

## **LINN ENERGY**

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

**HE West B 10**  
**2RP-1995**

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# **Termination Request**

API No. 3001505117

Release Date: October 14<sup>th</sup>, 2013

Unit Letter E, Section 9, Township 17S, Range 31E

# Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

**March 7<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 Energy – HE West B 10 (2RP-1995)**

**UL/E sec. 9 T17S R31E**

**API No. 3001505117**

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 6.2 miles northeast of Loco Hills, New Mexico at UL/E sec. 9 T17S R31E. This site is in an area of no known groundwater.

On October 14<sup>th</sup>, 2013, Linn used a pump truck with fresh water to discover the location of a release from a fiberglass pipeline. A total of 20 barrels of produced and fresh water was released from the fiberglass line and none of this water was recovered. The release affected 1,841 sq ft of pasture land. Linn notified BLM and NMOCD on October 16<sup>th</sup>, 2013 and an initial C-141 was submitted to both agencies (Appendix A).

RECS was on site beginning October 17<sup>th</sup>, 2013 to assess the site. Three points were sampled at the surface and two of the points were sampled with depth. The samples were field tested for chlorides and for organic vapors using a PID meter (Figure 1).

Representative samples were taken to a commercial laboratory for analysis (Appendix B). Point 1 returned laboratory chloride readings below 1,000 mg/kg at 2.5 ft bgs and Point 3 returned laboratory chloride readings below 1,000 mg/kg at 4 ft bgs. Point 3 was advanced to 15.5 ft bgs to determine the extent of the vertical contamination. The laboratory chloride readings fell below 250 mg/kg at 15.5 ft bgs.

On November 18<sup>th</sup>, 2013, a Corrective Action Plan (CAP) was submitted to NMOCD and BLM. Based on the laboratory data, the area around Point 1 would be excavated to 2.5 ft bgs. The side walls and bottom of the excavation would be sampled to verify that the chloride values were below 1,000 mg/kg (Figure 2). At Point 2, the site would be scraped down six inches to remove the staining. At Point 3, the area would be excavated to a depth of 4 ft bgs and the side walls of the excavation would be sampled to verify that

the chloride values are below 1,000 mg/kg. At 4 ft bgs, a 20-mil poly liner would be installed and properly seated into the base of the excavation.

The excavated soil from all three areas would be taken to a NMOCD approved facility for disposal. Clean soil would be imported to use as backfill for the excavations and scrape and to contour the area to the surrounding location. Soil amendments would be added as needed and the site will be seeded with a blend of native vegetation.

BLM approved the CAP on November 18<sup>th</sup>, 2013 with the stipulation that if the final sampling of the excavation around Point 3 returned values below 1,000 mg/kg, then no liner would be required. On November 19<sup>th</sup>, 2013, NMOCD approved the CAP with BLM's stipulation.

CAP work began at the site on January 8<sup>th</sup>, 2014. The site was line spotted by hydrovac to prevent line strikes and the lines were padded with soil to prevent breakage. The site was excavated as proposed in the CAP (Figure 3). A total of 240 yards of contaminated soil was taken to a NMOCD approved facility for disposal. Once the 4 ft and 2.5 ft excavations were completed, final sampling of both excavations was conducted and the samples delivered to a commercial laboratory (Appendix C). In the 4 ft excavation, all wall samples returned laboratory chloride, GRO, DRO and BTEX results of non-detect, except for the west wall, which had a chloride value of 544 mg/kg. In the 2.5 ft excavation, all wall samples returned laboratory chloride, GRO, DRO and BTEX results of non-detect, except for the west wall and east wall, which has laboratory chloride readings of 32 mg/kg and 64 mg/kg, respectively. A 5 point bottom composite of the 2.5 ft excavation was taken to a commercial laboratory and returned a laboratory chloride value of 96 mg/kg and GRO, DRO and BTEX results of non-detect.

At the base of the 4 ft excavation, a 20-mil reinforced poly liner was installed and properly seated into the base of the excavation. The liner was padded with 6 inches of top soil to protect the liner from punctures. Then a total of 44 yards of caliche was placed over the padded liner.

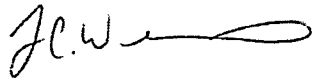
The remainder of the 4 ft excavation, the 2.5 ft excavation and the scrape was then backfilled with top soil. A total of 296 yards of top soil was imported to the site to pad the liner and serve as backfill. A 5 point composite sample of the imported soil was taken to a commercial laboratory for analysis and returned a chloride value of non-detect. On February 5<sup>th</sup>, 2014, soil amendments were added to the soil and the site was seeded with BLM mix #4.

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

Given that the site was excavated as stated in the approved CAP, a liner was installed into the 4 ft excavation, and the contaminated soil was replaced with clean, imported soil, Linn respectfully request 'remediation termination' and closure of the site. A final C-141 can be found in Appendix E.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Weinheimer', with a long horizontal flourish extending to the right.

Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Proposed Corrective Actions
- Figure 3 – Excavation Data
- Appendix A – Initial C-141
- Appendix B – Initial Laboratory Analyses
- Appendix C – CAP Laboratory Analyses
- 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

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
SS	4560	95.6	<50	3150	<0.2	<0.2	<0.2	<0.6	<1.2
6"	2380	325.6							
1'	1782	30.4							
1.5'	2400	376.3	<10	61.5	<0.05	<0.05	<0.05	<0.15	<0.3
2'	1886	355.2							
2.5'	800	128.2	<10	10.3	<0.05	<0.05	<0.05	<0.15	<0.3

	CI-	PID	GRO	DRO	B	T	E	X	BTEX
SS	10300	360.1	<50	7230	<0.2	<0.2	<0.2	<0.6	<1.2
6"	2933	397.6							
1'	2760	385.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
1.5'	4469	36.8							
2'	6018	41.9							
2.5'	6000	377.2	<10	15.1	<0.1	<0.1	<0.1	<0.3	<0.6
3'	3313	23.7							
3.5'	3360	43.8							
4'	560	4.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
4.5'	512	12.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
5'	538	8.5							
5.5'	1619	10.7							
6'	375	13.3							
6.5'	319	7							
7'	480	4.2							
7.5'	454	6.7							
8'	679	12.8							
8.5'	765	8.3							
9'	823	6							
9.5'	854	7.1							
10'	515	6.7							
10.5'	480	11.1							
11'	446	7.3							
11.5'	480	4.4							
12'	486	0.5							
12.5'	391	0.7							
13'	508	0.4							
13.5'	204	0.3							
14'	598	0.3							
14.5'	403	0.2							
15'	361	0.3							
15.5'	80	0.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

LANDOWNER: BLM

GROUNDWATER: NONE

Source: Esri, DigitalGlobe,  
Getmapping, Aerogrid, IG

Point 2  
CI- 452  
PID 6.1

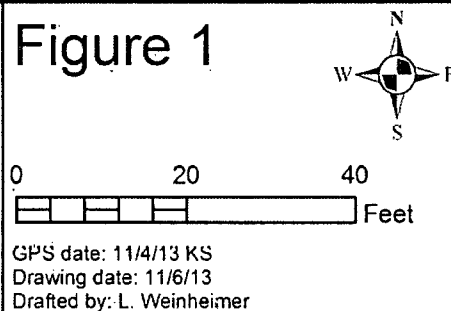
### Legend

- SAMPLE POINTS
- SOURCE
- STAIN AREA- 1841 SQ FT

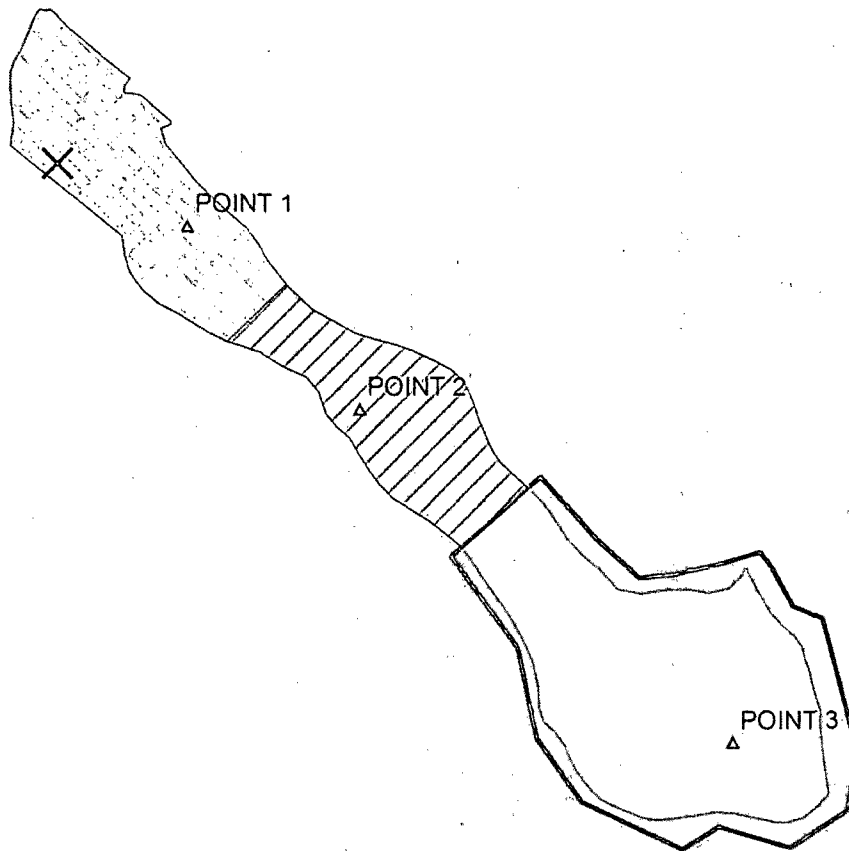


**LINN H.E.  
WEST B #10  
2RP-1995  
UL E SECTION 9  
T-17-S R-31-E  
EDDY COUNTY, NM**

**Figure 1**



# Proposed Corrective Actions



LANDOWNER: BLM  
GROUNDWATER: NONE

Source: Esri, Inc.  
Getmapping, Inc.

## Legend

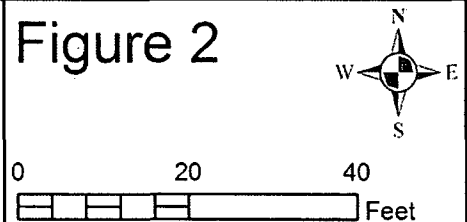
- ▲ SAMPLE POINTS
- ✕ SOURCE
- ▨ PROPOSED EXCAVATION TO 2.5 FT
- ▩ PROPOSED SCRAPE TO 6 IN
- PROPOSED 20-MIL POLY LINER AT 4 FT BGS
- STAIN AREA- 1841 SQ FT



**LINN H.E.  
WEST B #10  
2RP-1995**

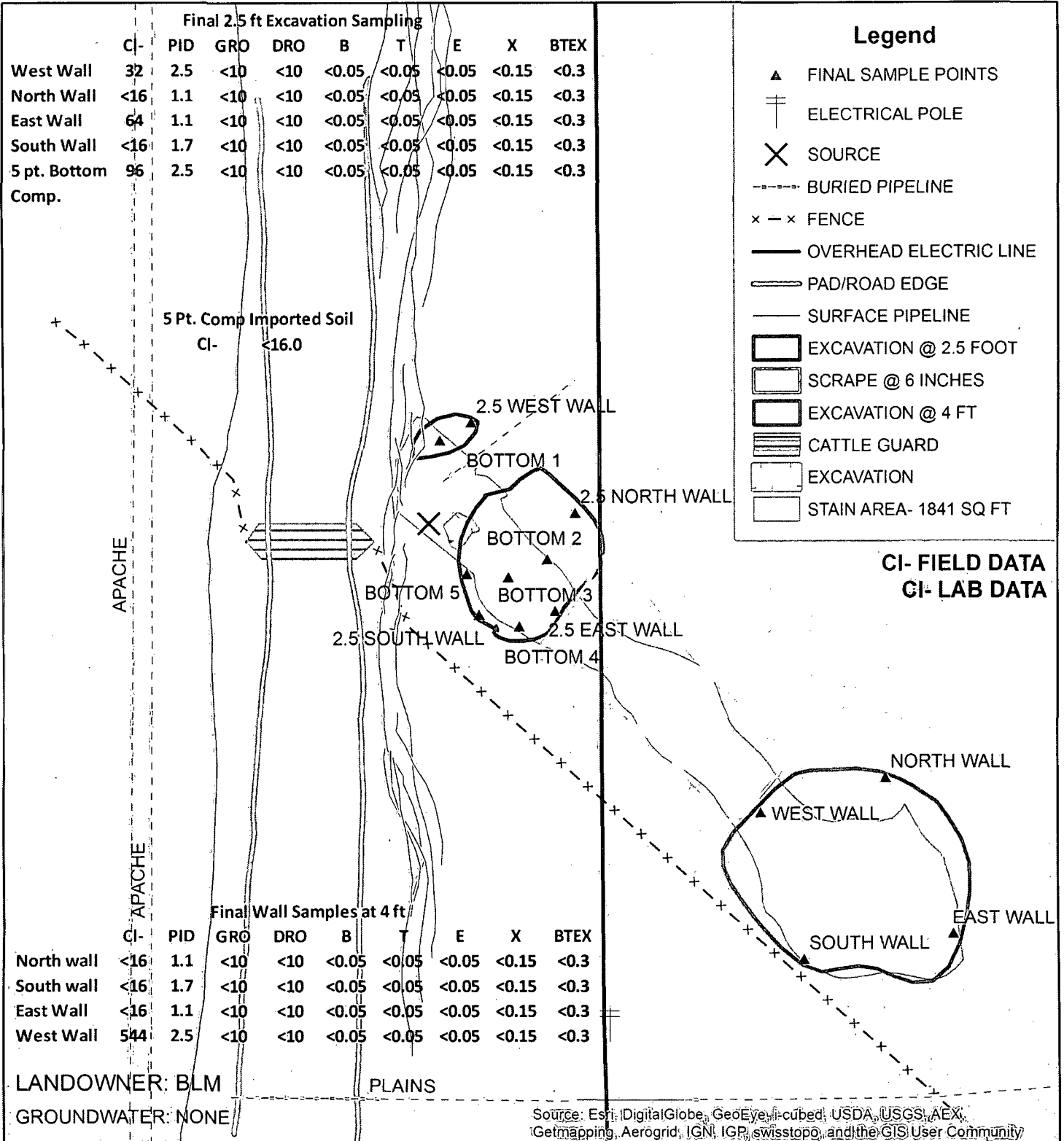
UL E SECTION 9  
T-17-S R-31-E  
EDDY COUNTY, NM

## Figure 2



GPS date: 11/4/13 KS  
Drawing date: 11/15/13  
Drafted by: L. Weinheimer

# Excavation Data



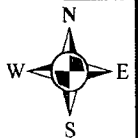
## Legend

- ▲ FINAL SAMPLE POINTS
- ⊥ ELECTRICAL POLE
- ✕ SOURCE
- BURIED PIPELINE
- x - x FENCE
- OVERHEAD ELECTRIC LINE
- PAD/ROAD EDGE
- SURFACE PIPELINE
- EXCAVATION @ 2.5 FOOT
- SCRAPE @ 6 INCHES
- EXCAVATION @ 4 FT
- ▨ CATTLE GUARD
- EXCAVATION
- STAIN AREA- 1841 SQ FT

CI- FIELD DATA  
CI- LAB DATA

**LINN H.E.**  
**WEST B #10**  
**2RP-1995**  
**UL E SECTION 9**  
**T-17-S R-31-E**  
**EDDY COUNTY, NM**

**Figure 3**



0 10 20  
Feet

GPS date: 1/15/14 KS  
Drawing date: 1/16/14  
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 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report


Name of Company: Linn Operating	Contact: Brian Wall	
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739	
Facility Name: HE West B 10	Facility Type: Injection	
Surface Owner: Federal	Mineral Owner:	API No.: 3001505117

**LOCATION OF RELEASE**

Unit Letter E	Section 09	Township 17S	Range 31E	Feet from the 1980	North/South Line North	Feet from the 660	East/West Line West	County Eddy
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Latitude: 32.85087 Longitude: -103.88039

**NATURE OF RELEASE**

Type of Release: Produced Water	Volume of Release: 20 bbls	Volume Recovered: 0
Source of Release: Fiberglass pipeline	Date and Hour of Occurrence: 10/14/2013 12:00pm	Date and Hour of Discovery: 10/14/2013 12:00pm
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 Mike Bratcher-NM OCD	
By Whom? Brian Wall	Date and Hour 10/16/2013 7:15am	
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 location of injection line leak which had put injection out of service in area. Spill composed of fresh and produced water. Approx 20 barrels total fluid. Were using pump truck with fresh water at time to find location of leak.		
Describe Area Affected and Cleanup Action Taken.* : spill located across road to North East about 200 ft from well next to cattle guard.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Brian Wall	Approved by District Supervisor:	
Title: Construction Foreman II	Approval Date:	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/16/2013 Phone: 806-367-0645		

\* Attach Additional Sheets If Necessary

# Appendix B

## Initial Laboratory Analyses

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

October 28, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #10

Enclosed are the results of analyses for samples received by the laboratory on 10/23/13 15:40.

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

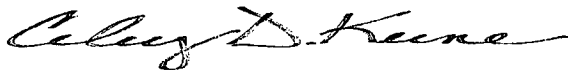
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/23/2013  
Reported: 10/28/2013  
Project Name: H. E. WEST B #10  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 10/23/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: POINT 1 @ SURFACE (H302572-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/25/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.200	0.200	10/25/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.200	0.200	10/25/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.600	0.600	10/25/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<1.20	1.20	10/25/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 105 % 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	4560	16.0	10/24/2013	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	10/25/2013	ND	185	92.3	200	0.942		
DRO >C10-C28	3150	50.0	10/25/2013	ND	173	86.6	200	1.03		

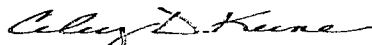
Surrogate: 1-Chlorooctane 91.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 185 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/28/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: POINT 3 @ SURFACE (H302572-02)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/25/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.200	0.200	10/25/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.200	0.200	10/25/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.600	0.600	10/25/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<1.20	1.20	10/25/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 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	10300	16.0	10/24/2013	ND	432	108	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	10/25/2013	ND	185	92.3	200	0.942		
DRO >C10-C28	7230	50.0	10/25/2013	ND	173	86.6	200	1.03		

Surrogate: 1-Chlorooctane 104 % 65.2-140

Surrogate: 1-Chlorooctadecane 282 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 10/23/2013  
 Reported: 10/28/2013  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/23/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 1 @ 1.5' (H302572-03)**

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	10/25/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.050	0.050	10/25/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.050	0.050	10/25/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.150	0.150	10/25/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<0.300	0.300	10/25/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 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	2400	16.0	10/24/2013	ND	432	108	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	10/25/2013	ND	185	92.3	200	0.942	
DRO >C10-C28	61.5	10.0	10/25/2013	ND	173	86.6	200	1.03	

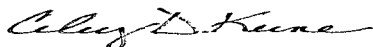
Surrogate: 1-Chlorooctane 94.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 101 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 Received: 10/23/2013  
 Reported: 10/28/2013  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/23/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 1 @ 2.5' (H302572-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.050	0.050	10/25/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.050	0.050	10/25/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.150	0.150	10/25/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<0.300	0.300	10/25/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 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	800	16.0	10/24/2013	ND	432	108	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	10/25/2013	ND	185	92.3	200	0.942	
DRO >C10-C28	10.3	10.0	10/25/2013	ND	173	86.6	200	1.03	

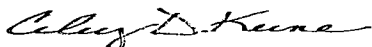
Surrogate: 1-Chlorooctane 94.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.6 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/28/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: POINT 3 @ 1' (H302572-05)**

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	10/27/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.050	0.050	10/27/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.050	0.050	10/27/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.150	0.150	10/27/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<0.300	0.300	10/27/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 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	2760	16.0	10/24/2013	ND	432	108	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/25/2013	ND	185	92.3	200	0.942	
DRO >C10-C28	<10.0	10.0	10/25/2013	ND	173	86.6	200	1.03	

Surrogate: 1-Chlorooctane 93.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 97.9 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 10/23/2013  
 Reported: 10/28/2013  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/23/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 3 @ 2.5' (H302572-06)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	10/27/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.100	0.100	10/27/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.100	0.100	10/27/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.300	0.300	10/27/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<0.600	0.600	10/27/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 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	6000	16.0	10/24/2013	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/25/2013	ND	185	92.3	200	0.942	
DRO >C10-C28	15.1	10.0	10/25/2013	ND	173	86.6	200	1.03	

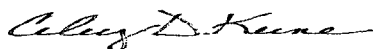
Surrogate: 1-Chlorooctane 93.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 101 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 10/23/2013  
 Reported: 10/28/2013  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/23/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 3 @ 4' (H302572-07)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/27/2013	ND	1.89	94.4	2.00	0.364	
Toluene*	<0.050	0.050	10/27/2013	ND	1.94	97.1	2.00	0.484	
Ethylbenzene*	<0.050	0.050	10/27/2013	ND	1.95	97.7	2.00	0.395	
Total Xylenes*	<0.150	0.150	10/27/2013	ND	5.87	97.8	6.00	0.0827	
Total BTEX	<0.300	0.300	10/27/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 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	560	16.0	10/24/2013	ND	432	108	400	3.77	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/25/2013	ND	185	92.3	200	0.942	
DRO >C10-C28	<10.0	10.0	10/25/2013	ND	173	86.6	200	1.03	

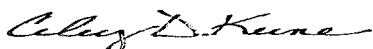
Surrogate: 1-Chlorooctane 94.4 % 63.2-140

Surrogate: 1-Chlorooctadecane 96.1 % 63.6-154

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

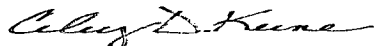
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Relinquished By:		Date:	Received By:	Phone Result:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Kyle Schnaidt		10-23-13	Pai Nenson	Fax Result:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:		
		Time:		kschnaidt@rice-ecs.com		
Delivered By: (Circle One)				Knorman@rice-ecs.com		
Sampler - UPS - Bus - Other:				Kjones@riceswd.com; jkamplain@rice-ecs.com		
5.89		Sample Condition	CHECKED BY:	hconder@rice-ecs.com; Lweinheimer@rice-ecs.com		
		Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(Initials)			
		Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

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

November 11, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #10

Enclosed are the results of analyses for samples received by the laboratory on 11/05/13 15:55.

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

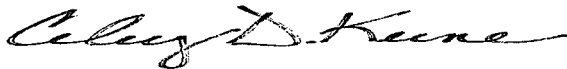
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 11/05/2013  
 Reported: 11/11/2013  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/04/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: POINT 3 @ 4.5' (H302698-01)**

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	11/09/2013	ND	1.86	92.9	2.00	2.84	
Toluene*	<0.050	0.050	11/09/2013	ND	1.87	93.4	2.00	2.58	
Ethylbenzene*	<0.050	0.050	11/09/2013	ND	1.89	94.6	2.00	2.28	
Total Xylenes*	<0.150	0.150	11/09/2013	ND	5.57	92.8	6.00	1.69	
Total BTEX	<0.300	0.300	11/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 109 % 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	512	16.0	11/07/2013	ND	432	108	400	4.01	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/06/2013	ND	198	98.8	200	1.81	
DRO >C10-C28	<10.0	10.0	11/06/2013	ND	224	112	200	17.8	

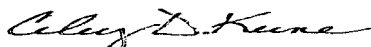
Surrogate: 1-Chlorooctane 108 % 65.2-140

Surrogate: 1-Chlorooctadecane 115 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 11/05/2013  
Reported: 11/11/2013  
Project Name: H. E. WEST B #10  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 11/04/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: POINT 3 @ 15.5' (H302698-02)**

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	11/08/2013	ND	2.02	101	2.00	0.0983	
Toluene*	<0.050	0.050	11/08/2013	ND	2.01	100	2.00	0.0618	
Ethylbenzene*	<0.050	0.050	11/08/2013	ND	2.01	101	2.00	0.0369	
Total Xylenes*	<0.150	0.150	11/08/2013	ND	5.90	98.4	6.00	0.540	
Total BTEX	<0.300	0.300	11/08/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	11/07/2013	ND	432	108	400	4.01	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/06/2013	ND	198	98.8	200	1.81	
DRO >C10-C28	<10.0	10.0	11/06/2013	ND	224	112	200	17.8	

Surrogate: 1-Chlorooctane 104 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

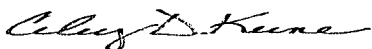
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

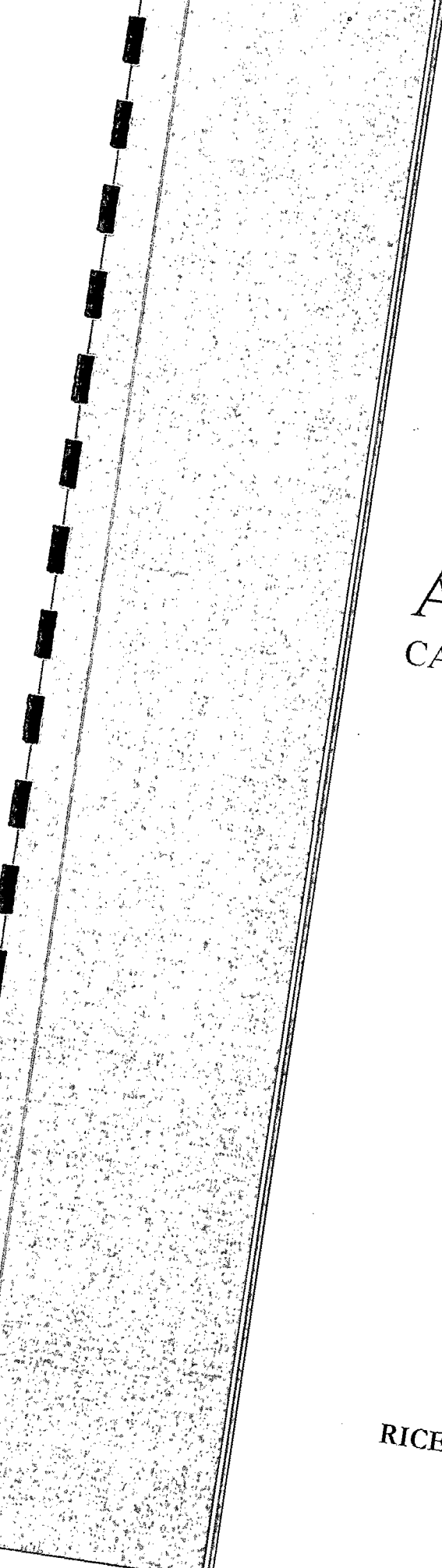
Page 5 of 5

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Relinquished By:		Date:	Received By:	Phone Result:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Kyle Schnaiff		Time:	Jodi Benson	Fax Result:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:		
		Time:		Send to All		
Delivered By: (Circle One)			Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:			Cool Intact	(Initials)		
			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	JH		
			<input type="checkbox"/> Yes <input type="checkbox"/> No			

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

#54



# Appendix C

CAP Laboratory Analyses

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 17, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #10

Enclosed are the results of analyses for samples received by the laboratory on 01/15/14 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/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, reading "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: 01/15/2014  
 Reported: 01/17/2014  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

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

**Sample ID: NORTH WALL (H400136-01)**

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	01/16/2014	ND	2.47	124	2.00	0.657	
Toluene*	<0.050	0.050	01/16/2014	ND	2.43	122	2.00	0.0197	
Ethylbenzene*	<0.050	0.050	01/16/2014	ND	2.46	123	2.00	0.0828	
Total Xylenes*	<0.150	0.150	01/16/2014	ND	7.31	122	6.00	1.64	
Total BTEX	<0.300	0.300	01/16/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/16/2014	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	01/16/2014	ND	201	101	200	12.0	
DRO >C10-C28	<10.0	10.0	01/16/2014	ND	203	102	200	14.3	

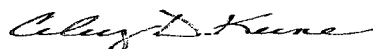
Surrogate: 1-Chlorooctane 89.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.0 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 01/15/2014  
 Reported: 01/17/2014  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

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

**Sample ID: SOUTH WALL (H400136-02)**

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	01/16/2014	ND	2.47	124	2.00	0.657		
Toluene*	<0.050	0.050	01/16/2014	ND	2.43	122	2.00	0.0197		
Ethylbenzene*	<0.050	0.050	01/16/2014	ND	2.46	123	2.00	0.0828		
Total Xylenes*	<0.150	0.150	01/16/2014	ND	7.31	122	6.00	1.64		
Total BTEX	<0.300	0.300	01/16/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/16/2014	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	01/16/2014	ND	201	101	200	12.0	
DRO >C10-C28	<10.0	10.0	01/16/2014	ND	203	102	200	14.3	

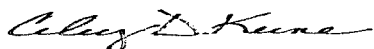
Surrogate: 1-Chlorooctane 85.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 83.1 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/15/2014	Sampling Date:	01/15/2014
Reported:	01/17/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: EAST WALL (H400136-03)**

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	01/16/2014	ND	2.47	124	2.00	0.657		
Toluene*	<0.050	0.050	01/16/2014	ND	2.43	122	2.00	0.0197		
Ethylbenzene*	<0.050	0.050	01/16/2014	ND	2.46	123	2.00	0.0828		
Total Xylenes*	<0.150	0.150	01/16/2014	ND	7.31	122	6.00	1.64		
Total BTEX	<0.300	0.300	01/16/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	01/16/2014	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	01/16/2014	ND	201	101	200	12.0		
DRO >C10-C28	<10.0	10.0	01/16/2014	ND	203	102	200	14.3		

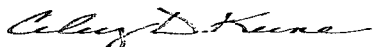
Surrogate: 1-Chlorooctane 83.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 81.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/15/2014	Sampling Date:	01/15/2014
Reported:	01/17/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: WEST WALL (H400136-04)**

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	01/16/2014	ND	2.47	124	2.00	0.657	
Toluene*	<0.050	0.050	01/16/2014	ND	2.43	122	2.00	0.0197	
Ethylbenzene*	<0.050	0.050	01/16/2014	ND	2.46	123	2.00	0.0828	
Total Xylenes*	<0.150	0.150	01/16/2014	ND	7.31	122	6.00	1.64	
Total BTEX	<0.300	0.300	01/16/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 105 % 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	544	16.0	01/16/2014	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	01/16/2014	ND	201	101	200	12.0	
DRO >C10-C28	<10.0	10.0	01/16/2014	ND	203	102	200	14.3	

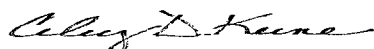
Surrogate: 1-Chlorooctane 84.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 83.1 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

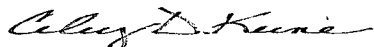
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Celestine D. Keene, Lab Director/Quality Manager



RVSH

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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

Relinquished By:		Date:	Received By:	Phone Result:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Kyle Schnaidt		Time:	Jodi Henson	Fax Result:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:		
		Time:		email results		
Delivered By: (Circle One)				Knorman@rice-ecs.com		
Sampler - UPS - Bus - Other:		Sample Condition		Kjones@riceswd.com; jkamplain@rice-ecs.com		
		Cool Intact		hconder@rice-ecs.com; Lweinheimer@rice-ecs.com		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		Kschnaidt@rice-ecs.com		
		CHECKED BY:				
		(Initials)				

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2676

#54



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

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January 22, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #10

Enclosed are the results of analyses for samples received by the laboratory on 01/17/14 16:25.

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: 01/17/2014  
 Reported: 01/22/2014  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/17/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2.5' WEST WALL (H400161-01)**

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	2.32	116	2.00	1.29	
Toluene*	<0.050	0.050	01/21/2014	ND	2.32	116	2.00	1.51	
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.30	115	2.00	1.47	
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.74	112	6.00	1.49	
Total BTEX	<0.300	0.300	01/21/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 109 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	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	01/20/2014	ND	185	92.3	200	6.86	
DRO >C10-C28	<10.0	10.0	01/20/2014	ND	183	91.3	200	6.89	


Surrogate: 1-Chlorooctane 87.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.8 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 JACOB KAMPLAIN  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 01/17/2014  
 Reported: 01/22/2014  
 Project Name: H. E. WEST B #10  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/17/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: 2.5' NORTH WALL (H400161-02)**

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	2.32	116	2.00	1.29	
Toluene*	<0.050	0.050	01/21/2014	ND	2.32	116	2.00	1.51	
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.30	115	2.00	1.47	
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.74	112	6.00	1.49	
Total BTEX	<0.300	0.300	01/21/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 109 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	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	01/20/2014	ND	185	92.3	200	6.86	
DRO >C10-C28	<10.0	10.0	01/20/2014	ND	183	91.3	200	6.89	

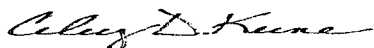
Surrogate: 1-Chlorooctane 82.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 80.0 % 63.6-154

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Received:	01/17/2014	Sampling Date:	01/17/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 2.5' EAST WALL (H400161-03)**

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	2.32	116	2.00	1.29	
Toluene*	<0.050	0.050	01/21/2014	ND	2.32	116	2.00	1.51	
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.30	115	2.00	1.47	
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.74	112	6.00	1.49	
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
Chloride	64.0	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	01/20/2014	ND	185	92.3	200	6.86	
DRO >C10-C28	<10.0	10.0	01/20/2014	ND	183	91.3	200	6.89	

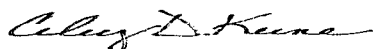
Surrogate: 1-Chlorooctane 80.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 84.3 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/17/2014	Sampling Date:	01/17/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 2.5' SOUTH WALL (H400161-04)**

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	2.32	116	2.00	1.29	
Toluene*	<0.050	0.050	01/21/2014	ND	2.32	116	2.00	1.51	
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.30	115	2.00	1.47	
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.74	112	6.00	1.49	
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	<16.0	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	01/20/2014	ND	185	92.3	200	6.86	
DRO >C10-C28	<10.0	10.0	01/20/2014	ND	183	91.3	200	6.89	

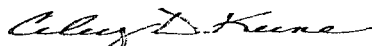
Surrogate: 1-Chlorooctane 97.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.2 % 63.6-154

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Celest 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:	01/17/2014	Sampling Date:	01/17/2014
Reported:	01/22/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 5 PT COMP @ 2.5' (H400161-05)**

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	2.32	116	2.00	1.29	
Toluene*	<0.050	0.050	01/21/2014	ND	2.32	116	2.00	1.51	
Ethylbenzene*	<0.050	0.050	01/21/2014	ND	2.30	115	2.00	1.47	
Total Xylenes*	<0.150	0.150	01/21/2014	ND	6.74	112	6.00	1.49	
Total BTEX	<0.300	0.300	01/21/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	96.0	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	01/20/2014	ND	185	92.3	200	6.86	
DRO >C10-C28	<10.0	10.0	01/20/2014	ND	183	91.3	200	6.89	

Surrogate: 1-Chlorooctane 86.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.8 % 63.6-154

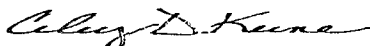
**Sample ID: 5 PT COMP IMPORTED SOIL (H400161-06)**

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	01/20/2014	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

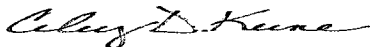
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 8 of 8

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Relinquished By:		Date:	Received By:		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Phone #:
Kyle Schuaidt		1-17-14	Jodi Henson		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Add'l Fax #:
Relinquished By:		Time:	Received By:		REMARKS:		
		4:25					
		Time:					
Delivered By: (Circle One)			Sample Condition		CHECKED BY:		
Sampler - UPS - Bus - Other:			Cool Intact				
			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		email results Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com		

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

# 54



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

---

February 03, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #10

Enclosed are the results of analyses for samples received by the laboratory on 01/28/14 16:40.

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:	01/28/2014	Sampling Date:	01/28/2014
Reported:	02/03/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #10	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		


**Sample ID: 5 PT COMP IMPORTED SOIL (H400273-01)**

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	02/03/2014	ND	416	104	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celestine D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

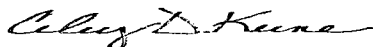
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

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Celest D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

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#54

# Appendix D

## Photo Documentation

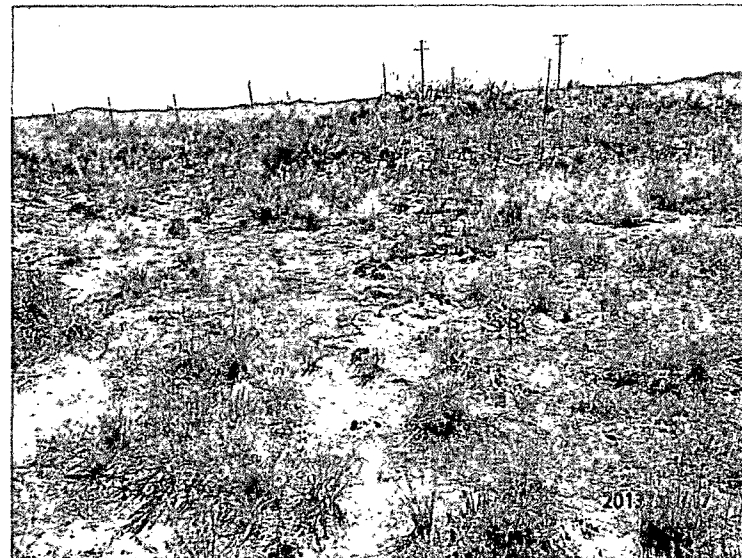
**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

**Linn H.E. West B #10**  
Unit Letter E, Section 9, T17S, R31E



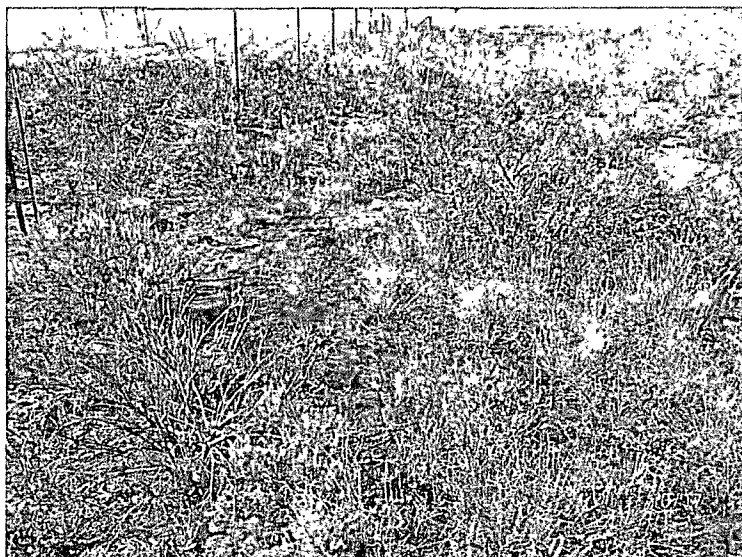
Source of release, facing south

10/17/13



Initial release area, facing south

10/17/13



Initial release area, facing west

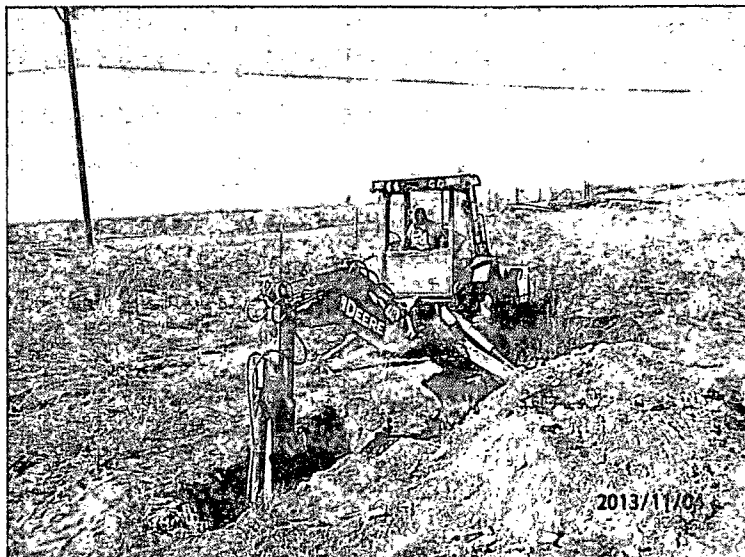
10/17/13



Initial release area, facing northwest

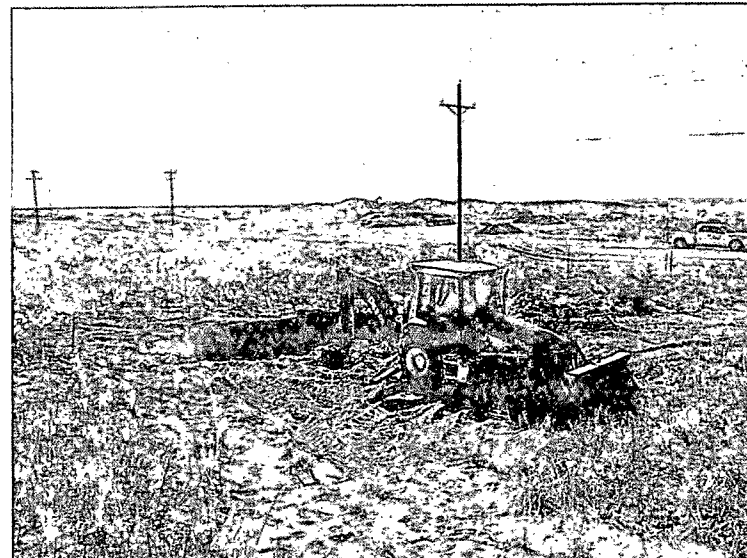
10/17/13





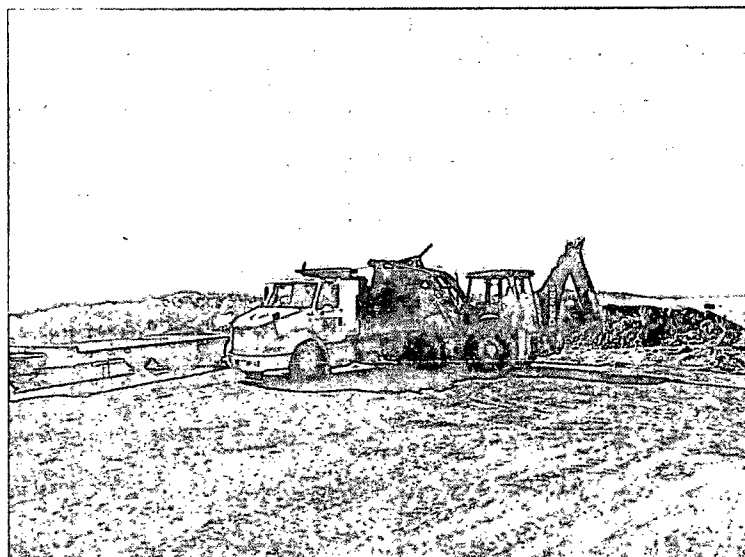
Installing vertical, facing west

11/4/13



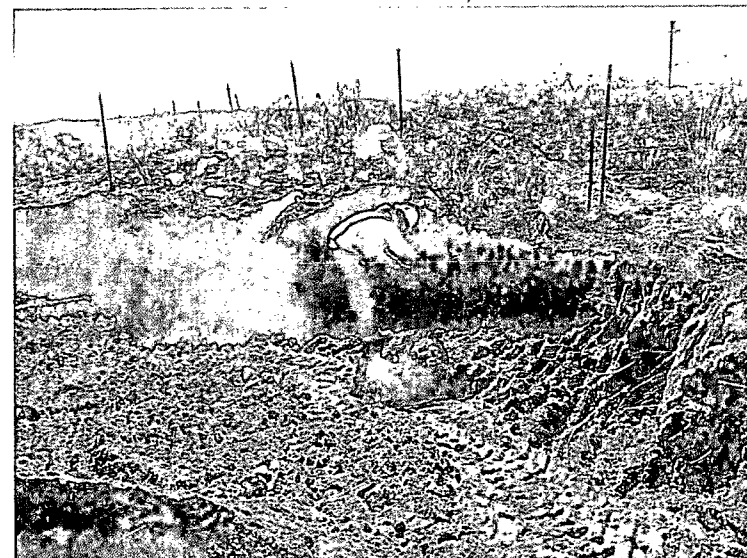
Excavating site, facing southwest

1/14/14



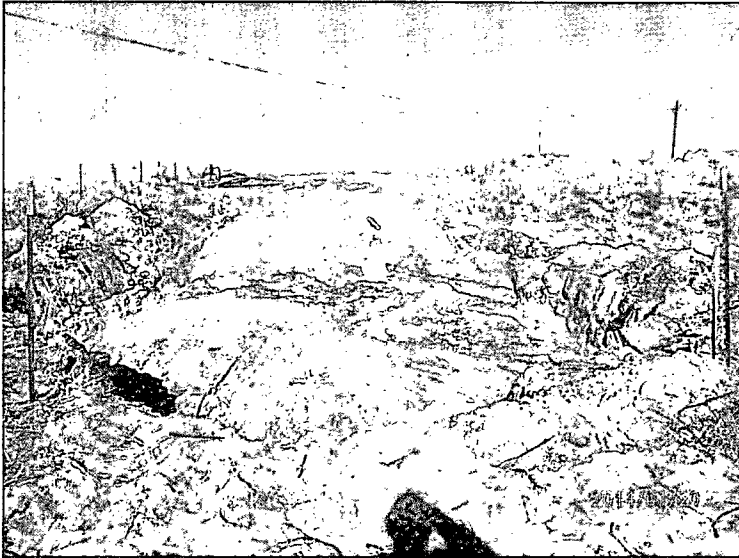
Exporting soil, facing southwest

1/14/14



Collecting wall sample, facing southeast

1/15/14



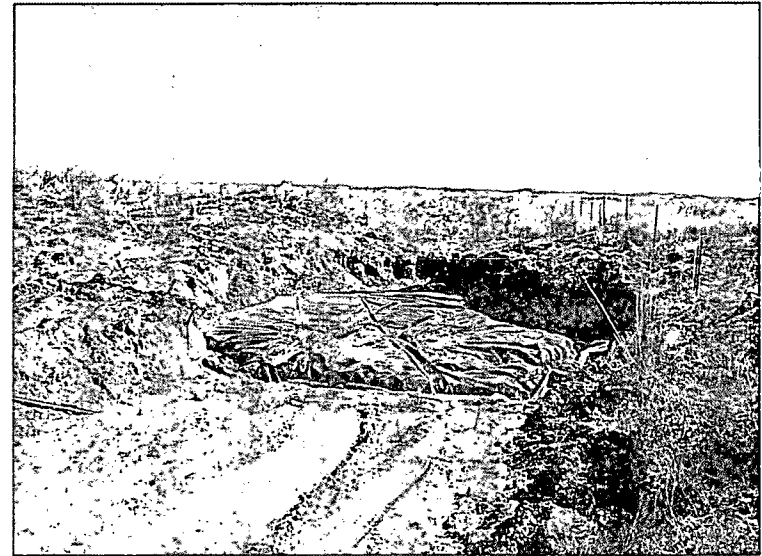
Excavation completed, facing northwest 1/20/14



Excavation completed, facing northeast 1/20/14



Installing liner, facing northeast 1/20/14

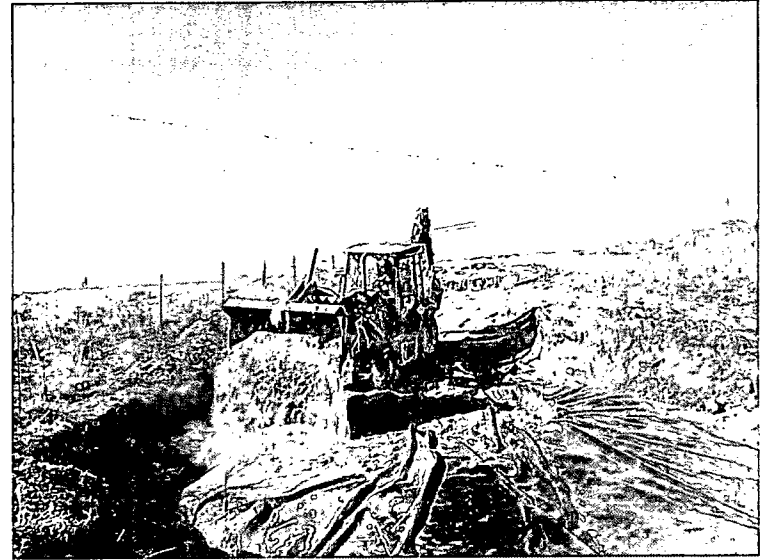


Liner installation completed, facing east 1/20/14



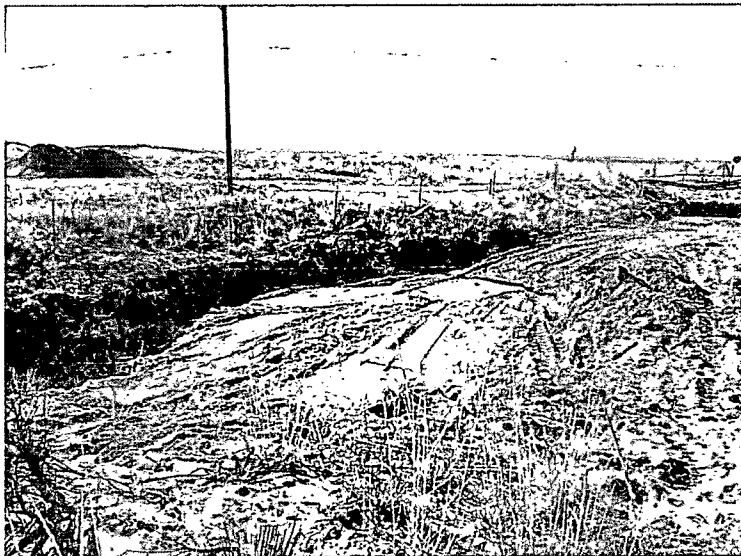
Importing soil, facing east

1/20/14



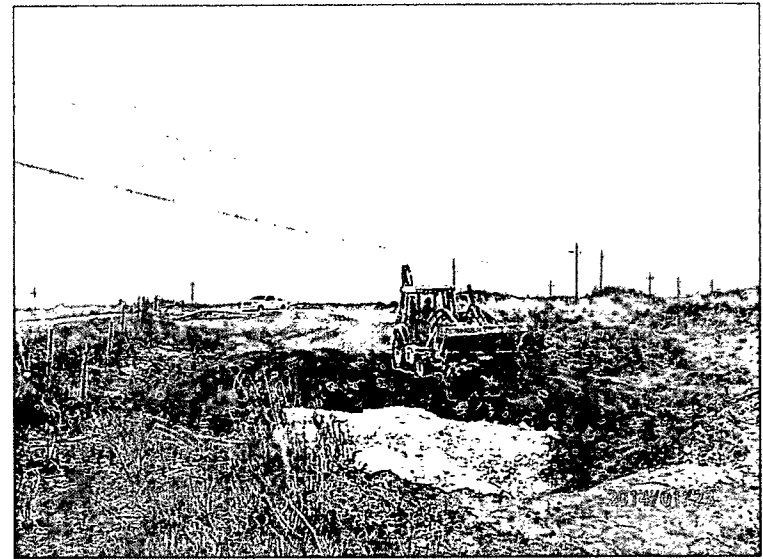
Padding liner, facing southwest

1/20/14



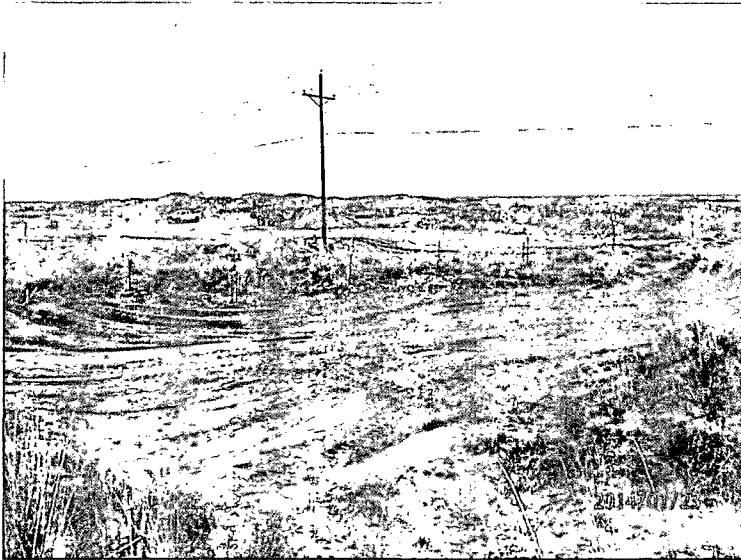
Padding of liner completed, facing southwest

1/20/14



Backfilling site, facing north

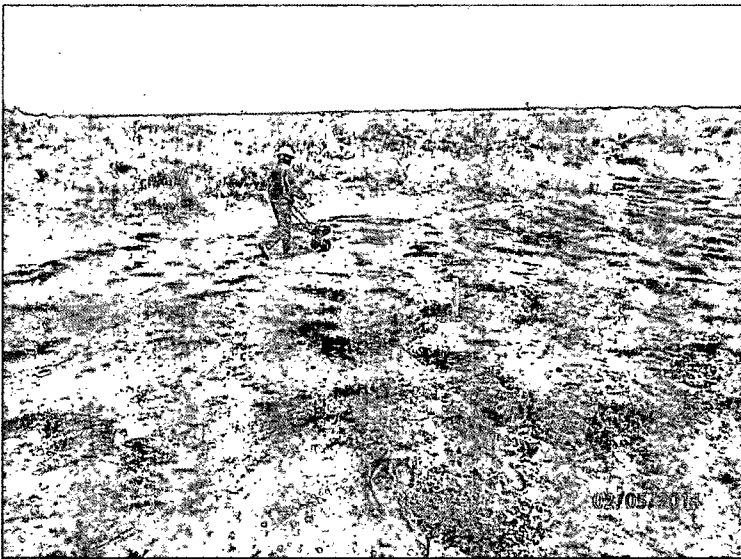
1/23/14



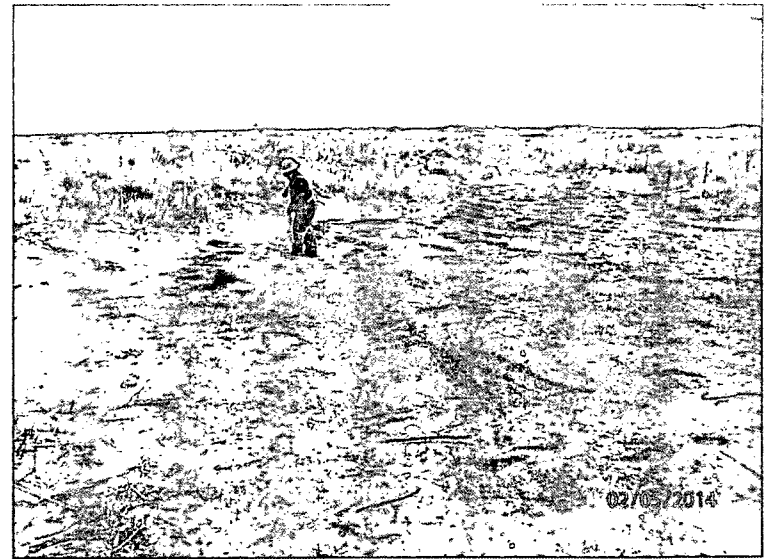
Backfilling completed, facing southwest 1/23/14



Adding soil amendments, facing southwest 2/5/14



Seeding site with BLM #4, facing northeast 2/5/14

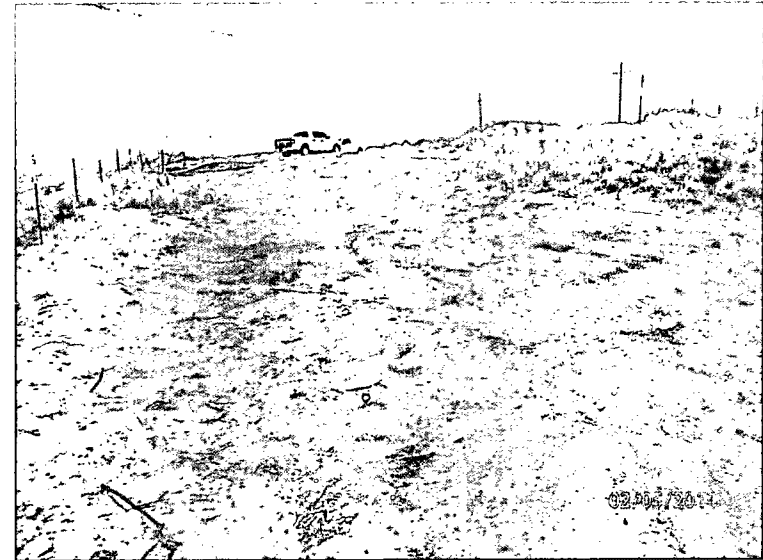


Raking seed into soil, facing northeast 2/5/14



Site completed, facing southeast

2/5/14



Site completed, facing northwest

2/5/14

# Appendix E

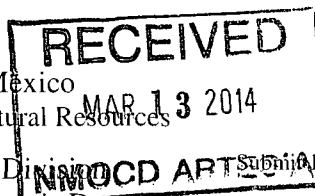
Final C-141

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

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

State of New Mexico  
Energy Minerals and Natural Resources

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



Form C-141  
Revised August 8, 2011

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.	(806) 367-0645
Facility Name	HE West B 10	Facility Type	Injection

Surface Owner	Federal	Mineral Owner		API No.	3001505117
---------------	---------	---------------	--	---------	------------

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	09	17S	31E	1980	North	660	West	Eddy

Latitude 32.85087 Longitude -103.88039

### NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	20 bbls	Volume Recovered	0
Source of Release	Fiberglass pipeline	Date and Hour of Occurrence	10/14/2013 12:00pm	Date and Hour of Discovery	10/14/2013 12:00pm
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 Mike Bratcher - NMOCD		
By Whom?	Brian Wall	Date and Hour	10/16/2013 7:15am		
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 location of injection line leak which had put injection out of service in area. Spill composed of fresh and produced water. Approx 20 barrels total fluid. Were using pump truck with fresh water at time to find location of leak.

Describe Area Affected and Cleanup Action Taken.\* The release affected 1,841 sq ft of pasture land. RECS was on site beginning October 17<sup>th</sup>, 2013 to assess the site. Three points were sampled at the surface and two of the points were sampled with depth. The samples were field tested for chlorides and for organic vapors using a PID meter. Representative samples were taken to a commercial laboratory for analysis. On November 18<sup>th</sup>, 2013, a Corrective Action Plan (CAP) was submitted to NMOCD and BLM. BLM approved the CAP on November 18<sup>th</sup>, 2013 and NMOCD approved the CAP on November 19<sup>th</sup>, 2013. CAP work began at the site on January 8<sup>th</sup>, 2014. The site was line spotted by hydrovac to prevent line strikes and the lines were padded with soil to prevent breakage. The site was excavated as proposed in the CAP. A total of 240 yards of contaminated soil was taken to a NMOCD approved facility for disposal. Once the 4 ft and 2.5 ft excavations were completed, final wall sampling of both excavations was conducted and the samples delivered to a commercial laboratory. A 5 point bottom composite of the 2.5 ft excavation was taken to a commercial laboratory. At the base of the 4 ft excavation, a 20-mil reinforced poly liner was installed and properly seated into the base of the excavation. The liner was padded with 6 inches of top soil to protect the liner from punctures. Then a total of 44 yards of caliche was placed over the padded liner. The remainder of the 4 ft excavation, the 2.5 ft excavation and the scrape was then backfilled with top soil. A total of 296 yards of top soil was imported to the site to pad the liner and serve as backfill. A 5 point composite sample of the imported soil was taken to a commercial laboratory for analysis and returned a chloride value of non-detect. On February 5<sup>th</sup>, 2014, soil amendments were added to the soil and the site was seeded with BLM mix #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.

### OIL CONSERVATION DIVISION

Signature: <u>Fred B Wall</u>	Approved by Environmental Specialist:		
Printed Name: <u>Brian Wall</u>			
Title: <u>Construction Foreman II</u>	Approval Date:	Expiration Date:	
E-mail Address: <u>bwall@linenergy.com</u>	Conditions of Approval:		Attached <input type="checkbox"/>
Date: <u>3/7/14</u> Phone: <u>(806) 367-0645</u>			

\* Attach Additional Sheets If Necessary