

LINN ENERGY

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

HE West B Battery 2 and 4 – West B #19 (2RP-1960)

Termination Request

API No. 3001505125

Release Date: September 19th, 2013

Unit Letter C, Section 10, Township 17S, Range 31E

Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

February 12th, 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 Battery 2 and 4 – West B #19 (2RP-1960)

UL/C sec. 10 T17S R31E

API No. 3001505125

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 northwest of Maljamar, New Mexico at UL/C sec. 10 T17S R31E. This site is in an area of no known groundwater.

On September 19th, 2013, Linn received a call from a pumper of an injection plant that an alarm of low discharge pressure was occurring. Linn shut off the headers and pressured up the valves one by one. Line 1 and 2 would not pressure up passed 400 psi. The lines were shut in and a pump truck was called to pressure test the lines. Based on the pressure test, the main line was walked and a break was found in the 3 inch fiberglass line. The fiberglass line was uncovered from wind eroding the sand over the line. The line bowed and broke. A total of 20 barrels of produced water and 1 gallon of oil was released over 917 square feet of pasture land. NMOCD and BLM were notified of the release on September 20th, 2013 and an initial C-141 was approved by NMOCD on October 2nd, 2013 (Appendix A).

RECS personnel arrive at the site on September 20th, 2013. The wet soil was removed by hand shovel and taken to a NMOCD approved facility for disposal. The site was sampled at the surface and with depth at four sample points (Figure 1). All samples were field tested for chlorides and hydrocarbons and sent to a commercial laboratory for analyses (Appendix B). All samples returned laboratory chloride readings below 250 mg/kg, except for Vertical #2 at 6 inches, which returned a laboratory chloride reading of 2,400 mg/kg. Gasoline Range Organics (GRO) readings and Diesel Range Organics (DRO) readings were all non-detect or near non-detect. BTEX results in all samples were non-detect.

A Corrective Action Plan (CAP) was submitted to NMOCD and BLM on November 5th, 2013. BLM approved the CAP on the same day, and NMOCD approved the CAP on November 12th, 2013. Based on the laboratory analyses, all sample points, except for Vertical #2 were below regulatory standards. Vertical #2 had a laboratory chloride value of 2,400 mg/kg at 6 inches; however, the laboratory chloride value dropped below 250 mg/kg at 1 ft bgs. Therefore RECS recommended that the area around Vertical #2 be hand shoveled to a depth of 1 ft bgs to remove the soil with the elevated chloride level. The excavated soil would be taken to a NMOCD approved facility for disposal. Clean soil would be imported to the site to serve as backfill and to contour the site to the surrounding location. The site would then be seeded with a blend of native vegetation. Vegetation provides a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

CAP activities began on January 15th, 2014. The area around Vertical #2 was hand shoveled to a depth of 1 ft bgs and a total of 12 yards of contaminated soil was taken to a NMOCD approved facility for disposal (Figure 2). A total of 12 yards of top soil was imported to the site to serve as backfill. A 5 point composite of the backfill was taken to a commercial laboratory for analysis and returned a chloride value of non-detect (Appendix C). The scrape was backfilled with the clean, imported top soil and contoured to the surrounding location. On January 17th, 2014, soil amendments were added to the site and the site was seeded with LPC mix.

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

Given that the contaminated soil was removed from the site and replaced with clean, imported soil, Linn respectfully requests 'remediation termination' and site closure. A final C-141 for the site can be found in Appendix E.

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

Sincerely,



Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Vertical Sampling Data
- Figure 2 – Excavation Data
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Labs
- Appendix C – Imported Soil Lab
- 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

Vertical Sampling Data

Vertical #1

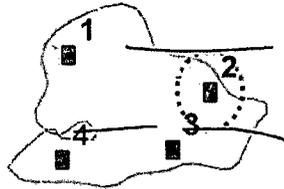
	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	16	1.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
6"	<16	5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
1'	<16	1.2	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Vertical #2

	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	80	22	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
6"	2400	6.3	<10	10.1	<0.05	<0.05	<0.05	<0.15	<0.3
1'	32	18	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Vertical #3

	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	<16	4.4	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
6"	<16	2.3	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
1'	<16	2	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3



Vertical #4

	Cl-	PID	GRO	DRO	B	T	E	X	BTEX
SS	<16	0.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
6"	<16	2.9	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
1'	112	2.6	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Legend

- VERTICAL
- SURFACE FIBERGLASS LINES
- PROPOSED EXCAVATION
- STAIN 917 SQ FT

Cl- Field Data

Cl- Lab Data

DGW: NONE

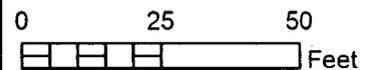
Landowner: BLM

Source: Esri, DigitalGlobe, GeoEye, iSat, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



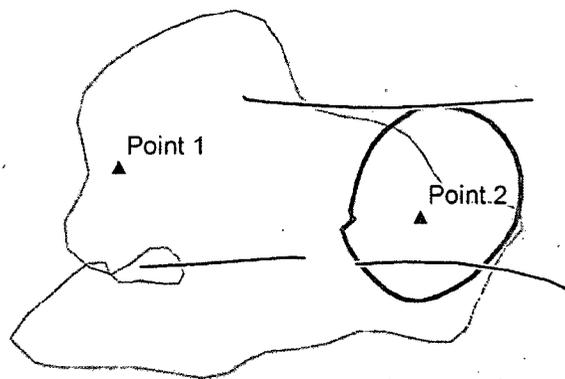
**LINN H.E. WEST
B BATTERY 2 AND 4
WEST B #19
LEGALS: UL/C sec. 10
T-17-S R-31-E
EDDY COUNTY, NM
NMOCD CASE #: 2RP-1960**

Figure 1



GPS date: 10/23/13 KS
Drawing date: 10/29/13
Drafted by: L. Weinheimer

Excavation Data



Legend

- ▲ SAMPLE POINTS
- SURFACE FIBERGLASS LINES
- ▭ EXCAVATION AT 1 FT
- ▭ STAIN 917 SQ FT

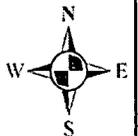
DGW: NONE
Landowner: BLM

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



LINN H.E. WEST
B BATTERY 2 AND 4
WEST B #19
LEGALS: UL/C sec. 10
T-17-S R-31-E
EDDY COUNTY, NM
NMOCD CASE #: 2RP-1960

Figure 2



0 10 20
Feet

GPS date: 9/25/13 & 1/15/14 CF
Drawing date: 10/2/13 & 1/16/14
Drafted by: L. Weinheimer, T. Grieco

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. Friendly Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Grande 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

RECEIVED
SEP 30 2013
NMOCD ARTESIA

Form C-141
Revised October 10, 2003
Submit to appropriate District Office in accordance with 19.15.29 NMAC

Release Notification and Corrective Action

NTM 1327540609 OPERATOR: Initial Report Final Report

Name of Company: Linn Operating 269324	Contact: Brian Wall
Address: 2130 W. Bender, Hobbs, NM 88240	Telephone No.: 575-738-1739
Facility Name: FIE WEST B Battery 2 and 4 - West B #19	Facility Type: Waterflood
Surface Owner: Federal	Mineral Owner: API No. 3001505125

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	10	7S	31E	660	North	1280	West	Edly

Latitude: 32.8545167385998 Longitude: -103.859741264752

NATURE OF RELEASE

Type of Release: Produced Water/Oil	Volume of Release: 20 bbls/1 gal	Volume Recovered: 0/0
Source of Release: Fiber Glass Pipeline	Date and Hour of Occurrence: 09/19/2013	Date and Hour of Discovery: 09/19/2013
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 OGD	
By Whom? Brian Wall	Date and Hour: 09/20/2013	
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: received call from pumper of injection plant about an alarm of low discharge pressure. We shut off headers and pressured up opening valves one by one. Line 1 & 2 would not hold pressure more than 400 psi, so we let lines shut in, called for a pump truck to pressure up and test line, shut off lateral lines and had truck start pumping on main trunk line but would not pressure up. Walked out line and found leak in pasture. 3" fiberglass line was uncovered from wind blowing sand away.

Describe Area Affected and Cleanup Action Taken: line bowed up and ruptured causing an affected area about 15x15, estimated 20 barrels of dirty black water and a light skin of soil was lost, repair and clean up has to be completed before the line can be re-buried. This line should not operate until it has been buried to prevent it from bowing and breaking. We can't cover the line until clean up has been accomplished.

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>	OIL CONSERVATION DIVISION	
Printed Name: Brian Wall	Approved by District Supervisor:	Signed By: <i>M. Bratcher</i>
Title: Construction Foreman II	Approval: OCT 10 2 2013	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions of Approval:	Attached: <input type="checkbox"/>
Date: 09/30/2013 Phone: 806-367-0645	Remediation per OCD Rule & Guidelines & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:	

Attach Additional Sheets if Necessary
November 2, 2013
ZRP-1960



Appendix B

Initial Sampling Labs

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

October 21, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #19

Enclosed are the results of analyses for samples received by the laboratory on 10/16/13 8:45.

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

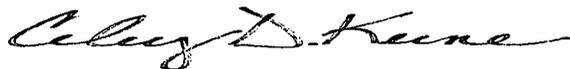
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 1 @ SURFACE (H302502-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/18/2013	ND	1.78	89.1	2.00	0.150		
Toluene*	<0.050	0.050	10/18/2013	ND	1.90	95.2	2.00	2.95		
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	1.94	96.8	2.00	3.35		
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.87	97.9	6.00	6.19		
Total BTEX	<0.300	0.300	10/18/2013	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/17/2013	ND	416	104	400	0.00		

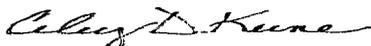
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/17/2013	ND	191	95.3	200	2.37		
DRO >C10-C28	<10.0	10.0	10/17/2013	ND	191	95.5	200	3.62		

Surrogate: 1-Chlorooctane 103 % 65.2-140
Surrogate: 1-Chlorooctadecane 109 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 1 @ 6" (H302502-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/18/2013	ND	1.78	89.1	2.00	0.150		
Toluene*	<0.050	0.050	10/18/2013	ND	1.90	95.2	2.00	2.95		
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	1.94	96.8	2.00	3.35		
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.87	97.9	6.00	6.19		
Total BTEX	<0.300	0.300	10/18/2013	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/17/2013	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	10/16/2013	ND	191	95.3	200	2.37		
DRO >C10-C28	<10.0	10.0	10/16/2013	ND	191	95.5	200	3.62		

Surrogate: 1-Chlorooctane 91.2 % 65.2-140
Surrogate: 1-Chlorooctadecane 101 % 63.6-154

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*=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:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 1 @ 1' (H302502-03)

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	10/18/2013	ND	1.78	89.1	2.00	0.150	
Toluene*	<0.050	0.050	10/18/2013	ND	1.90	95.2	2.00	2.95	
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	1.94	96.8	2.00	3.35	
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.87	97.9	6.00	6.19	
Total BTEX	<0.300	0.300	10/18/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/17/2013	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	10/16/2013	ND	191	95.3	200	2.37	
DRO >C10-C28	<10.0	10.0	10/16/2013	ND	191	95.5	200	3.62	

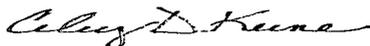
Surrogate: 1-Chlorooctane 95.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.9 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 2 @ SURFACE (H302502-04)

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	10/18/2013	ND	1.93	96.4	2.00	1.36		
Toluene*	<0.050	0.050	10/18/2013	ND	1.99	99.3	2.00	2.92		
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	2.01	100	2.00	2.99		
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.85	97.4	6.00	2.79		
Total BTEX	<0.300	0.300	10/18/2013	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	10/17/2013	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	10/16/2013	ND	191	95.3	200	2.37		
DRO >C10-C28	<10.0	10.0	10/16/2013	ND	191	95.5	200	3.62		

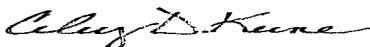
Surrogate: 1-Chlorooctane 99.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 111 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 10/16/2013
 Reported: 10/21/2013
 Project Name: H. E. WEST B #19
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 10/15/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: POINT 2 @ 6" (H302502-05)

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	10/18/2013	ND	1.93	96.4	2.00	1.36	
Toluene*	<0.050	0.050	10/18/2013	ND	1.99	99.3	2.00	2.92	
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	2.01	100	2.00	2.99	
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.85	97.4	6.00	2.79	
Total BTEX	<0.300	0.300	10/18/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 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	10/17/2013	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	10/16/2013	ND	191	95.3	200	2.37	
DRO >C10-C28	10.1	10.0	10/16/2013	ND	191	95.5	200	3.62	

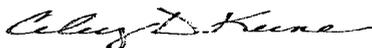
Surrogate: 1-Chlorooctane 90.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 96.9 % 63.6-154

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 2 @ 1' (H302502-06)

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	10/18/2013	ND	1.93	96.4	2.00	1.36		
Toluene*	<0.050	0.050	10/18/2013	ND	1.99	99.3	2.00	2.92		
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	2.01	100	2.00	2.99		
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.85	97.4	6.00	2.79		
Total BTEX	<0.300	0.300	10/18/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	32.0	16.0	10/17/2013	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	10/16/2013	ND	191	95.3	200	2.37		
DRO >C10-C28	<10.0	10.0	10/16/2013	ND	191	95.5	200	3.62		

Surrogate: 1-Chlorooctane 102 % 65.2-140

Surrogate: 1-Chlorooctadecane 110 % 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:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 3 @ SURFACE (H302502-07)

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	10/18/2013	ND	1.93	96.4	2.00	1.36	
Toluene*	<0.050	0.050	10/18/2013	ND	1.99	99.3	2.00	2.92	
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	2.01	100	2.00	2.99	
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.85	97.4	6.00	2.79	
Total BTEX	<0.300	0.300	10/18/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	<16.0	16.0	10/17/2013	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	10/16/2013	ND	191	95.3	200	2.37	
DRO >C10-C28	<10.0	10.0	10/16/2013	ND	191	95.5	200	3.62	

Surrogate: 1-Chlorooctane 104 % 65.2-140
Surrogate: 1-Chlorooctadecane 108 % 63.6-154

Analytical Results For:

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

 Received: 10/16/2013
 Reported: 10/21/2013
 Project Name: H. E. WEST B #19
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 10/15/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: POINT 3 @ 6" (H302502-08)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/18/2013	ND	1.93	96.4	2.00	1.36		
Toluene*	<0.050	0.050	10/18/2013	ND	1.99	99.3	2.00	2.92		
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	2.01	100	2.00	2.99		
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.85	97.4	6.00	2.79		
Total BTEX	<0.300	0.300	10/18/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 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	10/17/2013	ND	416	104	400	0.00		

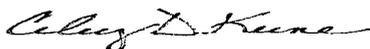
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/17/2013	ND	191	95.3	200	2.37		
DRO >C10-C28	<10.0	10.0	10/17/2013	ND	191	95.5	200	3.62		

Surrogate: 1-Chlorooctane 99.3 % 65.2-140
Surrogate: 1-Chlorooctadecane 105 % 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:	10/16/2013	Sampling Date:	10/15/2013
Reported:	10/21/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 3 @ 1' (H302502-09)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/18/2013	ND	1.93	96.4	2.00	1.36		
Toluene*	<0.050	0.050	10/18/2013	ND	1.99	99.3	2.00	2.92		
Ethylbenzene*	<0.050	0.050	10/18/2013	ND	2.01	100	2.00	2.99		
Total Xylenes*	<0.150	0.150	10/18/2013	ND	5.85	97.4	6.00	2.79		
Total BTEX	<0.300	0.300	10/18/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 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	10/17/2013	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	10/17/2013	ND	191	95.3	200	2.37		
DRO >C10-C28	<10.0	10.0	10/17/2013	ND	191	95.5	200	3.62		

Surrogate: 1-Chlorooctane 106 % 65.2-140
Surrogate: 1-Chlorooctadecane 112 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



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

October 29, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #19

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/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,

A handwritten signature in cursive script that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/29/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 4 @ SURFACE (H302573-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/27/2013	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) 106 % 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	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 88.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.1 % 63.6-154

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* = Accredited Analyte

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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:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/29/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 4 @ 6" (H302573-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/28/2013	ND	2.16	108	2.00	2.91		
Toluene*	<0.050	0.050	10/28/2013	ND	2.20	110	2.00	2.57		
Ethylbenzene*	<0.050	0.050	10/28/2013	ND	2.21	110	2.00	2.96		
Total Xylenes*	<0.150	0.150	10/28/2013	ND	6.39	106	6.00	3.57		
Total BTEX	<0.300	0.300	10/28/2013	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	<16.0	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	10/27/2013	ND	192	96.0	200	5.98		
DRO >C10-C28	<10.0	10.0	10/27/2013	ND	182	91.0	200	8.63		

Surrogate: 1-Chlorooctane 94.0 % 65.2-140
Surrogate: 1-Chlorooctadecane 96.6 % 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:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/29/2013	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: POINT 4 @ 1' (H302573-03)

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	10/28/2013	ND	2.16	108	2.00	2.91		
Toluene*	<0.050	0.050	10/28/2013	ND	2.20	110	2.00	2.57		
Ethylbenzene*	<0.050	0.050	10/28/2013	ND	2.21	110	2.00	2.96		
Total Xylenes*	<0.150	0.150	10/28/2013	ND	6.39	106	6.00	3.57		
Total BTEX	<0.300	0.300	10/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	112	16.0	10/24/2013	ND	432	108	400	3.77		

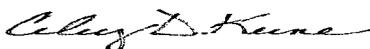
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/27/2013	ND	192	96.0	200	5.98		
DRO >C10-C28	<10.0	10.0	10/27/2013	ND	182	91.0	200	8.63		

Surrogate: 1-Chlorooctane 91.9 % 65.2-140
Surrogate: 1-Chlorooctadecane 94.6 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

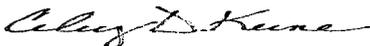
Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

DINAL LABORATORIES

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

ANALYSIS REQUEST

RECS
J

State: NM Z
Fax #:
Project Owner:

P.O. #:
Company:
Attn:
Address:
State: Zip:
Phone #:
Fax #:

K Schnaidt

MATRIX PRESERV SAMPLING

Chlorides
TPH 8015 M
BTEX
Texas TPH
Complete Cations/Anions
TDS

Sample I.D.

(G)RAB OR (C)OMP. # CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	DI/BASE:	CE / COOL	OTHER:	DATE	TIME
6	1									6-23-13	1:00
6	1										1:05
6	1										:10

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 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 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 damages.

Date: 10-11-13
received By: [Signature]
Date: 10-11-13
Time: 4:40

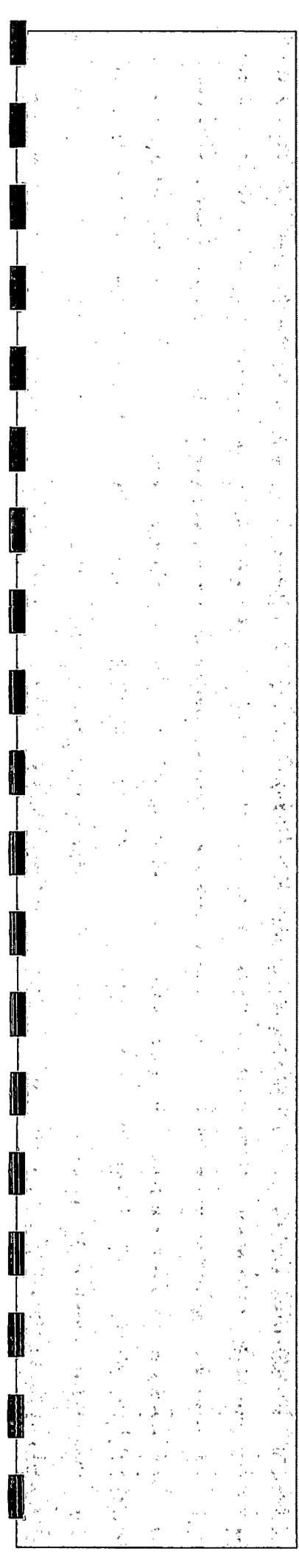
Phone Result: [] Yes [] No [] Unknown
Fax Result: [] Yes [] No [] Add'l Fax #:
REMARKS:

kschnaidt@rice-ecs.com
Knorman@rice-ecs.com
Kjones@riceswd.com; jkamplain@rice-ecs.com
hconder@rice-ecs.com; Lweinheimer@rice-ecs.com

Sample Condition: Cool [] AS [] CS []
CHECKED BY: [Signature]

Do not accept verbal changes. Please fax written changes to 505-393-2326

#54



Appendix C

Imported Soil Lab

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

February 03, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #19

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/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:	01/28/2014	Sampling Date:	01/28/2014
Reported:	02/03/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #19	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

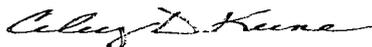
Sample ID: 5 PT. COMP IMPORTED SOIL (H400272-01)

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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Celey D. Keene, Lab Director/Quality Manager

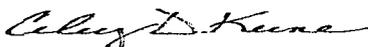
Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: RECS		BILL TO		ANALYSIS REQUEST										
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: H.E. West Btt-19		Phone #:												
Sampler Name: Kyle Schnaidt		Fax #:												
FOR LAB USE ONLY														
Lab I.D. H40027Z	Sample I.D. 15 pint composite imp:sa!	(G)RAB OR (C)OMP. # CONTAINERS 6 1	MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:											

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: <i>Kyle Schnaidt</i>	Date: 1-28-14	Received By: <i>Jodi Henson</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:	
	Time: 4:40		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:	
REMARKS: email results Knorman@rice-ecs.com Kjones@riceswd.com; jkamplain@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com					
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: (initials) <i>JA</i>		

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

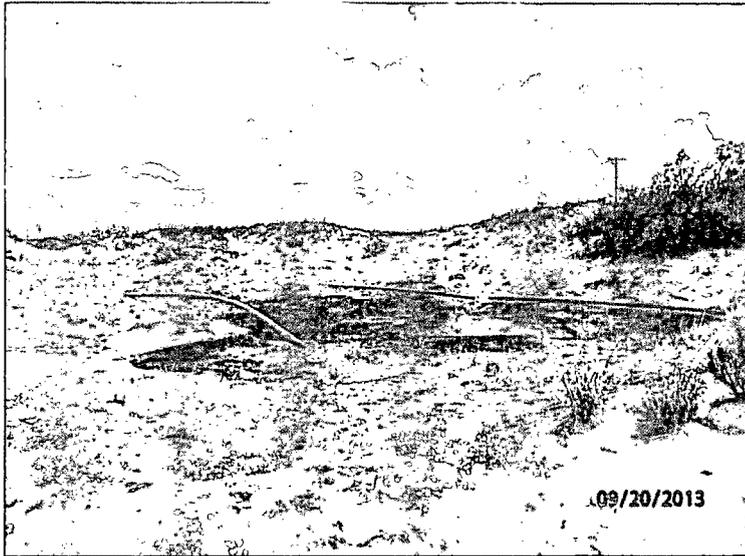
#54

Appendix D

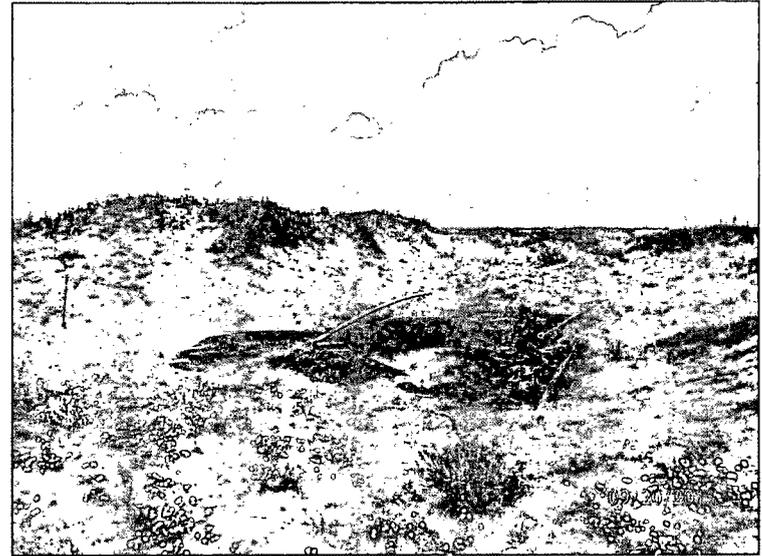
Photo Documentation

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

Linn H.E. West B #19
Unit Letter C, Section 10, T17S, R31E



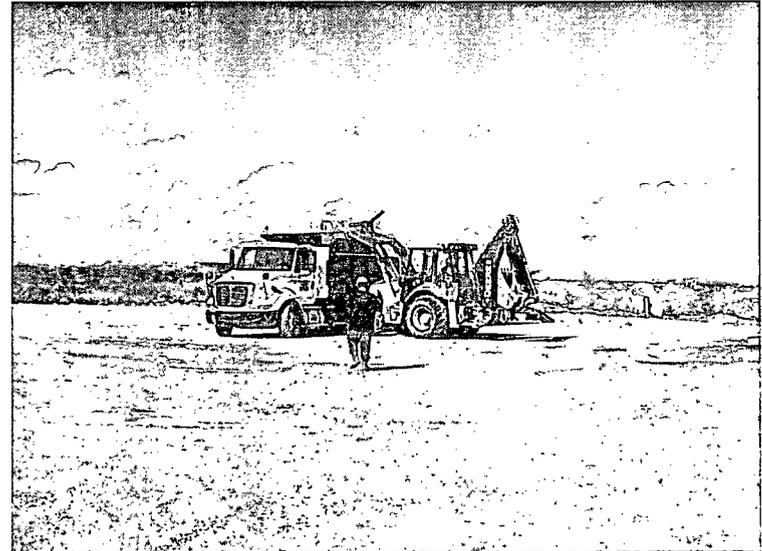
Initial site photo, facing north 9/20/13



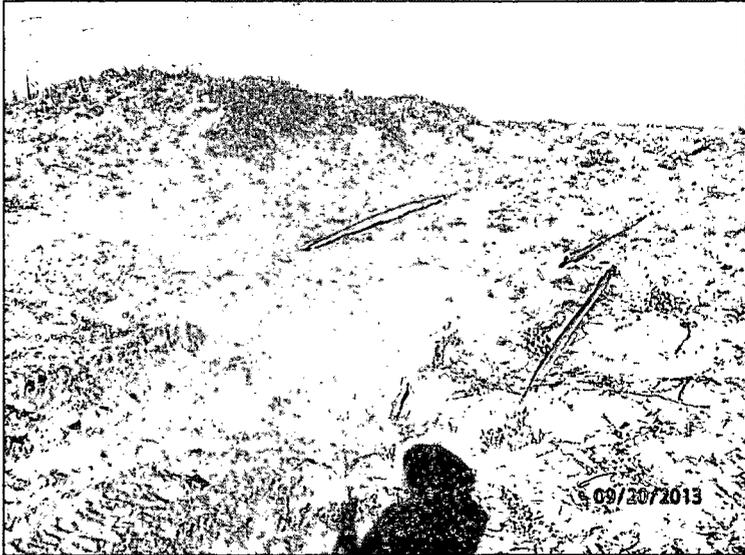
Initial site photo, facing northeast 9/20/13



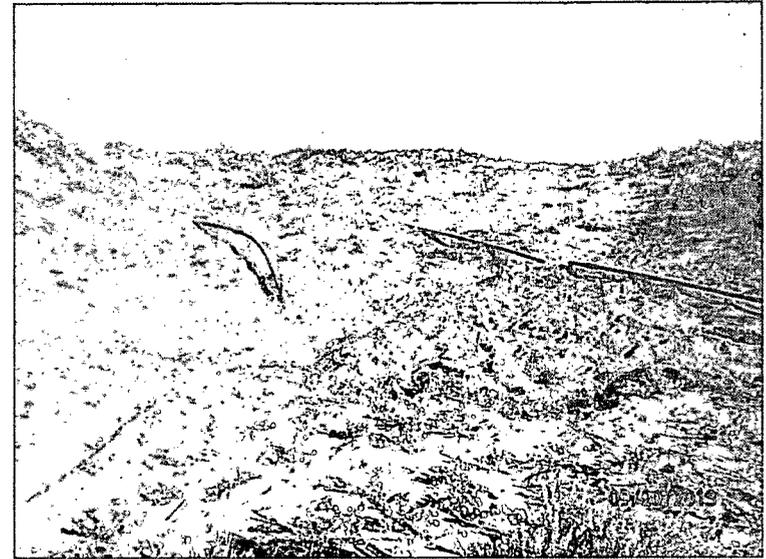
Hand shoveling release area, facing southeast 9/20/13



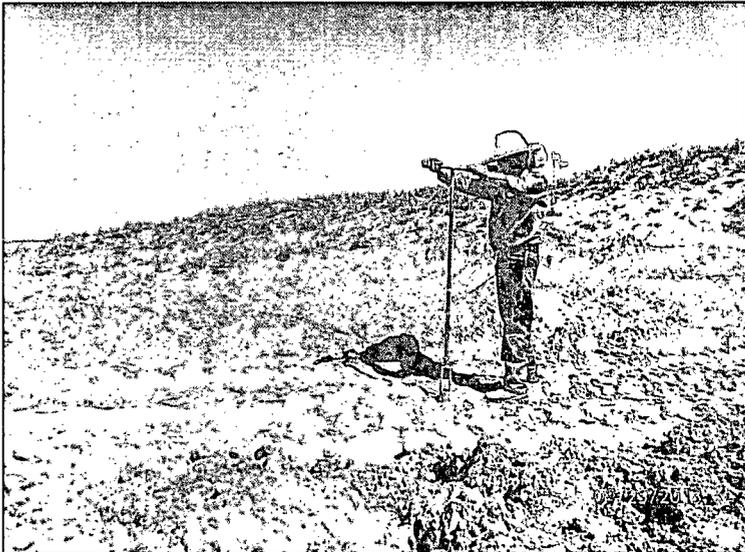
Exporting soil, facing northeast 9/20/13



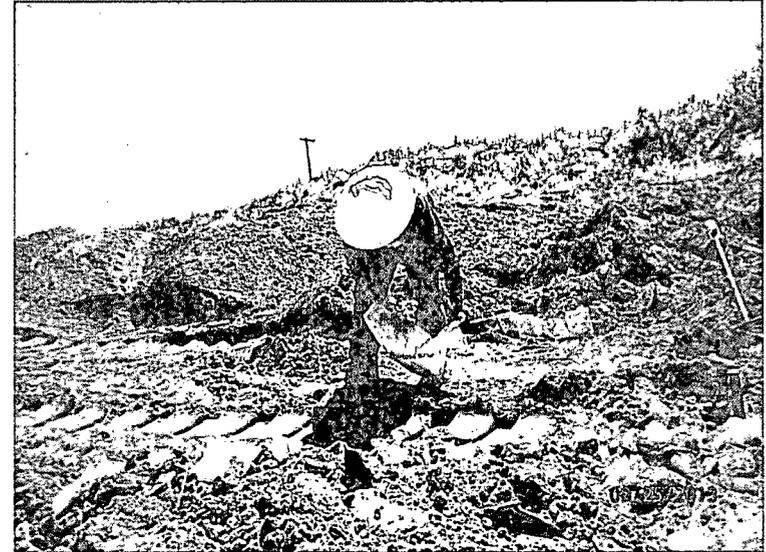
Hand shovel completed, facing northeast 9/20/13



Hand shovel completed, facing southeast 9/20/13



Hand auguring for depth, facing north 9/25/13

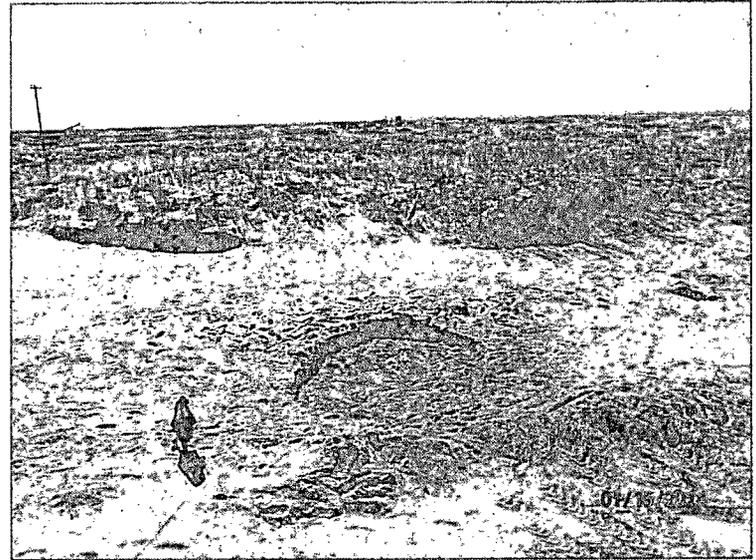


Plugging augur point in total with bentonite, facing south 9/25/13



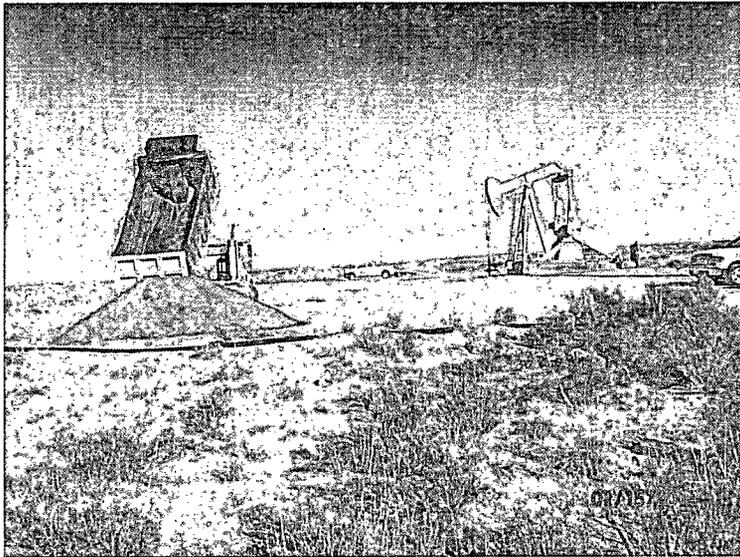
Hand digging release, facing north

1/15/14



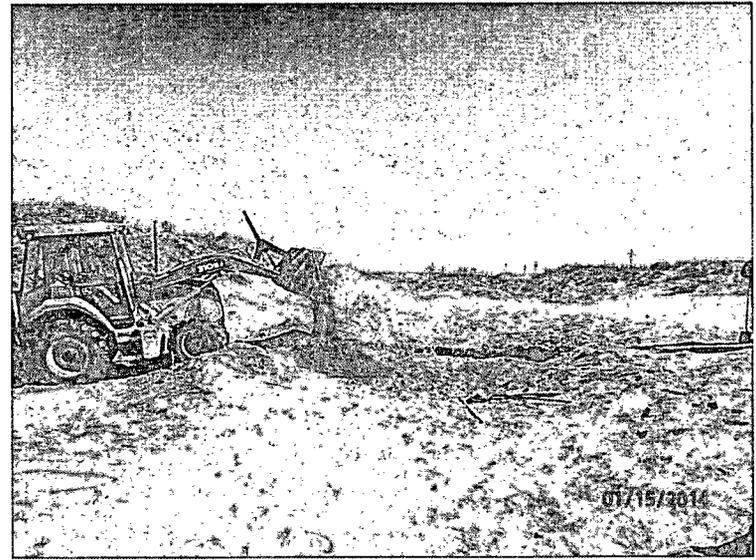
Scrape completed, facing south

1/15/14



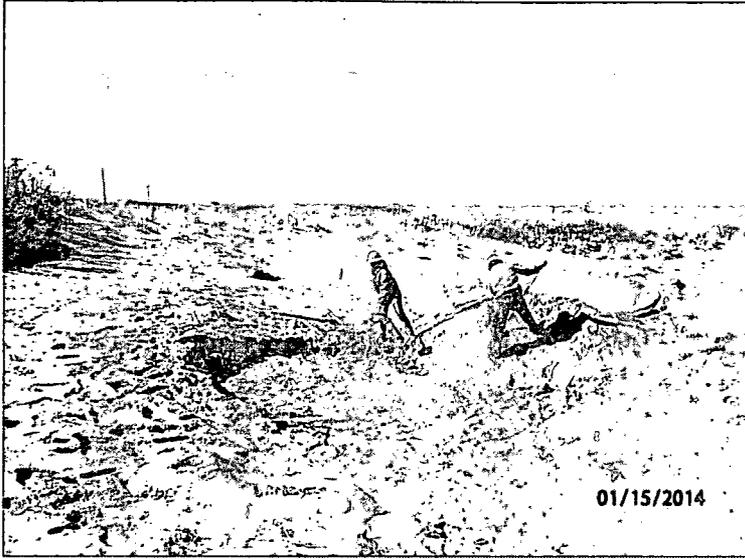
Importing soil, facing north

1/15/14



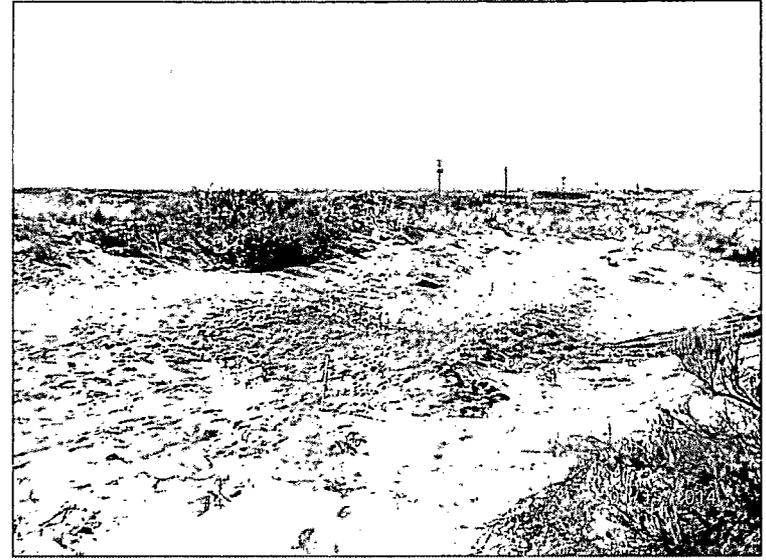
Backfilling site, facing east

1/15/14



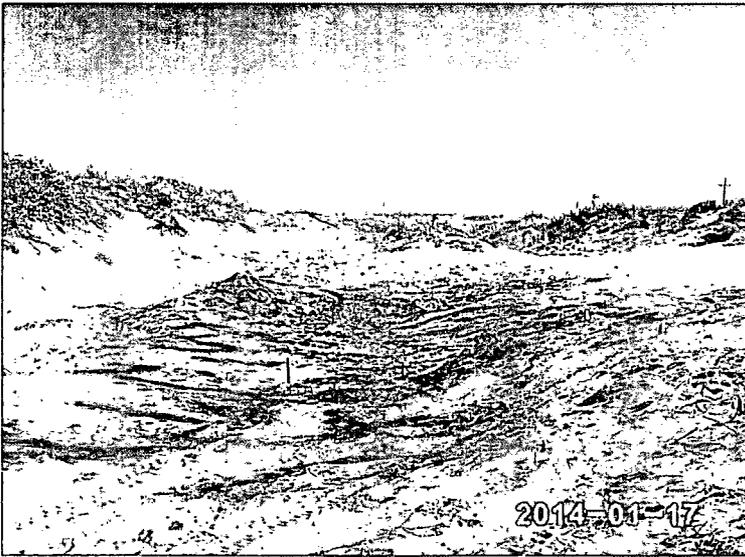
Backfilling site, facing west

1/15/14



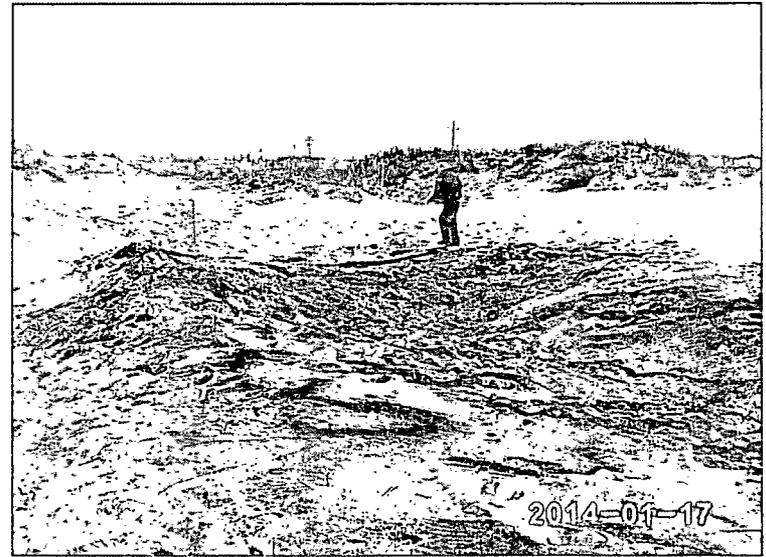
Backfilling completed, facing southwest

1/15/14



Soil amendments added to site, facing east

1/17/14



Seeding site, facing east

1/17/14

Appendix E

Final C-141

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

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company	Linn Operating	Contact	Brian Wall
Address	2130 W. Bender Blvd., Hobbs, NM 88240	Telephone No.	(575) 738-1739
Facility Name	HE WEST B Battery 2 and 4 - West B #19	Facility Type	Waterflood
Surface Owner	Federal	Mineral Owner	
		API No.	3001505125

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	10	17S	31E	660	North	1980	West	Eddy

Latitude 32.8545167385998 Longitude -103.859741264752

NATURE OF RELEASE

Type of Release	Produced Water/Oil	Volume of Release	20 bbls/ 1 gal	Volume Recovered	0/ 0
Source of Release	Fiberglass Pipeline	Date and Hour of Occurrence	9/19/2013	Date and Hour of Discovery	9/19/13
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	9/20/2013		
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.* Received call from pumper of injection plant about an alarm of low discharge pressure. We shut off headers and pressured up opening valves one by one. Line 1 & 2 would not hold pressure more than 400 psi. so we left lines shut in. Called for a pump truck to pressure up and test line. Shut off lateral lines and had truck start pumping on main trunk line but would not pressure up. Walked out line and found leak in pasture. 3" fiberglass line was uncovered from wind blowing sand away.

Describe Area Affected and Cleanup Action Taken.*
Line bowed up and ruptured causing a release over 917 square feet of pasture land. RECS personnel arrive at the site on September 20th, 2013. The wet soil was removed by hand shovel and taken to a NMOCD approved facility for disposal. The site was sampled at the surface and with depth at four sample points. All samples were field tested for chlorides and hydrocarbons and sent to a commercial laboratory for analyses. All samples returned laboratory chloride readings below 250 mg/kg, except for Vertical #2 at 6 inches, which returned a laboratory chloride reading of 2,400 mg/kg. Gasoline Range Organics (GRO) readings and Diesel Range Organics (DRO) readings were all non-detect or near non-detect. BTEX results in all samples were non-detect. A Corrective Action Plan (CAP) was submitted to NMOCD and BLM on November 5th, 2013. BLM approved the CAP on the same day, and NMOCD approved the CAP on November 12th, 2013. CAP activities began on January 15th, 2014. The area around Vertical #2 was hand shoveled to a depth of 1 ft bgs and a total of 12 yards of contaminated soil was taken to a NMOCD approved facility for disposal. A total of 12 yards of top soil was imported to the site to serve as backfill. A 5 point composite of the backfill was taken to a commercial laboratory for analysis and returned a chloride value of non-detect. The scrape was backfilled with the clean, imported top soil and contoured to the surrounding location. On January 17th, 2014, soil amendments were added to the site and the site was seeded with LPC mix.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: <i>Fred B Wall</i>	OIL CONSERVATION DIVISION		
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: 2/12/14	Phone: (575) 738-1739		

* Attach Additional Sheets If Necessary