102	2.00	0.675	
Ethylbenzene*	<0.050	0.050	06/06/2014	ND	1.83	91.6	2.00	0.338	
Total Xylenes*	<0.150	0.150	06/06/2014	ND	5.80	96.7	6.00	0.173	
Total BTX	<0.300	0.300	06/06/2014	ND					

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

Chloride, SM4500CI-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	06/05/2014	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	06/07/2014	ND	173	86.6	200	0.423	
DRO >C10-C28	<10.0	10.0	06/07/2014	ND	169	84.7	200	3.40	

Surrogate: 1-Chlorooctane 75.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 75.4 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 06/02/2014  
Reported: 06/09/2014  
Project Name: H. E. WEST B #85  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 06/02/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SB 2 @ 45' (H401681-03)**

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	06/06/2014	ND	2.00	99.9	2.00	2.96	
Toluene*	<0.050	0.050	06/06/2014	ND	2.15	107	2.00	3.33	
Ethylbenzene*	<0.050	0.050	06/06/2014	ND	1.92	96.2	2.00	3.37	
Total Xylenes*	<0.150	0.150	06/06/2014	ND	5.97	99.5	6.00	3.41	
Total BTX	<0.300	0.300	06/06/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	416	16.0	06/05/2014	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	06/07/2014	ND	173	86.6	200	0.423	
DRO >C10-C28	31.6	10.0	06/07/2014	ND	169	84.7	200	3.40	

Surrogate: 1-Chlorooctane 70.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.5 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	06/02/2014	Sampling Date:	06/02/2014
Reported:	06/09/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SB 2 @ 48' (H401681-04)**

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	06/06/2014	ND	2.00	99.9	2.00	2.96	
Toluene*	<0.050	0.050	06/06/2014	ND	2.15	107	2.00	3.33	
Ethylbenzene*	<0.050	0.050	06/06/2014	ND	1.92	96.2	2.00	3.37	
Total Xylenes*	<0.150	0.150	06/06/2014	ND	5.97	99.5	6.00	3.41	
Total BTX	<0.300	0.300	06/06/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	416	16.0	06/05/2014	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	06/07/2014	ND	173	86.6	200	0.423	
DRO >C10-C28	91.7	10.0	06/07/2014	ND	169	84.7	200	3.40	

Surrogate: 1-Chlorooctane 69.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 83.0 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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



# 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

BILL TO										ANALYSIS REQUEST									
Company Name: <u>ECES</u>					P.O. #:					<div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div>									
Project Manager: <u>Jacob Klamplain</u>					Company:														
Address:					Attn:														
City: Hobbs State: NM Zip: 88240					Address:														
Phone #: Fax #:					City:														
Project #: Project Owner:					State: Zip:														
Project Name: <u>Linn H.C. West B#85</u>					Phone #:														
Project Location:					Fax #:														
Sampler Name:																			
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							
<u>H401681</u>										<u>6-2-14</u>		<u>9:00</u>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
<u>1 SB1@18ft</u>										<u>6-2-14</u>		<u>9:05</u>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
<u>2 SB1@21ft</u>										<u>6-2-14</u>		<u>11:30</u>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
<u>3 SB2@45ft</u>										<u>6-2-14</u>		<u>11:35</u>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
<u>4 SB2@48ft</u>																			

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Relinquished By: <u>[Signature]</u>		Date: <u>6-2-14</u>	Received By: <u>[Signature]</u>		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:		Time: <u>3:35</u>	Received By:		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)		Sample Condition		CHECKED BY: <u>[Signature]</u>		
Sampler - UPS - Bus - Other:		Cool Intact		REMARKS:		
		<u>3.6°</u>		email results		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		knorman@rice-ecs.com hconder@rice-ecs.com;		
		<input type="checkbox"/> No <input type="checkbox"/> No		Lweinheimer@rice-ecs.com; kjones@riceswd.com;		
				Lpena@riceswd.com; sedwards@rice-ecs.com		
				agroves@rice-ecs.com		

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

#54

# Appendix C

## Corrective Action Labs

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

September 02, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #85

Enclosed are the results of analyses for samples received by the laboratory on 08/29/14 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 08/29/2014  
Reported: 09/02/2014  
Project Name: H. E. WEST B #85  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/29/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: WEST WALL (H402684-01)**

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	09/02/2014	ND	1.81	90.4	2.00	0.649	
Toluene*	<0.050	0.050	09/02/2014	ND	1.68	83.9	2.00	0.254	
Ethylbenzene*	<0.050	0.050	09/02/2014	ND	1.64	82.1	2.00	0.755	
Total Xylenes*	<0.150	0.150	09/02/2014	ND	5.01	83.5	6.00	0.857	
Total BTX	<0.300	0.300	09/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	09/02/2014	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	09/02/2014	ND	183	91.7	200	5.19	
DRO >C10-C28	<10.0	10.0	09/02/2014	ND	192	95.9	200	7.07	

Surrogate: 1-Chlorooctane 98.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 112 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	08/29/2014	Sampling Date:	08/29/2014
Reported:	09/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: EAST WALL (H402684-02)**

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	09/02/2014	ND	1.81	90.4	2.00	0.649	
Toluene*	<0.050	0.050	09/02/2014	ND	1.68	83.9	2.00	0.254	
Ethylbenzene*	<0.050	0.050	09/02/2014	ND	1.64	82.1	2.00	0.755	
Total Xylenes*	<0.150	0.150	09/02/2014	ND	5.01	83.5	6.00	0.857	
Total BTX	<0.300	0.300	09/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 89.4-126

Chloride, SM4500CI-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	09/02/2014	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	09/02/2014	ND	183	91.7	200	5.19	
DRO >C10-C28	<10.0	10.0	09/02/2014	ND	192	95.9	200	7.07	

Surrogate: 1-Chlorooctane 101 % 65.2-140

Surrogate: 1-Chlorooctadecane 111 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	08/29/2014	Sampling Date:	08/29/2014
Reported:	09/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: NORTH WALL (H402684-03)**

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	09/02/2014	ND	1.81	90.4	2.00	0.649		
Toluene*	<0.050	0.050	09/02/2014	ND	1.68	83.9	2.00	0.254		
Ethylbenzene*	<0.050	0.050	09/02/2014	ND	1.64	82.1	2.00	0.755		
Total Xylenes*	<0.150	0.150	09/02/2014	ND	5.01	83.5	6.00	0.857		
Total BTEx	<0.300	0.300	09/02/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/02/2014	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	09/02/2014	ND	183	91.7	200	5.19	
DRO >C10-C28	<10.0	10.0	09/02/2014	ND	192	95.9	200	7.07	

Surrogate: 1-Chlorooctane 94.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	08/29/2014	Sampling Date:	08/29/2014
Reported:	09/02/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #85	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SOUTH WALL (H402684-04)**

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	09/02/2014	ND	1.81	90.4	2.00	0.649		
Toluene*	<0.050	0.050	09/02/2014	ND	1.68	83.9	2.00	0.254		
Ethylbenzene*	<0.050	0.050	09/02/2014	ND	1.64	82.1	2.00	0.755		
Total Xylenes*	<0.150	0.150	09/02/2014	ND	5.01	83.5	6.00	0.857		
Total BTEx	<0.300	0.300	09/02/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 89.4-126

Chloride, SM4500CI-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	09/02/2014	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	09/02/2014	ND	183	91.7	200	5.19	
DRO >C10-C28	<10.0	10.0	09/02/2014	ND	192	95.9	200	7.07	

Surrogate: 1-Chlorooctane 101 % 65.2-140

Surrogate: 1-Chlorooctadecane 111 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

RUSH !!!  
X X X

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: RECS		BILL TO		ANALYSIS REQUEST																							
Project Manager: Laura Flores, Jacob Kamplain		P.O. #:																									
Address:		Company:																									
City: State: Zip:		Attn:																									
Phone #: Fax #:		Address:																									
Project #: Project Owner:		City:																									
Project Name:		State: Zip:																									
Project Location: H.E. West B # 85		Phone #:																									
Sampler Name: Kyle Schnaidt		Fax #:																									
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	CI-	TPH	BTEX										
H402684																											
1	West Wall	G	1			X					X		8-29-14	12:30	X	X	X										
2	East Wall	G	1			X					X		{	12:35	X	X	X										
3	North Wall	G	1			X					X			12:40	X	X	X										
4	South Wall	G	1			X					X			12:45	X	X	X										

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Relinquished By:	Date: 8-29-14	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Kyle Schnaidt	Time: 3:30	Yodi Benson	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		All plz	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	(Initials)		

September 11, 2014

LAURA FLORES

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #85

Enclosed are the results of analyses for samples received by the laboratory on 09/05/14 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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  
LAURA FLORES  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 09/05/2014  
Reported: 09/11/2014  
Project Name: H. E. WEST B #85  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 09/05/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BACKFILL (H402773-01)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	09/11/2014	ND	400	100	400	3.92	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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-	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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Cardinal Laboratories

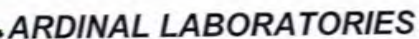
\*=Accredited Analyte

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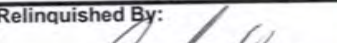
Celey D. Keene, Lab Director/Quality Manager



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

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Relinquished By: 		Date: 9/5/14	Received By: Jodi Henson	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Time: 4:00				Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:	
Time:				email: hconder@riceswd.com; lflores@rice-ecs.com; lweinheimer@rice-ecs.com; knorman@rice-ecs.com; jkamplain@rice-ecs.com; sedwards@rice-ecs.com; cursanic@rice-ecs.com	
Delivered By: (Circle One)		Sample Condition	CHECKED BY:	Environmental Tech: Jbalcom @rice-ecs.com	
Sampler - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(Initials)		

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

#54

# Appendix D

## Photo Documentation

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967



# **Linn HE West B 85**

Unit Letter K, Section 3, T17S, R31E



Initial release area, facing southwest 3/7/14



Initial release area, facing east 3/7/14

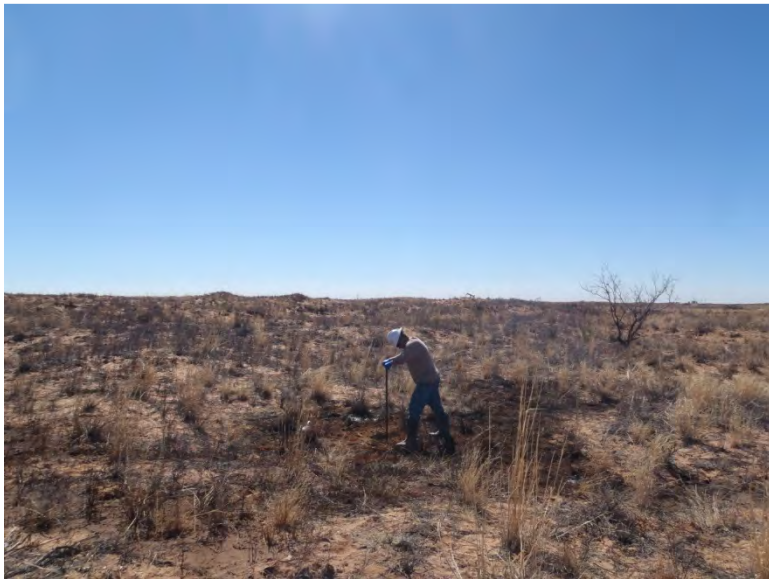


Initial release area, facing northeast 3/7/14



Initial release area, facing north 3/7/14





Sampling for depth, facing south

3/10/14



Installing verticals, facing northeast

3/26/14



Importing caliche to build access road, facing north

4/23/14



Constructing access road, facing southeast

4/23/14





Drilling SB-1, facing northwest

6/2/14



Drilling SB-2, facing east

6/2/14



Drilling SB-3, facing west

6/2/14



Plugging SBs in total with bentonite, facing east

6/2/14





Gauging SB-3, facing northeast

6/4/14



Plugging SB-3 in total with bentonite, facing northeast  
6/4/14



Beginning the excavation to 3 ft, facing north 8/28/14



Exporting soil, facing south

8/29/14





Excavation completed, facing northeast 9/3/14



Excavation completed, facing southwest 9/3/14



Installing 20-mil poly liner, facing west 9/3/14



Liner installed and key set into excavation, facing southeast 9/3/14





Backfilling the key set trench, facing northwest 9/3/14



Padding liner with top soil, facing northeast 9/3/14



Continue excavating deep bury repository, facing southwest 9/5/14



Backfilling release area, facing east 9/7/14





Deep bury repository completed, facing south 9/9/14



Deep burying contaminated soil, facing south 9/22/14



Installing liner over deep buried soil, facing west 9/23/14



Liner installation over deep buried soil completed facing south 9/24/14





Backfilling over deep bury, facing west 9/24/14



Backfilling release area, facing northeast 9/30/14



Importing soil, facing west 10/1/14



Backfilling deep bury repository, facing southwest 10/1/14





Backfilling of repository completed, facing south  
10/1/14



Backfilling of release area completed, facing southeast  
10/1/14



Backfilling of release area completed, facing southwest  
10/1/14



Adding soil amendments, facing southeast 10/30/14





Disking in soil amendments, facing southeast 10/30/14



Seeding site, facing northeast 10/30/14



Disking in seed, facing north 10/30/14



Site completed, facing west 10/30/14

# Appendix E

Final C-141

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., 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 August 8, 2011

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Linn Operating	Contact	
Address 2130 W. Bender, Hobbs, NM 88240	Telephone No.	
Facility Name HE West B 85	Facility Type Oil	
Surface Owner Federal	Mineral Owner	API No. 30-015-28387

### LOCATION OF RELEASE

Unit Letter K	Section 03	Township 17S	Range 31E	Feet from the 2614	North/South Line South line	Feet from the 2621	East/West Line West Line	County Eddy
------------------	---------------	-----------------	--------------	-----------------------	--------------------------------	-----------------------	-----------------------------	----------------

Latitude 32.86357 Longitude -103.85696

### NATURE OF RELEASE

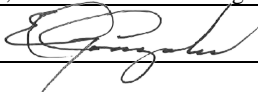
Type of Release Oil/Produced Water	Volume of Release 1 bbl/3.5 bbls	Volume Recovered 0.5 bbls/1.8 bbls
Source of Release Poly pipeline	Date and Hour of Occurrence 03/06/2014	Date and Hour of Discovery 03/06/2014 10:45 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Burton - BLM	
By Whom? Brian Wall	Date and Hour 03/17/2014 0700	
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.\*☐ While driving toward well, spotted leak on side of road. Found that splice where line had been repaired previously had cracked open allowing oil and produced water to spill. Shut in valves to stop flow of fluids. Had roustabout crew make repairs to line and put well back into production. Had vacuum truck pick up as much fluid as possible.

Describe Area Affected and Cleanup Action Taken.\*☐ The release affected 1,023 square feet of pasture land. Two points within the release were sampled at the surface and with depth. Based on the sampling data, verticals were installed at the two points to further delineate the release. Representative samples from both verticals were taken to a commercial laboratory for analysis. On June 2<sup>nd</sup>, 2014, soil bores were installed at both points to determine the vertical extent of the contamination and whether groundwater existed beneath the site. A CAP was submitted to BLM on August 6<sup>th</sup>, 2014. BLM approved the CAP that same day. Corrective actions began at the site on August 28<sup>th</sup>, 2014. The release area was excavated to a depth of 3 ft. Once the excavation was completed, grab samples from the walls of the excavation were taken and sent to a commercial laboratory for analyses. At the base of the 3 ft excavation, a 20-mil reinforced poly liner was installed and key set. A total of 84 cubic yards of contaminated soil was taken to the HE West B 85 lease pad to be direct buried. At the HE West B 85 lease pad, the caliche over the proposed repository was scraped and piled off to the side. The repository was excavated to 1,742 square feet to a depth of 9 ft bgs. On September 19<sup>th</sup>, 2014, a request to backfill the site was sent to BLM. BLM approved the site to be backfilled on September 25<sup>th</sup>, 2014. A sample from excavated soil from the repository was sent to a commercial laboratory for analysis. This soil was taken to the 3 ft release excavation and used for backfill. The 3 ft excavation was backfilled with the repository soil and contoured to the surrounding location. Once the repository excavation was completed, it was lined with a 20-mil reinforced poly liner. The contaminated soil from the release was backfilled into the lined repository and then seamed closed. Repository soil was backfilled over the liner to a depth of 4 ft, and the removed caliche was backfilled over the soil. To bring the repository excavation back up to surface level and to repair the lease pad, 48 cubic yards of clean caliche were imported to the site. On October 30<sup>th</sup>, 2014, soil amendments were added to the disturbed area around the release excavation, and the site was seeded with LPC mix.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD 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, NMOCD 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: E.L. Gonzales	Approved by Environmental Specialist:	
Title: Production Supervisor	Approval Date:	Expiration Date:
E-mail Address: elgonzaes@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 03/16/2015	Phone: 505-504-8002	

\* Attach Additional Sheets If Necessary