



LINN ENERGY

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

HE West B 85

Termination Request

API No. 30-015-28387

Release Date: March 6th, 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 6th, 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 17th, 2014, and an initial C-141 was submitted to BLM for their approval (Appendix A).

RECS personnel were on site beginning on March 7th, 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 2nd, 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 4th, 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 6th, 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 28th, 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 19th, 2014, a request to backfill the site was sent to BLM. BLM approved the site to be backfilled on September 25th, 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 30th, 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,



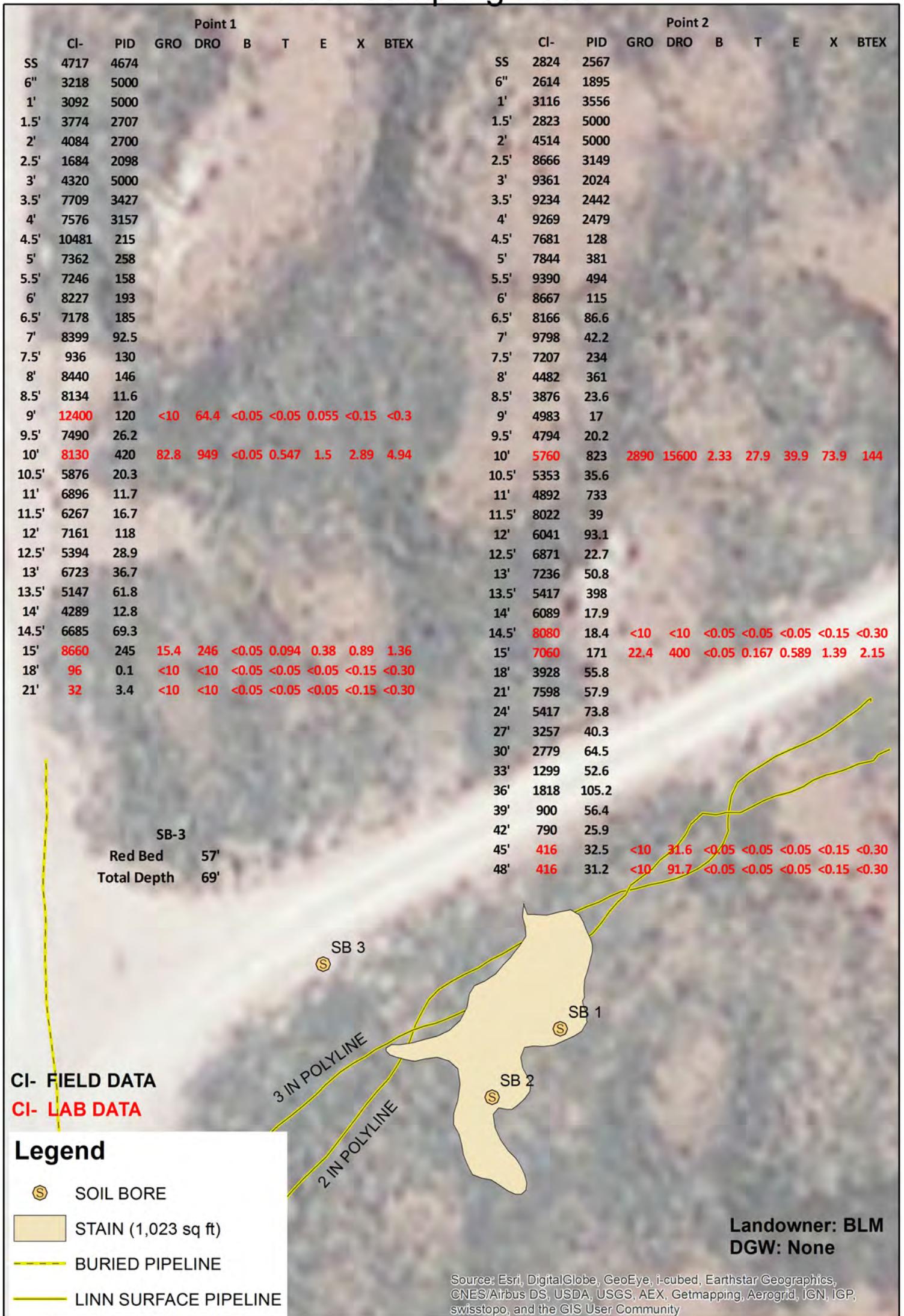
Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

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



LINN HE WEST B 85

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

Figure 1

GPS Date: 6/2/14
Drawing date: 7/30/14
Drafted by: L. Weinheimer

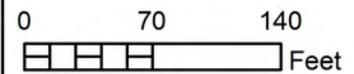
Location to Site for Direct Bury



LINN HE WEST B 85

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

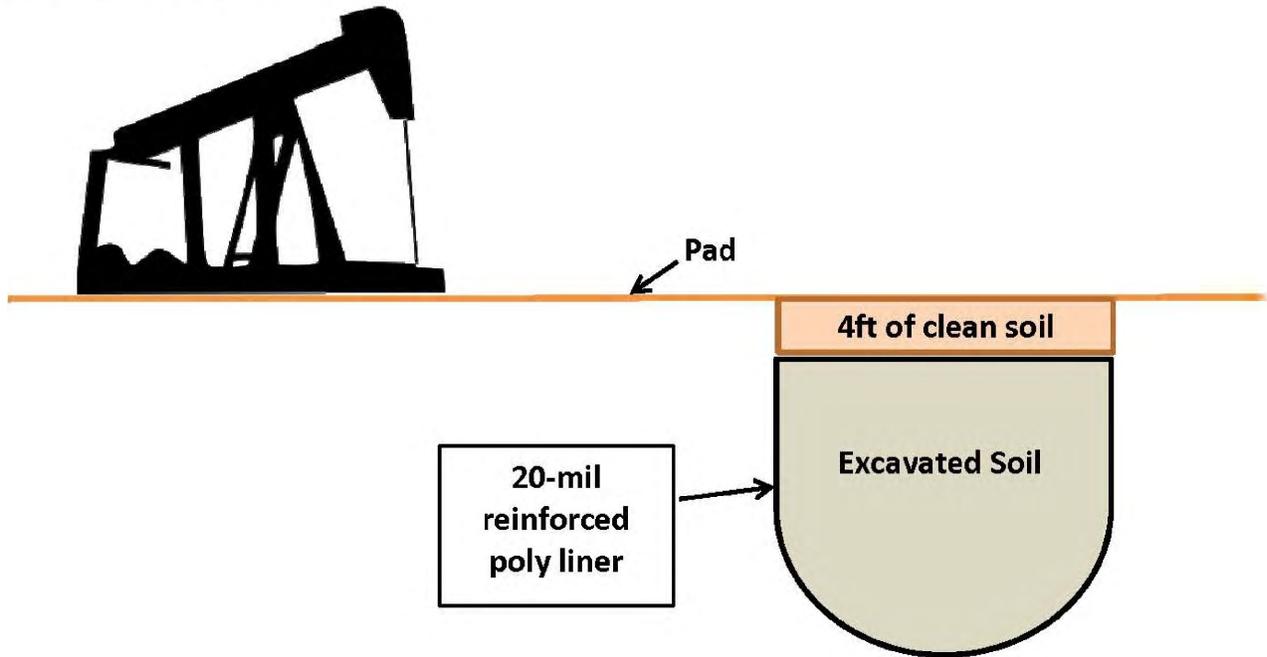
Figure 2



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



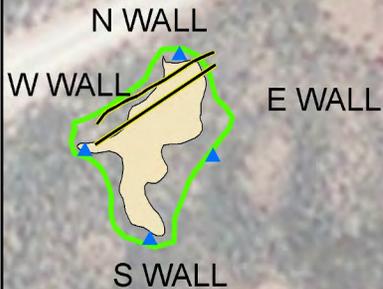
Excavation Data

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

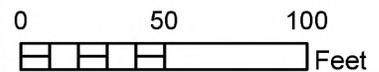
CI- LAB DATA
CI- FIELD DATA

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)

Figure 4



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



**LINN HE
WEST B 85**

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

Appendix A

Initial 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
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

Form C-141
Revised October 10, 2003

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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
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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.

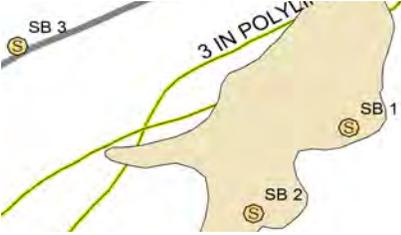
Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Brian Wall	Approved by District Supervisor:	
Title: Construction Foreman II	Approval Date:	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 03/07/2014	Phone: 806-367-0645	

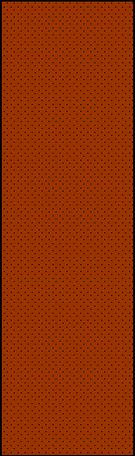
* Attach Additional Sheets If Necessary

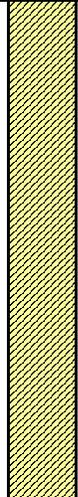
Appendix B

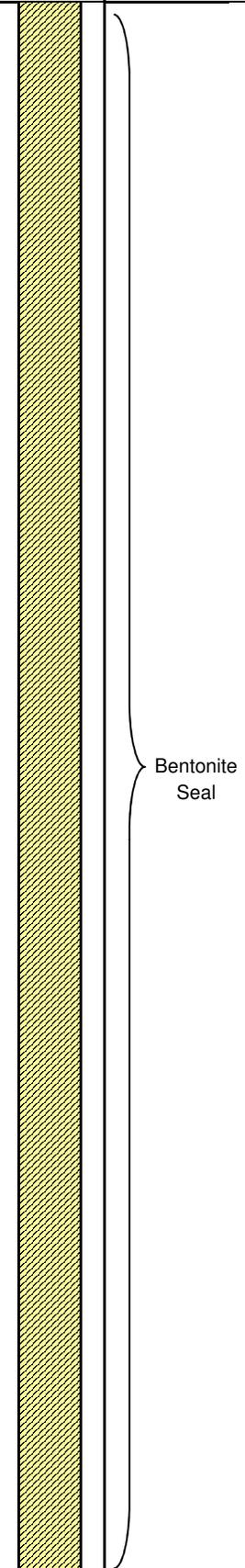
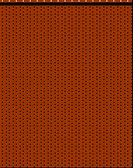
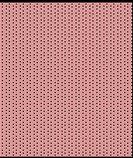
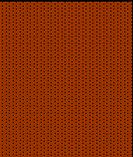
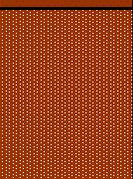
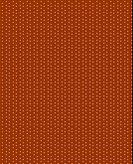
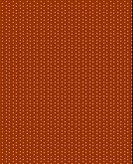
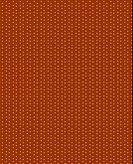
Soil Bore Installation Logs and Initial Sampling Labs

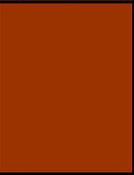
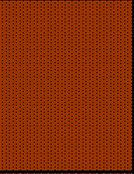
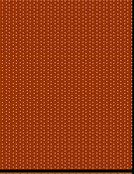
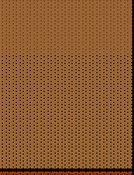
RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

Logger:	Amber Groves			
Driller:	Harrison&Cooper			
Drilling Method:	Air Rotary		Project Name:	Well ID:
Start Date:	6/2/2014		Linn HE West B 85	SB-1
End Date:	6/2/2014		Project Consultant: RECS	
Comments: All samples were taken from cuttings. TD = 21' DRAFTED BY: C. Uršanić GW = None			Location: UL/ K Sec. 3 T-17-S R-31-E Lat: 32°51'46.883"N County: Eddy Long: 103°51'33.768"W State: NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
18 ft	265	CI-96	0.1	RED SAND/NO ODOR		 Bentonite Seal
	B <0.05 T <0.05	GRO <10				
	E <0.05 X <0.15	DRO <10				
21 ft	199	CI-32	3.4			
	B <0.05 T <0.05	GRO <10				
	E <0.05 X <0.15	DRO <10				

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 <0.05 T <0.05	GRO <10				
	E <0.05 X <0.15	DRO 31.6				
48 ft	331	CI-416	31.2			
	B <0.05 T <0.05	GRO <10				
	E <0.05 X <0.15	DRO 91.7				

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				RED SAND/SOME CLAY		
42 ft				RED SAND/SOME CLAY		
45 ft				RED SAND/SOME CLAY		
48 ft				RED SAND/SOME CLAY		
				RED SAND/SMALL WHITE ROCKS		
51 ft				RED SAND/SMALL BLACK ROCKS		
54 ft				RED SAND/SOME CLAY		
				RED SAND/SOME CLAY		
				RED SAND/SOME CLAY		

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
57 ft				RED SAND/CLAY		 Bentonite Seal
				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.

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 cursive script that reads "Celey D. Keene".

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	
Ethylbenzene*	0.055	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
Chloride	12400	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	64.4	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

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

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)

BTEX 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	
Toluene*	0.547	0.050	04/02/2014	ND	2.55	128	2.00	5.08	
Ethylbenzene*	1.50	0.050	04/02/2014	ND	2.51	126	2.00	4.96	
Total Xylenes*	2.89	0.150	04/02/2014	ND	7.31	122	6.00	5.65	
Total BTEX	4.94	0.300	04/02/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 140 % 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	8130	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	82.8	10.0	03/31/2014	ND	222	111	200	9.86	
DRO >C10-C28	949	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

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 15' (H400906-03)

BTEX 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	
Toluene*	0.094	0.050	04/02/2014	ND	2.55	128	2.00	5.08	
Ethylbenzene*	0.380	0.050	04/02/2014	ND	2.51	126	2.00	4.96	
Total Xylenes*	0.890	0.150	04/02/2014	ND	7.31	122	6.00	5.65	
Total BTEX	1.36	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
Chloride	8660	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	15.4	10.0	03/31/2014	ND	222	111	200	9.86	
DRO >C10-C28	246	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:

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 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 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, SM4500CI-B		mg/kg		Analyzed By: AP				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5760	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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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, SM4500CI-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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Analytical Results For:

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 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)

BTEX 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 BTEX	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	7060	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	22.4	10.0	03/31/2014	ND	222	111	200	9.86	
DRO >C10-C28	400	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

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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 SM450Cl-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



Celey D. Keene, Lab Director/Quality Manager



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

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.

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".

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)

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	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 BTEX	<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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Analytical Results For:

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 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)

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	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 BTEX	<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	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

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Analytical Results For:

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 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 @ 45' (H401681-03)

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	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 BTEX	<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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 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)

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	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 BTEX	<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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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



Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES
 101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: ECES				BILL TO				ANALYSIS REQUEST																																																																																																																																																																																	
Project Manager: Jacob Klamplain				P.O. #:				<table border="1"> <tr><td>Chlorides</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>TPH 8015 M</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>BTEX</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Texas TPH</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Complete Cations/Anions</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>TDS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Chlorides																					TPH 8015 M																					BTEX																					Texas TPH																					Complete Cations/Anions																					TDS																																																														
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [Signature]	Date: 6-2-14	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: 3:35	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)		Sample Condition	REMARKS:	
Sampler - UPS - Bus - Other:	3.60	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	email results	
		Checked By: [Signature]	knorman@rice-ecs.com hconder@rice-ecs.com;	
			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.

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, flowing style.

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: WEST WALL (H402684-01)

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	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) 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)

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, 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	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, 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	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, 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	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

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*=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



Celey D. Keene, Lab Director/Quality Manager

RUSH !!!
XXX

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:		City:																								
Project #:	Project Owner:		State:	Zip:																								
Project Name:		Phone #:		Fax #:																								
Project Location: H.E. West B # 85																												
Sampler Name: Kyle Schnaidt																												
FOR LAB USE ONLY	Lab I.D.	Sample I.D.	(G)IRAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.	SAMPLING																		
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	CI-	TPH	BTEX										
	H402684													8-29-14	12:30	X	X	X										
	1	West Wall	G	1			X				X				12:35	X	X	X										
	2	East Wall	G	1			X				X				12:40	X	X	X										
	3	North Wall	G	1			X				X				12:45	X	X	X										
	4	South Wall	G	1			X				X																	

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



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.

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, flowing "C" and "K".

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	Sampling Date:	09/05/2014
Reported:	09/11/2014	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: 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
Chloride	32.0	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

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



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: <u>MECS</u>		BILL TO		ANALYSIS REQUEST																						
Project Manager: <u>Laura Flores</u>		P.O. #:		Chlorides TPH 8015 M Canal BTEX Canal Texas TPH Complete Cations/Anions TDS																						
Address:		Company:																								
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn:																								
Phone #: Fax #:		Address:																								
Project #: Project Owner:		City:																								
Project Name: <u>Lim Grogy</u>		State: Zip:																								
Project Location: <u>H.G. West B # 8S</u>		Phone #:																								
Sampler Name: <u>Joshua Balcom</u>		Fax #:																								
FOR LAB USE ONLY																										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS												MATRIX			PRESERV.	SAMPLING							
<u>H402T13</u>	<u>Backfill</u>	<u>G</u>	<u>1</u>	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME												
						<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>9-5-14</u>	<u>1:00</u>												

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: <u>9/5/14</u>	Received By: <u>Jodi Jensen</u>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: <u>4:00</u>		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 Environmental Tech: <u>Jbalcom</u> @rice-ecs.com	
Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)		
Sampler - UPS - Bus - Other:	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	<u>JJA</u>		

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

Canal BTEX TPH copy Jacob. 9/9/14

#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
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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 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 2nd, 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 6th, 2014. BLM approved the CAP that same day. Corrective actions began at the site on August 28th, 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 19th, 2014, a request to backfill the site was sent to BLM. BLM approved the site to be backfilled on September 25th, 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 30th, 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: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: E.L. Gonzales	Approved by Environmental Specialist:	
Title: Production Supervisor	Approval Date:	Expiration Date:
E-mail Address: elgonzales@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 03/16/2015	Phone: 505-504-8002	

* Attach Additional Sheets If Necessary