

## **LINN ENERGY**

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

**Linn H E West B 37**  
**(2RP-2150)**

---

# Termination Request

API No. 30-015-26000

Release Date: January 9<sup>th</sup>, 2014

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

# Rice Environmental Consulting & Safety

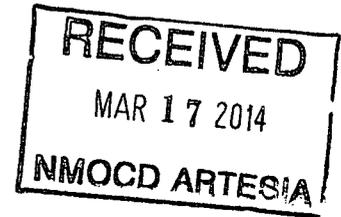
P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

**March 14<sup>th</sup>, 2014**

**Mike Bratcher**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 2  
811 S. First St.  
Artesia, NM 88210



**RE: Termination Request  
Linn H E West B 37 (2RP-2150)  
UL/J sec. 3 T17S R31E  
API No. 30-015-26000**

Mr. Bratcher:

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 5.5 miles west of Maljamar, New Mexico at UL/J sec. 2 T17S R31E. This site is in an area of no known groundwater.

On January 9<sup>th</sup>, 2014, Linn discovered a release of produced water. The #1 and #2 headers at the water station had been shut in due to a loss of pressure. The release was found at the West B #37 injection well. A cow had rubbed against the well head and accidentally pushed open a valve releasing produced water at pressure. The well head released a total of 10 barrels of produced water over 7,188 square feet of lease pad and pasture land. BLM and NMOCD were notified of the release on January 10<sup>th</sup>, 2014 and an initial C-141 was sent to NMOCD for their approval (Appendix A).

RECS personnel were on site beginning on January 15<sup>th</sup>, 2014 to assess the release. Four points within the release were sampled at the surface and with depth (Figure 1). Representative samples were taken to a commercial laboratory for analysis (Appendix B). Point 1 returned a laboratory chloride value below regulatory standards at 1.5 ft bgs. Point 2, Point 3 and Point 4 returned a laboratory chloride values below regulatory standards at 6 inches. Gasoline Range Organics (GRO) readings, Diesel Range Organics (DRO) readings and BTEX readings were all below regulatory standards at all sampling points.

A Corrective Action Plan (CAP) was submitted to NMOCD and BLM on February 4<sup>th</sup>, 2014. BLM approved the CAP on February 12<sup>th</sup>, 2014, with the stipulation that a liner did not need to be installed at the site. NMOCD approved the CAP on February 13<sup>th</sup>, 2014. The CAP recommended that based on the laboratory analysis, the area around Point 2, Point 3 and Point 4 would be scraped to 6 inches bgs. The area around Point 1

would be scraped to 1.5 ft bgs (Figure 2). At the base of each scrape, a bottom composite would be taken to a commercial laboratory to verify that all constituents were below 1,000 mg/kg chloride and 1,000 mg/kg TPH. The excavated soil would be taken to a NMOCD approved facility for disposal. The site would be backfilled with clean, imported soil and contoured to the surrounding location. Soil amendments would be added to the pasture area as needed and would be seeded with a blend of native vegetation.

CAP work began at the site on January 30<sup>th</sup>, 2014. The release area was scraped in three parts: the south scrape, the northeast scrape and the 1.5 ft scrape (Figure 3). A total of 312 yards of excavated soil from the three scrapes was taken to a NMOCD approved facility for disposal. At the base of each scrape, a 5 point bottom composite was taken and sent to a commercial laboratory for analysis (Appendix C). The 5 point composites of the south scrape, northeast scrape and 1.5 ft scrape returned laboratory chloride values of 32 mg/kg, non-detect and 272 mg/kg, respectively. GRO, DRO and BTEX from all three scrapes returned values of non-detect.

A total of 363 yards of caliche and 39 yards of top soil were imported to the site to serve as backfill. A sample of the caliche and top soil were taken to a commercial laboratory for analysis. Both samples returned laboratory chloride results of non-detect. On February 14<sup>th</sup>, 2014, BLM gave permission to backfill the site. The lease pad was backfilled with the imported caliche and the pasture area was backfilled with the top soil. The backfilled areas were then contoured to the surrounding location. On February 24<sup>th</sup>, 2014, soil amendments were added to the pasture area and the area was seeded with BLM mix #2 and #4.

Photo documentation of these activities can be found in Appendix D.

Given that the site was scraped as stated in the approved CAP, Linn respectfully request 'remediation termination' and site closure. A final C-141 will 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 – Proposed Excavation

Figure 3 – Excavation Data

Appendix A – Initial C-141

Appendix B – Initial Sampling Labs

Appendix C – Corrective Action Plan Sampling Labs

Appendix D – Photo Documentation

Appendix E – Final C-141

# Figures

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

# Initial Sampling Data

Pt. 2	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	9060	17.9	<50	3420	<0.05	0.058	0.1	0.297	0.455
6"	640	1.1	<0.05	45	<0.05	<0.05	<0.05	<0.15	<0.3
1'	368	0	<10	30.6	<0.05	<0.05	<0.05	<0.15	<0.3

Pt. 1	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	2840	0.2	<10	381	<0.05	0.057	<0.05	0.05	<0.3
6"	7120	7.2	<10	100	<0.05	<0.05	<0.05	<0.15	<0.3
1'	1470	0	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
1.5'	336	0.8	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Pt. 3	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	8080	4.5	<10	164	<0.05	<0.05	<0.05	<0.15	<0.3
6"	608	0	<10	13.7	<0.05	<0.05	<0.05	<0.15	<0.3

Pt. 4	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	8660	28.2	<10	908	<0.05	<0.05	0.085-0.237	0.322	
6"	80	0	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

▲ Field Data  
● Lab Data

## Legend

- ▲ SAMPLE POINT
- WELLHEAD
- STAIN (7,188 sq ft)

Landowner: BLM  
DGW: None

Source: Esri, DigitalGlobe, GeoEye, Getmapping, Aerogrid, IGN, IGP, swis



**LINN**  
**WEST B #37**  
**(2RP-2150)**  
UL J SECTION 3  
T-17-S R-31-E  
EDDY COUNTY, NM

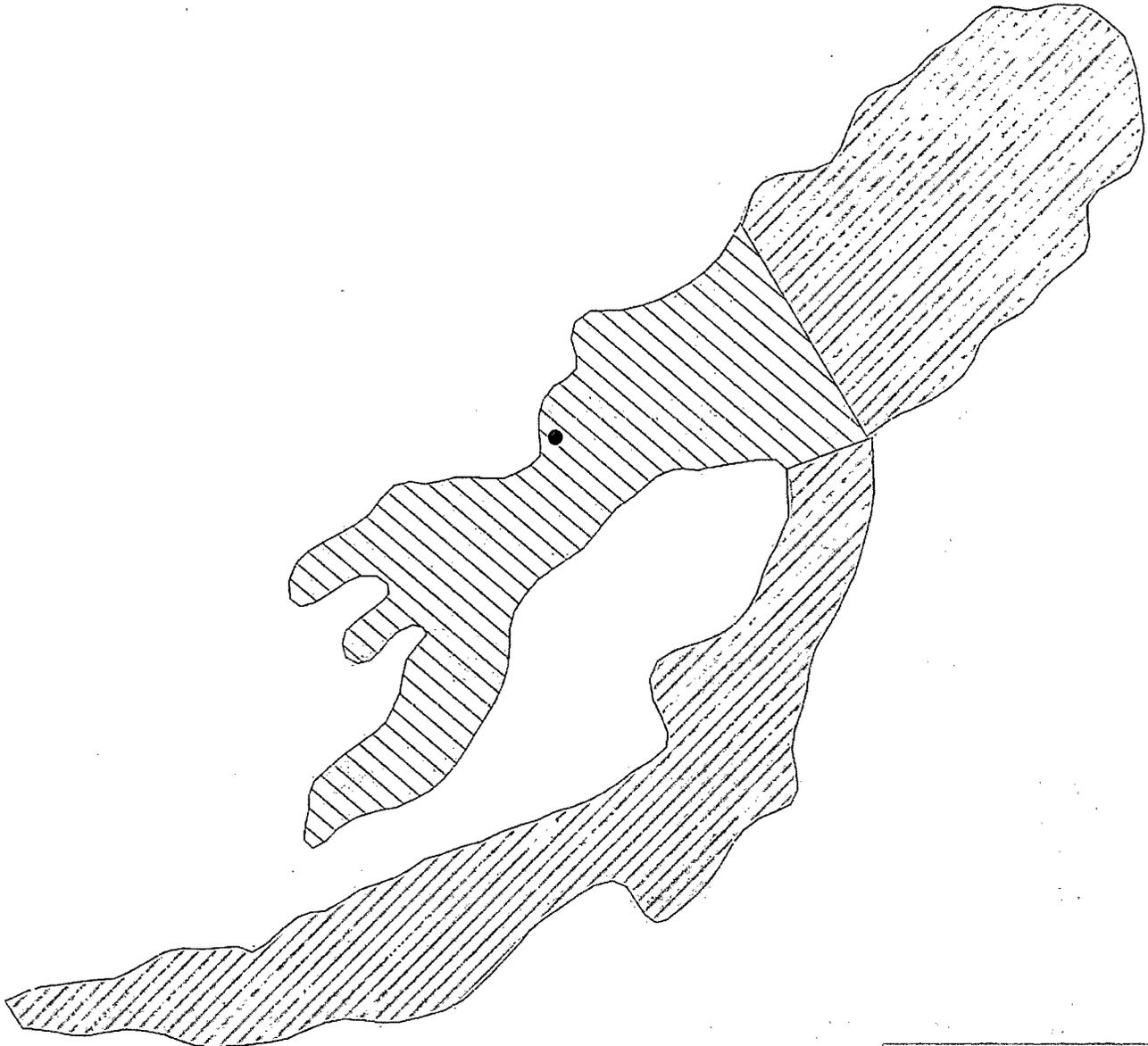
Figure 1



0 10 20  
Feet

GPS date: 1/15/14 AG  
Drawing date: 1/23/14  
Drafted by: C. Ursanjc

# Proposed Excavation



## Legend

- WELLHEAD
- SCRAPE AT 1.5 FT
- SCRAPE AT 6 IN
- STAIN (7,188 sq ft)

Landowner: BLM  
DGW: None

Source: Esri, DigitalGlobe, GeoEye,  
Getmapping, Aerogrid, IGN, IGP, sw



**LINN**  
**WEST B #37**  
**(2RP-2150)**  
UL J SECTION 3  
T-17-S R-31-E  
EDDY COUNTY, NM

## Figure 2



0 10 20  
 Feet

GPS date: 1/15/14 AG  
Drawing date: 1/31/14  
Drafted by: L. Weinheimer

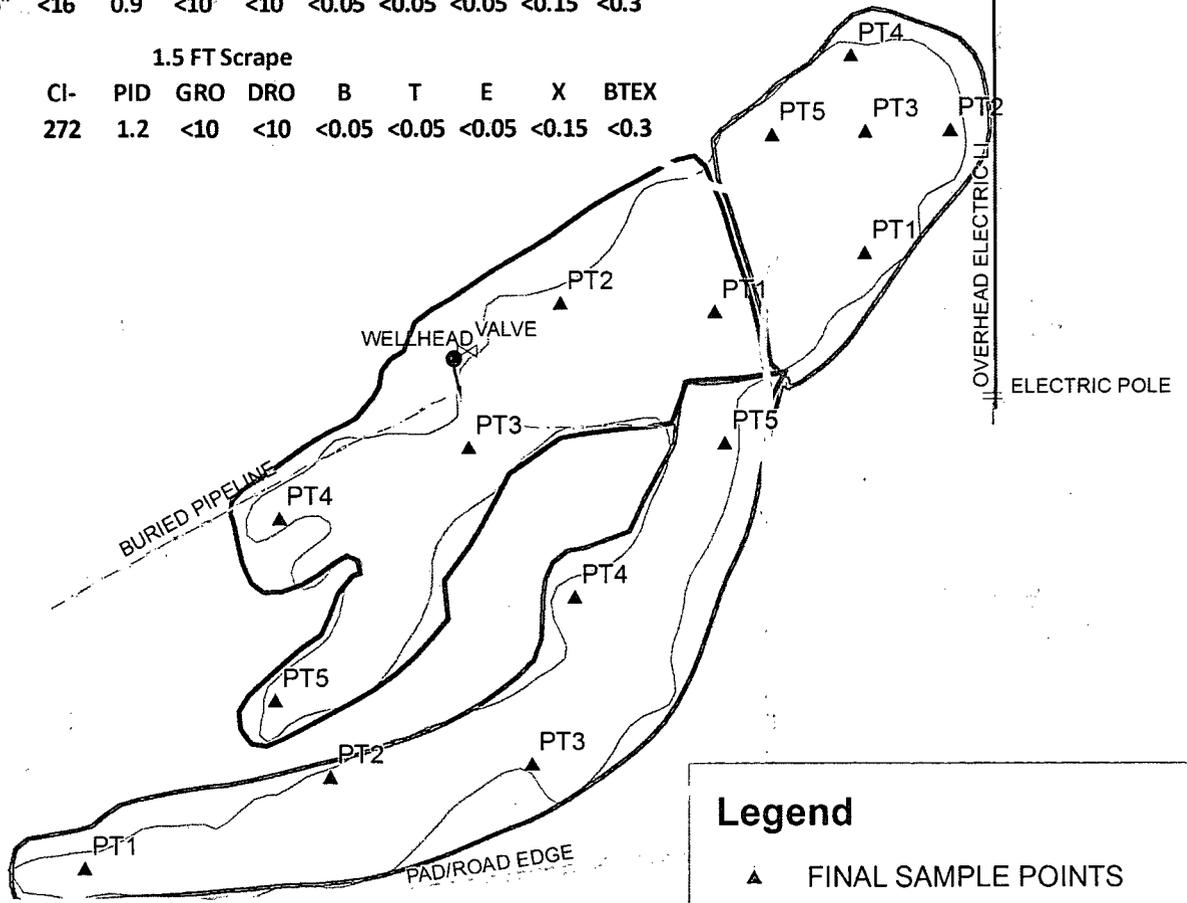
# Excavation Data

## Northeast Scrape

CI-	PID	GRO	DRO	B	T	E	X	BTEX	
5 Pt. Composite @ 6"	<16	0.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

## 1.5 FT Scrape

CI-	PID	GRO	DRO	B	T	E	X	BTEX	
5 Pt. Composite	272	1.2	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3



## Legend

- ▲ FINAL SAMPLE POINTS
- ⊥ ELECTRIC POLE
- ⊗ VALVE
- WELL HEAD
- BURIED PIPELINE
- OVERHEAD ELECTRIC LINE
- PAD/ROAD EDGE
- SURFACE PIPELINE
- ▭ 1.5 FT SCRAPE
- ▭ 6 IN SCRAPE
- ▭ STAIN (7,188 sq ft)

## South Scrape

CI-	PID	GRO	DRO	B	T	E	X	BTEX	
5 Pt. Composite @ 6"	32	1.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Landowner: BLM  
DGW: None

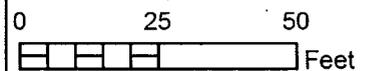
Source: Esri, Digital  
Getmapping, Aerogr



**LINN**  
**WEST B #37**  
**(2RP-2150)**

UL J SECTION 3  
T-17-S R-31-E  
EDDY COUNTY, NM

Figure 3



GPS date: 2/4/14 JB  
Drawing date: 2/10/14  
Drafted by: L. Weinheimer

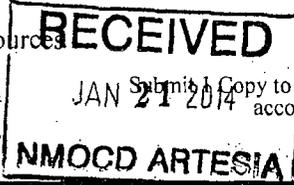
# Appendix A

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



Form C-141  
Revised October 10, 2003

Submit Copy to appropriate District Office in accordance with 19.15.29 NMAC

**Release Notification and Corrective Action**

*JMW 1402135403*

OPERATOR  Initial Report  Final Report

Name of Company: Linn Operating <i>269324</i>	Contact: Brian Wall
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739
Facility Name: H E West B 37	Facility Type: Injection

Surface Owner: Federal	Mineral Owner:	API No.: 30-015-26000
------------------------	----------------	-----------------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	03	17S	31E	1980	South	1980	East	Eddy

Latitude: 32.86183 Longitude: -103.85467

**NATURE OF RELEASE**

Type of Release: Produced Water	Volume of Release: 10 bbls	Volume Recovered: 0
Source of Release: Valve	Date and Hour of Occurrence: 01/09/2014	Date and Hour of Discovery: 01/09/2014 4:00pm
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 01/10/2014	
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.\*: Found that headers #1 and 2 at water station had been shut in at water station at about 8:00am, due to loss of pressure. Isolated lateral lines off of injection trunk line and began opening lines one at a time to find area leak would be in. Once finding which line was causing loss of pressure, used roustabout crew to walk out lines in attempt to find location of leak. Found leak at approx. 4:00pm on location of the West B #37 injection well. Discovered that cow had rubbed against the well head accidentally pushing open a valve and releasing produced water at pressure.

Describe Area Affected and Cleanup Action Taken.\* : Produced water sprayed from open valve causing large coverage area of liquid. Closed valve and removed handle. Delineate spill site. Send plan of action to OCD and BLM. Remove contaminated soils and dispose of at approved facility. Bring in clean soils to replace void to natural elevation.

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: <i>Brian Wall</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Brian Wall	Approved by District Supervisor: Signed By <i>Mike Burton</i>	
Title: Construction Foreman II	Approval Date: <b>JAN 21 2014</b>	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions: Remediation per OCD Rule & Guidelines, & like approval by BLM. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 2RP-2150</b>	

*February 21 2014*

# Appendix B

## Initial Sampling Labs

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



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

---

January 23, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 01/15/14 16:35.

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".

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:	01/15/2014	Sampling Date:	01/15/2014
Reported:	01/23/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 @ SURFACE (H400137-01)**

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	01/20/2014	ND	2.32	116	2.00	1.29		
<b>Toluene*</b>	<b>0.057</b>	0.050	01/20/2014	ND	2.32	116	2.00	1.51		
Ethylbenzene*	<0.050	0.050	01/20/2014	ND	2.30	115	2.00	1.47		
Total Xylenes*	<0.150	0.150	01/20/2014	ND	6.74	112	6.00	1.49		
Total BTEX	<0.300	0.300	01/20/2014	ND						

*Surrogate: 4-Bromofluorobenzene (PIC) 107 % 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>2840</b>	16.0	01/20/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/18/2014	ND	46.7	93.4	50.0	3.48		
<b>DRO &gt;C10-C28</b>	<b>381</b>	10.0	01/18/2014	ND	47.4	94.9	50.0	1.97		

*Surrogate: 1-Chlorooctane 81.9 % 65.2-140*
*Surrogate: 1-Chlorooctadecane 94.5 % 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:	01/15/2014	Sampling Date:	01/15/2014
Reported:	01/23/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 2 @ SURFACE (H400137-02)**

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	01/20/2014	ND	2.32	116	2.00	1.29		
Toluene*	<b>0.058</b>	0.050	01/20/2014	ND	2.32	116	2.00	1.51		
Ethylbenzene*	<b>0.100</b>	0.050	01/20/2014	ND	2.30	115	2.00	1.47		
Total Xylenes*	<b>0.297</b>	0.150	01/20/2014	ND	6.74	112	6.00	1.49		
<b>Total BTEX</b>	<b>0.455</b>	0.300	01/20/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 129 % 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>9060</b>	16.0	01/21/2014	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	<50.0	50.0	01/18/2014	ND	46.7	93.4	50.0	3.48		
<b>DRO &gt;C10-C28</b>	<b>3420</b>	50.0	01/18/2014	ND	47.4	94.9	50.0	1.97		

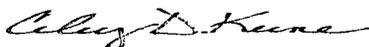
Surrogate: 1-Chlorooctane 89.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 149 % 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:	01/15/2014	Sampling Date:	01/15/2014
Reported:	01/23/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 3 @ SURFACE (H400137-03)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 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	01/21/2014	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	01/18/2014	ND	46.7	93.4	50.0	3.48		
DRO >C10-C28	164	10.0	01/18/2014	ND	47.4	94.9	50.0	1.97		

Surrogate: 1-Chlorooctane 72.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.4 % 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.



Celestine 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:	01/15/2014	Sampling Date:	01/15/2014
Reported:	01/23/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 4 @ SURFACE (H400137-04)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<b>0.085</b>	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
<b>Total Xylenes*</b>	<b>0.237</b>	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
<b>Total BTEX</b>	<b>0.322</b>	0.300	01/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 117% 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>8660</b>	16.0	01/21/2014	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	01/20/2014	ND	185	92.3	200	6.86		
<b>DRO &gt;C10-C28</b>	<b>908</b>	10.0	01/20/2014	ND	183	91.3	200	6.89		

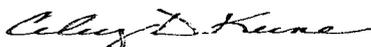
Surrogate: 1-Chlorooctane 81.1% 65.2-140

Surrogate: 1-Chlorooctadecane 94.8% 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

- 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

---

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



January 22, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: LINN WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 01/21/14 11:10.

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).

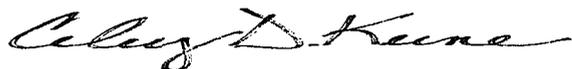
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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:	01/21/2014	Sampling Date:	01/15/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	LINN WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S R31E		

**Sample ID: POINT 1 @ 6" (H400182-01)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 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	<b>7120</b>	16.0	01/22/2014	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	01/22/2014	ND	210	105	200	6.84		
<b>DRO &gt;C10-C28</b>	<b>100</b>	10.0	01/22/2014	ND	204	102	200	6.75		

Surrogate: 1-Chlorooctane 83.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.1 % 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: 01/21/2014  
 Reported: 01/22/2014  
 Project Name: LINN WEST B #37  
 Project Number: NONE GIVEN  
 Project Location: T17S R31E

 Sampling Date: 01/15/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 1 @ 1' (H400182-02)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 107 % 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	1470	16.0	01/22/2014	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	01/22/2014	ND	210	105	200	6.84		
DRO >C10-C28	<10.0	10.0	01/22/2014	ND	204	102	200	6.75		

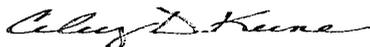
Surrogate: 1-Chlorooctane 90.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.0 % 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:	01/21/2014	Sampling Date:	01/15/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	LINN WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S R31E		

**Sample ID: POINT 2 @ 6" (H400182-03)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 107 % 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	640	16.0	01/22/2014	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	01/22/2014	ND	210	105	200	6.84		
DRO >C10-C28	45.0	10.0	01/22/2014	ND	204	102	200	6.75		

Surrogate: 1-Chlorooctane 97.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.6 % 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:	01/21/2014	Sampling Date:	01/15/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	LINN WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S R31E		

**Sample ID: POINT 2 @ 1' (H400182-04)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

*Surrogate: 4-Bromofluorobenzene (PIE) 107 % 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>368</b>	16.0	01/22/2014	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	01/22/2014	ND	210	105	200	6.84		
<b>DRO &gt;C10-C28</b>	<b>30.6</b>	10.0	01/22/2014	ND	204	102	200	6.75		

*Surrogate: 1-Chlorooctane 86.6 % 65.2-140*
*Surrogate: 1-Chlorooctadecane 87.2 % 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:	01/21/2014	Sampling Date:	01/15/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	LINN WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S R31E		

**Sample ID: POINT 3 @ 6" (H400182-05)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

*Surrogate: 4-Bromofluorobenzene (PID) 107 % 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>608</b>	16.0	01/22/2014	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	01/22/2014	ND	210	105	200	6.84		
<b>DRO &gt;C10-C28</b>	<b>13.7</b>	10.0	01/22/2014	ND	204	102	200	6.75		

*Surrogate: 1-Chlorooctane 92.0 % 65.2-140*
*Surrogate: 1-Chlorooctadecane 90.6 % 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: 01/21/2014  
 Reported: 01/22/2014  
 Project Name: LINN WEST B #37  
 Project Number: NONE GIVEN  
 Project Location: T17S R31E

 Sampling Date: 01/15/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 4 @ 6" (H400182-06)**

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	01/21/2014	ND	2.28	114	2.00	0.650		
Toluene*	<0.050	0.050	01/21/2014	ND	2.23	112	2.00	0.677		
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.26	113	2.00	0.431		
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.61	110	6.00	0.209		
Total BTEX	<0.300	0.300	01/21/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 108 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	01/22/2014	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	01/22/2014	ND	210	105	200	6.84		
DRO >C10-C28	<10.0	10.0	01/22/2014	ND	204	102	200	6.75		

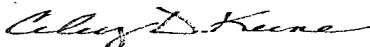
Surrogate: 1-Chlorooctane 93.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.3 % 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**

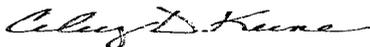
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

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



# 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>RCS</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																						
Project Manager: <u>Jacob Kamplain</u>		P.O. #:		Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS																	
Address:		Company:																								
City: Hobbs State: NM Zip: 88240		Attn:																								
Phone #: Fax #:		Address:																								
Project #: Project Owner:		City:																								
Project Name: <u>Linn West B#37</u>		State: Zip:																								
Project Location: <u>T175 R312</u>		Phone #:																								
Sampler Name: <u>Amber Groves</u>		Fax #:																								
FOR LAB USE ONLY																										
Lab I.D.	Sample I.D.	(S)RAB OR (C)OMP.	# CONTAINERS							GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME						
<u>H400B1</u>																										
<u>1</u>	<u>Point 1 @ 6"</u>	<u>555</u>	<u>1</u>			<input checked="" type="checkbox"/>							<u>1-15-14</u>	<u>2:00</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>2</u>	<u>Point 1 @ 1"</u>	<u>555</u>	<u>1</u>			<input checked="" type="checkbox"/>							<u>1-15-14</u>	<u>2:05</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>3</u>	<u>Point 2 @ 6"</u>	<u>555</u>	<u>1</u>			<input checked="" type="checkbox"/>							<u>1-15-14</u>	<u>2:15</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>4</u>	<u>Point 2 @ 1"</u>	<u>555</u>	<u>1</u>			<input checked="" type="checkbox"/>							<u>1-15-14</u>	<u>2:20</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>5</u>	<u>Point 3 @ 6"</u>	<u>555</u>	<u>1</u>			<input checked="" type="checkbox"/>							<u>1-15-14</u>	<u>2:30</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
<u>6</u>	<u>Point 4 @ 6"</u>	<u>555</u>	<u>1</u>			<input checked="" type="checkbox"/>							<u>1-15-14</u>	<u>2:40</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									

Rush

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: <u>Amber Groves</u>	Date: <u>1/21/14</u>	Received By: <u>Jodi Benson</u>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" 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"/> No	CHECKED BY: (Initials) <u>JA</u>	REMARKS: email results Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com; Lweihelmer@rice-ecs.com; sedwards@rice-ecs.com; lflores@rice-ecs.com; agroves@rice-ecs.com	

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

#54

January 31, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 01/29/14 16:30.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 01/29/2014  
 Reported: 01/31/2014  
 Project Name: WEST B #37  
 Project Number: NONE GIVEN  
 Project Location: NONE GIVEN

 Sampling Date: 01/29/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: PT. 1 @ 1.5' (H400292-01)**

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	01/31/2014	ND	2.26	113	2.00	2.91		
Toluene*	<0.050	0.050	01/31/2014	ND	2.24	112	2.00	2.60		
Ethylbenzene*	<0.050	0.050	01/31/2014	ND	2.23	111	2.00	2.55		
Total Xylenes*	<0.150	0.150	01/31/2014	ND	6.44	107	6.00	3.04		
Total BTEX	<0.300	0.300	01/31/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 110 % 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	336	16.0	01/30/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/31/2014	ND	218	109	200	10.7		
DRO >C10-C28	<10.0	10.0	01/31/2014	ND	225	112	200	14.2		

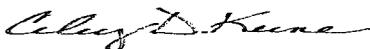
Surrogate: 1-Chlorooctane 79.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.2 % 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**

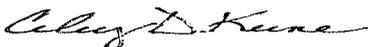
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

---

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



# 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

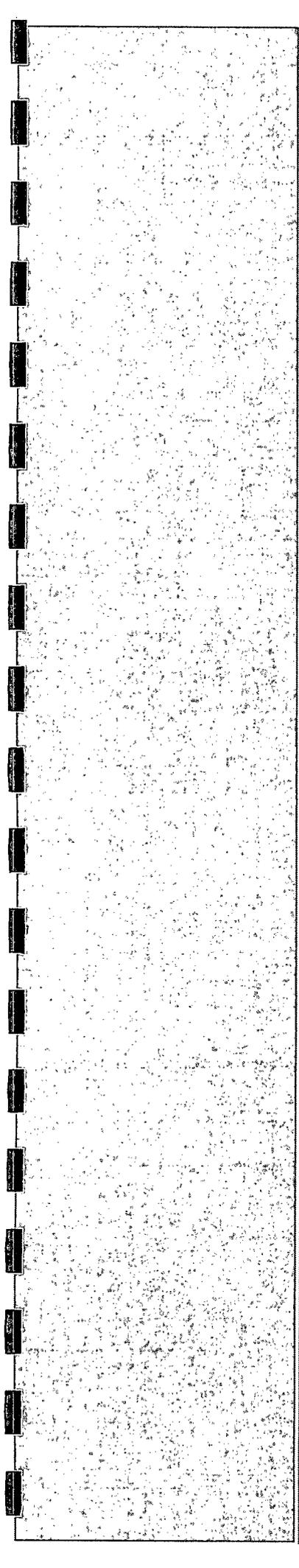
## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: RECS		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																							
Project Manager: Jacob Kamplain		P.O. #:		Chlorides TPH 8015 M BTEX Texas TPH Complete Cations/Anions TDS																							
Address:		Company:																									
City: Hobbs State: NM Zip: 88240		Attn:																									
Phone #: Fax #:		Address:																									
Project #: Project Owner:		City:																									
Project Name:		State: Zip:																									
Project Location: West B # 37		Phone #:																									
Sampler Name: Kyle Schnaidt		Fax #:																									
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS											MATRIX					PRESERV.	SAMPLING							
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME													
H400292	1 point 1 @ 1.5'	6	7			X					X		1-29-14	10:10	X	X	X										

PLEASE NOTE: Liability and Damages. Cardinal's liability and clients 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: Kyle Schnaidt	Date: 1/29/14	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: 4:30		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		email results Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com Kschnaidt@rice-ecs.com	
Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)		
Sampler - UPS - Bus - Other:	Cool <input type="checkbox"/> In fact? <input type="checkbox"/>	RP		
	Yes <input type="checkbox"/> No <input type="checkbox"/>			

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



# Appendix C

## Corrective Action Plan Sampling Labs

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

February 07, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 02/06/14 16:20.

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).

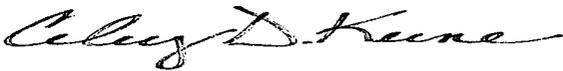
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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:	02/06/2014	Sampling Date:	02/04/2014
Reported:	02/07/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Amanda Ponce
Project Location:	NOT GIVEN		

**Sample ID: NE 6" SCRAPE 5PT COMP (H400387-01)**

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	02/07/2014	ND	2.43	122	2.00	3.13		
Toluene*	<0.050	0.050	02/07/2014	ND	2.40	120	2.00	2.55		
Ethylbenzene*	<0.050	0.050	02/07/2014	ND	2.39	120	2.00	2.18		
Total Xylenes*	<0.150	0.150	02/07/2014	ND	7.06	118	6.00	1.17		
Total BTEX	<0.300	0.300	02/07/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 116 % 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	02/07/2014	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	02/07/2014	ND	197	98.3	200	6.22		
DRO >C10-C28	<10.0	10.0	02/07/2014	ND	193	96.5	200	0.485		

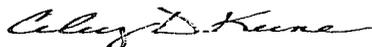
Surrogate: 1-Chlorooctane 99.6 % 63.2-140

Surrogate: 1-Chlorooctadecane 105 % 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:	02/06/2014	Sampling Date:	02/04/2014
Reported:	02/07/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Amanda Ponce
Project Location:	NOT GIVEN		

**Sample ID: 1.5' SCRAPE 5PT COMP (H400387-02)**

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	02/07/2014	ND	2.43	122	2.00	3.13		
Toluene*	<0.050	0.050	02/07/2014	ND	2.40	120	2.00	2.55		
Ethylbenzene*	<0.050	0.050	02/07/2014	ND	2.39	120	2.00	2.18		
Total Xylenes*	<0.150	0.150	02/07/2014	ND	7.06	118	6.00	1.17		
Total BTEX	<0.300	0.300	02/07/2014	ND						

*Surrogate: 4-Bromofluorobenzene (PIC) 117 % 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>272</b>	16.0	02/07/2014	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	02/07/2014	ND	197	98.3	200	6.22		
DRO >C10-C28	<10.0	10.0	02/07/2014	ND	193	96.5	200	0.485		

*Surrogate: 1-Chlorooctane 101 % 65.2-140*
*Surrogate: 1-Chlorooctadecane 108 % 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**

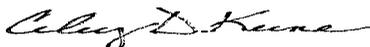
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

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





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

---

February 07, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 02/03/14 16:45.

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, 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:	02/03/2014	Sampling Date:	01/31/2014
Reported:	02/07/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SOUTH 6" SCRAPE 5 PT. COMP (H400327-01)**

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	02/06/2014	ND	2.25	113	2.00	1.30		
Toluene*	<0.050	0.050	02/06/2014	ND	2.20	110	2.00	1.10		
Ethylbenzene*	<0.050	0.050	02/06/2014	ND	2.18	109	2.00	0.773		
Total Xylenes*	<0.150	0.150	02/06/2014	ND	6.32	105	6.00	0.682		
Total BTEX	<0.300	0.300	02/06/2014	ND						

*Surrogate: 4-Bromofluorobenzene (PIC) 115 % 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>32.0</b>	16.0	02/07/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	02/04/2014	ND	203	101	200	3.08		
DRO >C10-C28	<10.0	10.0	02/04/2014	ND	190	95.1	200	1.59		

*Surrogate: 1-Chlorooctane 104 % 65.2-140*
*Surrogate: 1-Chlorooctadecane 109 % 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**

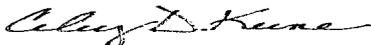
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

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





February 19, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 02/14/14 12:05.

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:	02/14/2014	Sampling Date:	02/12/2014
Reported:	02/19/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: IMPORTED CALICHE ANGELS PIT (H400451-01)**

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	02/19/2014	ND	400	100	400	0.00	

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**

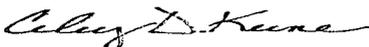
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

---

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.



---

Celest D. Keene, Lab Director/Quality Manager





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

---

February 21, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #37

Enclosed are the results of analyses for samples received by the laboratory on 02/17/14 16:20.

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, 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:	02/17/2014	Sampling Date:	02/17/2014
Reported:	02/21/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #37	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

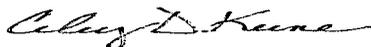
**Sample ID: IMPORTED SOIL (H400478-01)**

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	02/19/2014	ND	400	100	400	3.92	

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

---

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

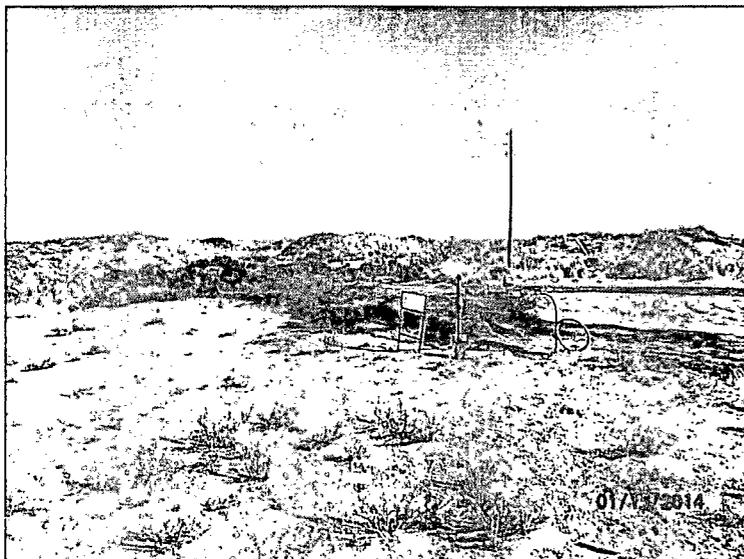


# Appendix D

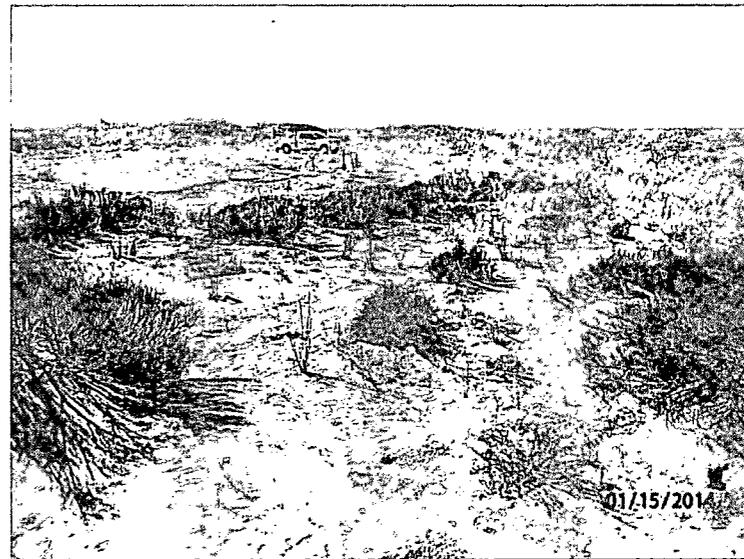
Photo Documentation

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

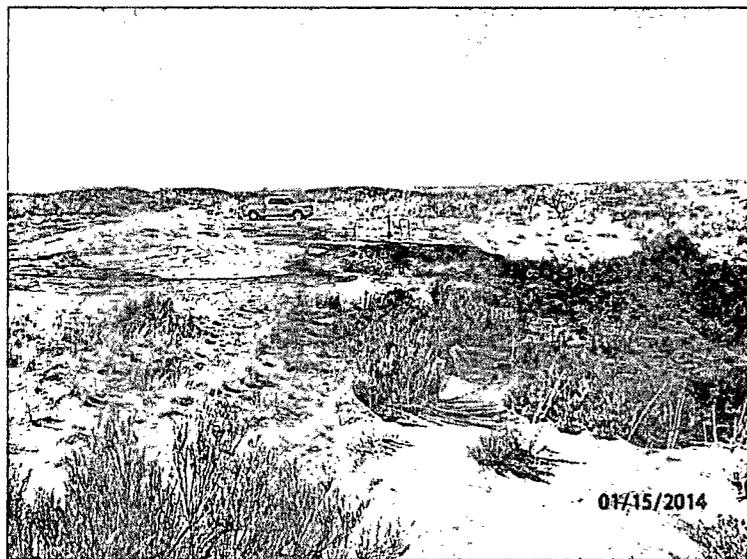
**Linn H E West B #37**  
Unit Letter J, Section 3, T17S, R31E



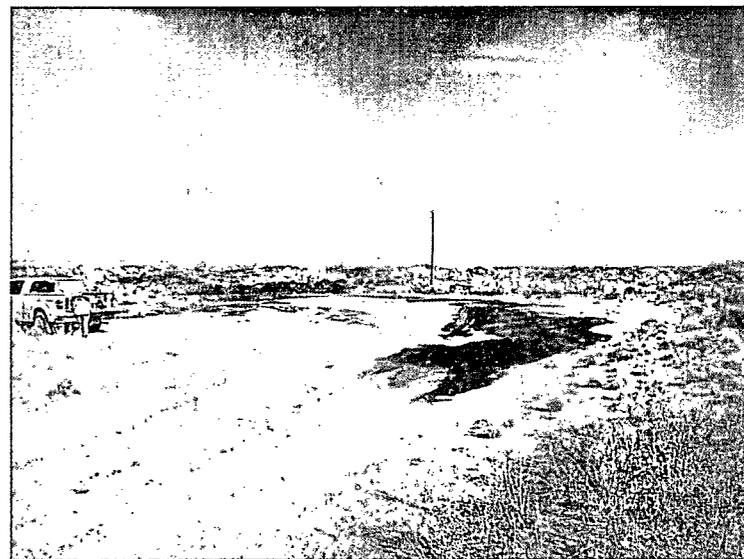
Initial release area, facing northeast 1/15/14



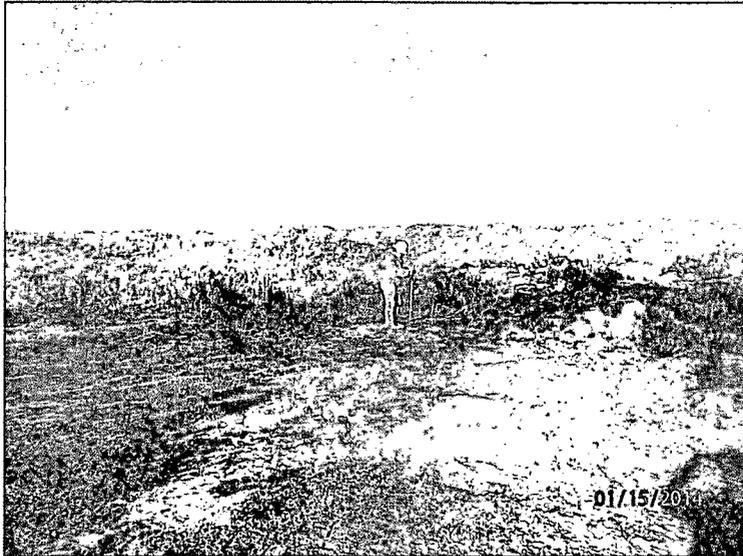
Initial release area, facing southwest 1/15/14



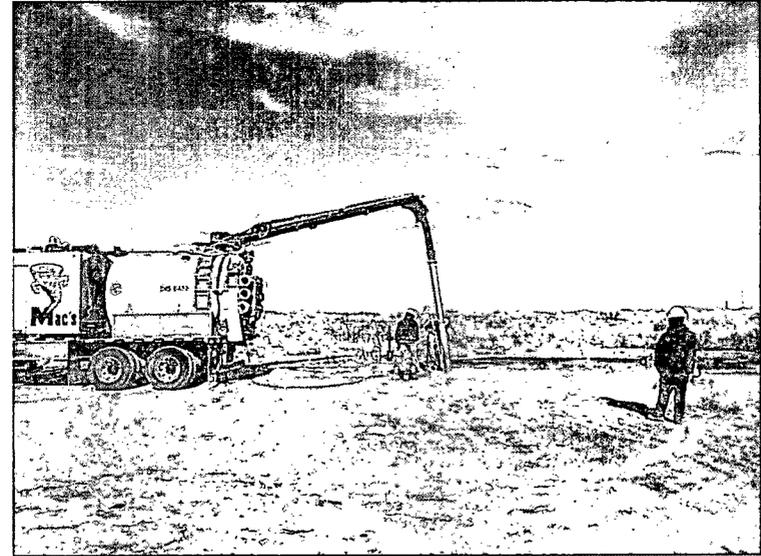
Initial release area, facing west 1/15/14



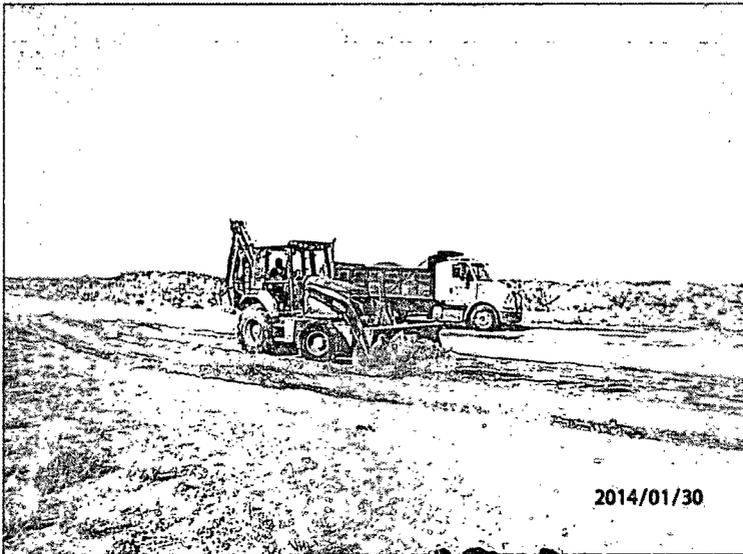
Initial release area, facing northeast 1/15/14



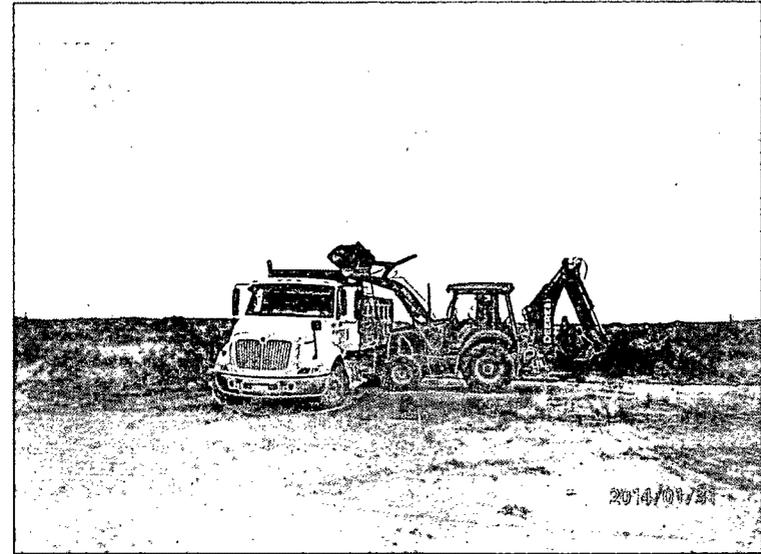
Sampling release area, facing northeast 1/15/14



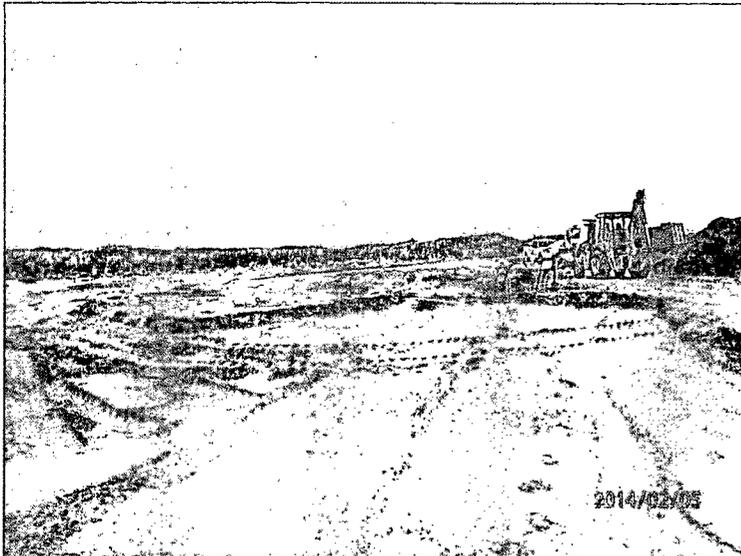
Using the hydrovac to line spot, facing north 1/28/14



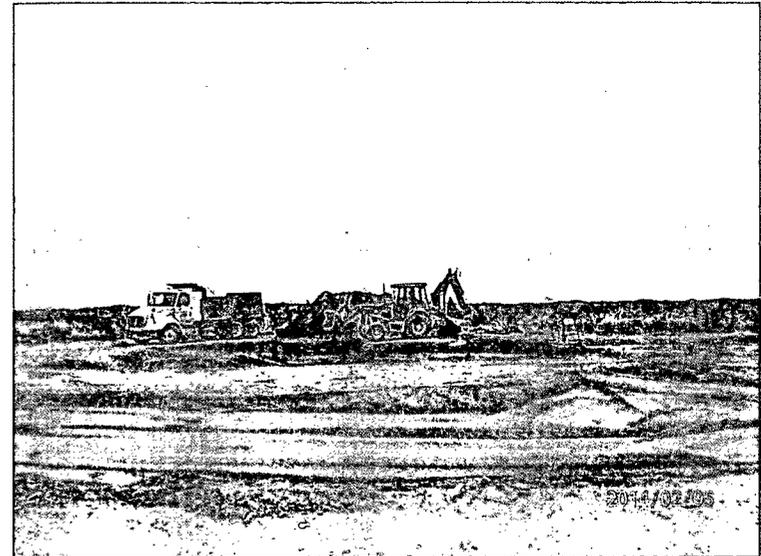
Conducting 6 inch scrape, facing northwest 1/30/14



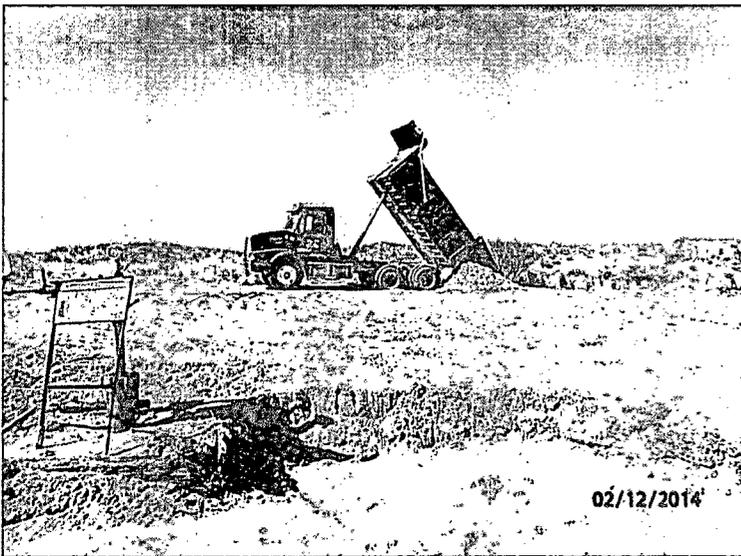
Exporting soil, facing north 1/31/14



Scrape completed, facing southwest 2/5/14



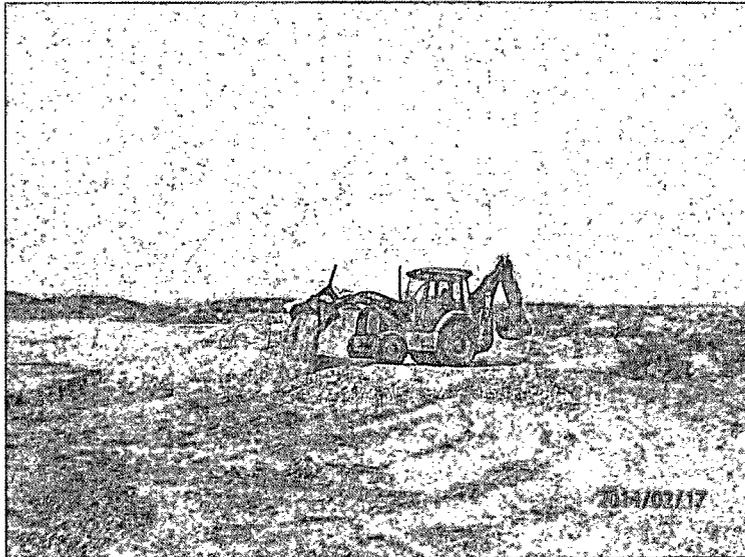
Scrape completed, facing northwest 2/5/14



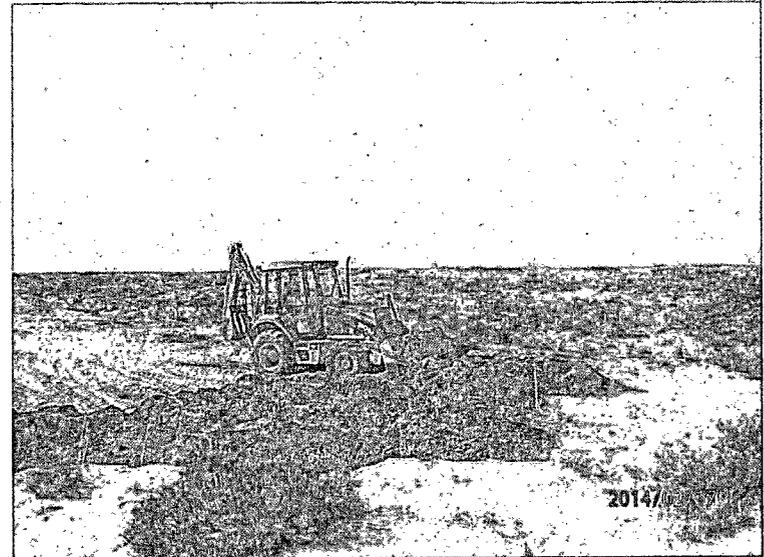
Importing caliche, facing northwest 2/12/14



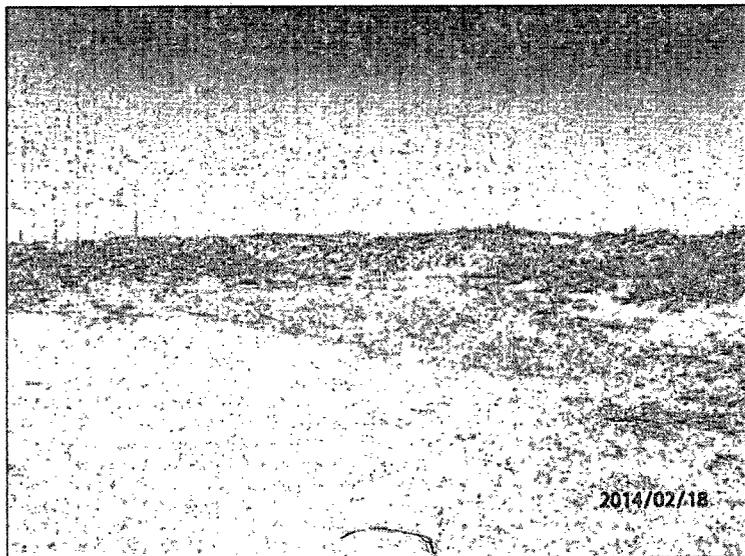
Importing top soil, facing northeast 2/14/14



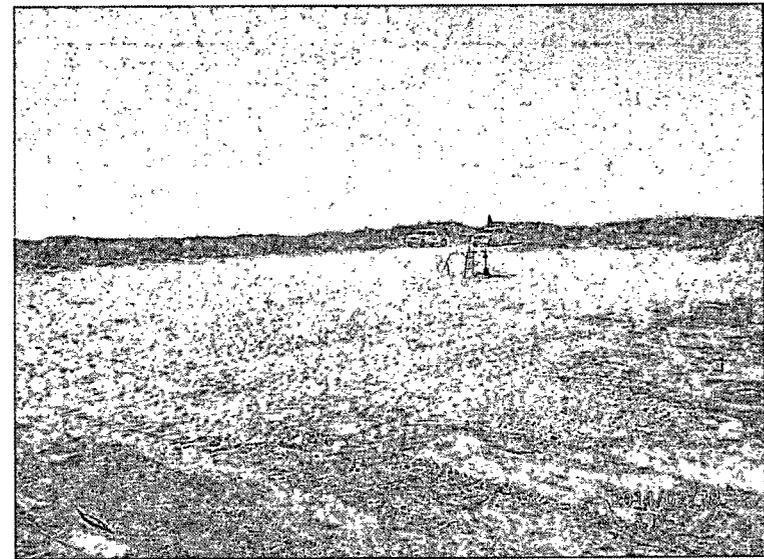
Backfilling lease pad, facing west 2/17/14



Backfilling pasture, facing northwest 2/17/14



Backfilling completed, facing northeast 2/18/14



Backfilling completed, facing southwest 2/18/14



Soil amendments added and seeding site, facing west  
2/24/14



Raking in amendments and seed, facing north 2/24/14



Pasture area completed, facing north 2/24/14



Pasture area completed, facing north 2/24/14

# 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

Form C-141  
Revised August 8, 2011

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 H E West B 37	Facility Type Injection

Surface Owner Federal	Mineral Owner	API No. 30-015-26000
-----------------------	---------------	----------------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	03	17S	31E	1980	South	1980	East	Eddy

Latitude 32.86183 Longitude -103.85467

**NATURE OF RELEASE**

Type of Release Produced Water	Volume of Release 10 bbls	Volume Recovered 0
Source of Release Valve	Date and Hour of Occurrence 01/09/2014	Date and Hour of Discovery 01/09/2014 4:00 pm
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 1/10/14	
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.\* Found that headers #1 and 2 at water station had been shut in at water station at about 8:00am, due to loss of pressure. Isolated lateral lines off of injection trunk line and began opening lines one at a time to find area leak would be in. Once finding which line was causing loss of pressure, used roustabout crew to walk out lines in attempt to find location of leak. Found leak at approx 4:00 pm on the location of the West B #37 injection well. Discovered that cow had rubbed against the well head accidentally pushing open a valve and releasing produced water at pressure.

Describe Area Affected and Cleanup Action Taken.\* A total of 7,188 square feet of lease pad and pasture land was affected. RECS personnel were on site beginning on January 15<sup>th</sup>, 2014 to assess the release. Four points within the release were sampled at the surface and with depth. Representative samples were taken to a commercial laboratory for analysis. Point 1 returned a laboratory chloride value below regulatory standards at 1.5 ft bgs. Point 2, Point 3 and Point 4 returned a laboratory chloride values below regulatory standards at 6 inches. Gasoline Range Organics (GRO) readings, Diesel Range Organics (DRO) readings and BTEX readings were all below regulatory standards at all sampling points. A Corrective Action Plan (CAP) was submitted to NMOCD and BLM on February 4<sup>th</sup>, 2014. BLM approved the CAP on February 12<sup>th</sup>, 2014, with the stipulation that a liner did not need to be installed at the site. NMOCD approved the CAP on February 13<sup>th</sup>, 2014. CAP work began at the site on January 30<sup>th</sup>, 2014. The release area was scraped in three parts: the south scrape, the northeast scrape and the 1.5 ft scrape. A total of 312 yards of excavated soil from the three scrapes was taken to a NMOCD approved facility for disposal. At the base of each scrape, a 5 point bottom composite was taken and sent to a commercial laboratory for analysis. The 5 point composites of the south scrape, northeast scrape and 1.5 ft scrape returned laboratory chloride values of 32 mg/kg, non-detect and 272 mg/kg, respectively. GRO, DRO and BTEX from all three scrapes returned values of non-detect. A total of 363 yards of caliche and 39 yards of top soil were imported to the site to serve as backfill. A sample of the caliche and top soil were taken to a commercial laboratory for analysis. Both samples returned laboratory chloride results of non-detect. On February 14<sup>th</sup>, 2014, BLM gave permission to backfill the site. The lease pad was backfilled with the imported caliche and the pasture area was backfilled with the top soil. The backfilled areas were then contoured to the surrounding location. On February 24<sup>th</sup>, 2014, soil amendments were added to the pasture area and the area was seeded with BLM mix #2 and #4.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to 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: <i>Fred B Wall</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Brian Wall	Approved by Environmental Specialist:	
Title: Construction Foreman II	Approval Date:	Expiration Date:
E-mail Address: Bwall@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 3-14-14	Phone: 575-738-1739	

\* Attach Additional Sheets If Necessary