



# Lea D #23

## CLOSURE REPORT

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Release Date: July 3, 2015

Unit Letter F, Section 26, Township 17 South, Range 31 East

API No. 30-015-29703

NMOCD Case #: 2R-3095

### May 26, 2015

**Prepared by:**

Michael Burton, Environmental Operations Director

Environmental Department

Diversified Field Service, Inc.

206 W. Snyder

Hobbs, NM 88240

Phone: (575)964-8394

Fax: (575)393-8396

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# Lea D #023

## 1 INTRODUCTION

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Linn Energy (Linn) has retained Diversified Environmental (DFSI) to address environmental issues for the site detailed herein.

The site is located southwest of Maljamar, NM, in Eddy County. An initial C-141 was submitted to the NMOCD on July 7, 2015 and approved on July 10, 2015. An amended initial C-141, requested by NMOCD, is attached to reflect the change from gallons to barrels (Appendix I).

On July 3, 2015, the spill site resulted from a failure of flow line fuse. Approximately 3 barrels of produced water and 3 barrels of oil were released, with none recovered. The impacted area is a small area of the pasture.

## 2 SITE ACTIVITIES

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On November 20, 2015, DFSI personnel on site to obtain samples within the leak area (Appendix II). Three samples were obtained and field sampled for chloride levels, as well as BTEX. The BTEX samples were performed using a Mini Rae Photoionization Detector (PID). Auger refusal was encountered at 8' and 9', SP2 and SP3, respectively. A clean field sample at SP1 was obtained and submitted for laboratory analysis at Cardinal Laboratories of Hobbs, NM for confirmation (Appendix III).

On December 8, 2015, DFSI personnel returned to the location to install one soil bore. At 50' bgs, refusal was encountered. The 50' sample was submitted for laboratory analysis at Cardinal Laboratories of Hobbs, NM (Appendix IV).

A work plan was submitted to NMOCD and BLM on January 21, 2016, and approved on February 4, 2016 by BLM and on February 18, 2016 by NMOCD, with stipulations. Beginning May 5, 2016, DFSI personnel were on site to excavate to 4' bgs around SP2 and SP3. At the base of the excavation, a 20-mil liner was installed and properly seated. As per NMOCD request, sidewall samples of the excavation were obtained and submitted for analysis at Cardinal Laboratories of Hobbs, NM, resulting in low chloride, TPH and BTEX concentrations below regulatory limits (Appendix V). The excavation was backfilled with clean, imported soil to ground surface and contoured to the surrounding area (Appendix VI). Contaminated soil was properly disposed of at an NMOCD approved facility. The pasture area of the site was seeded with a mixture of blended vegetation (Appendix VII).

### 3 CONCLUSION

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An updated study of the New Mexico Office of State Engineer well records indicates the site is located in a known area of no groundwater (Appendix VIII). Based on the report and work completed, any remaining chloride and BTEX components in the vadose zone will not affect groundwater beneath this site, with vegetation expected to return to normal; therefore, DFSI, on behalf of Linn, submits the final C-141 (Appendix IX) and respectfully requests the closure of this regulatory file.

# Appendix I

REVISED INITIAL C-141

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Linn Operating Inc.	Contact: E. L. Gonzales
Address: 2130 W Bender Blvd, Hobbs, NM 88240	Telephone No: 575-738-1739
Facility Name: Lea D #023	Facility Type: Oil Producer
Surface Owner: Federal	Mineral Owner:
API No. 30-015-29703	

**LOCATION OF RELEASE**

Unit Letter F	Section 26	Township 17S	Range 31E	Feet from the 1322	North/South Line North	Feet from 1322	East/West Line West	County Eddy
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Latitude: 32.8092232 Longitude: -103.8445892

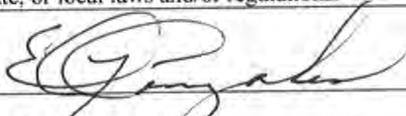
**NATURE OF RELEASE**

Type of Release: Oil / Produced Water	Volume of Release: 3 bbls / 3 bbls	Volume Recovered: 0 / 0
Source of Release: Flow Line Fuse	Date and Hour of Occurrence 07/03/15	Date and Hour of Discovery 07/03/15 1:13 PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
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.\*  
As I was driving to the Lea D #023, just north east of Lea D #007 injection well, I saw the flow line from well #023 spraying fluid into the pasture. I drove to the Lea D #023 and shut the well in to stop it from making a bigger mess. The fluid was coming out from an old fuse that gave out. I called the roustabout gang to come and refuse the flow line and also called a backhoe to come and clean up the impacted area.

Describe Area Affected and Cleanup Action Taken.  
The impacted area was about a 10 ft by 10 ft area.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: E.L. Gonzales	Approved by Environmental Specialist:	
Title: Production Supervisor	Approval Date:	Expiration Date:
E-mail Address: elgonzales@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 05-26-2016 Phone: 505-504-8002		

\* Attach Additional Sheets If Necessary

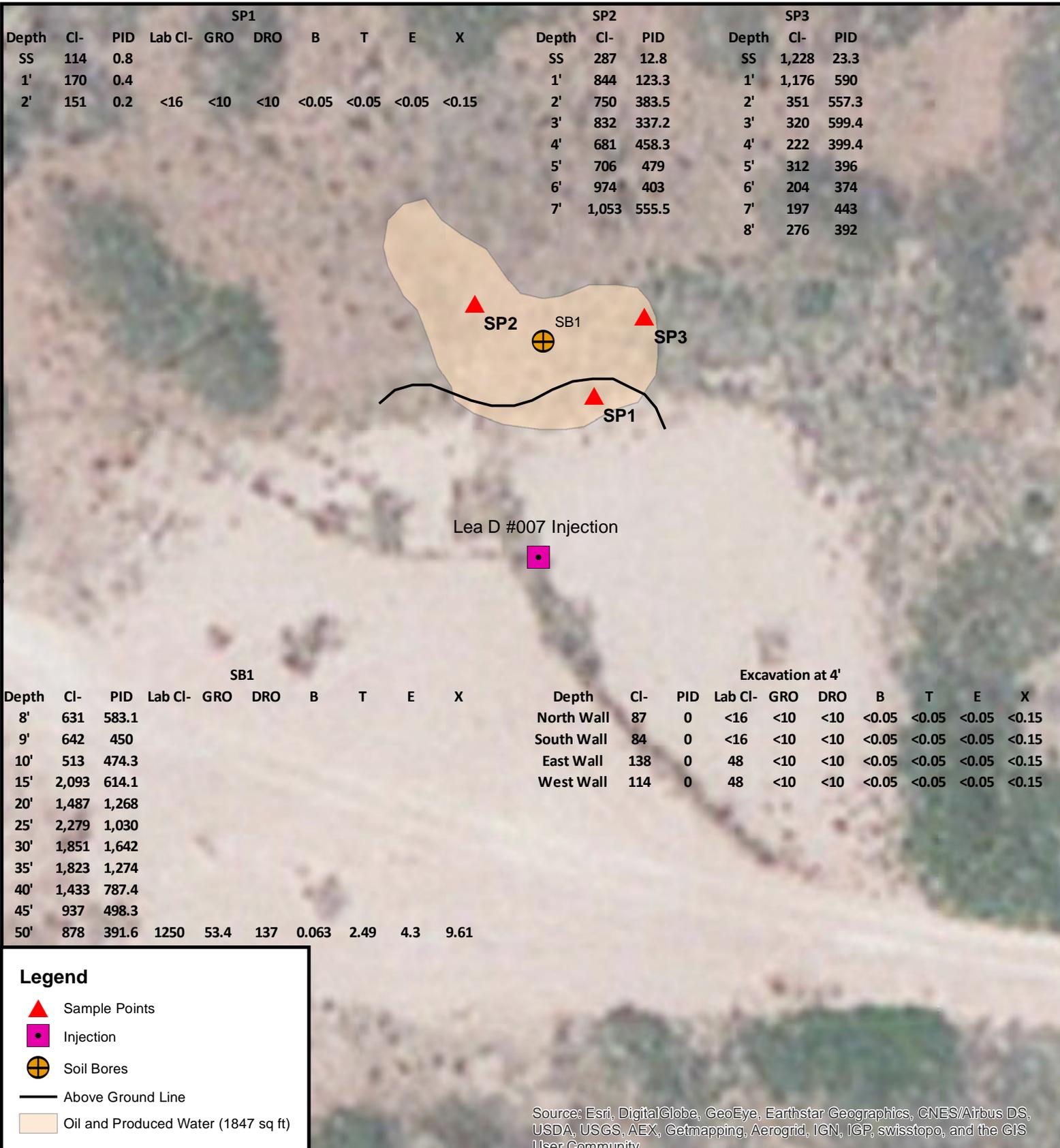
# Appendix II

## SITE MAP

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

# Site Diagram



## Legend

- Sample Points
- Injection
- Soil Bores
- Above Ground Line
- Oil and Produced Water (1847 sq ft)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**Linn**  
**Lea D #023**  
**Unit Letter F, Section 26, T17S, R31E**  
**Eddy County, NM**  
**API #: 30-15-29703**  
**NMOCD Case #: 2R-3095**

Mapped: 11/18/15 LC  
 Drafted by: L. Flores  
 05/26/2016

0 5 10 20 30 40  

 Feet

# Appendix III

## SOIL DELINEATION LABORATORY ANALYSIS

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

November 30, 2015

DENNIS POTTER

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: LEA D #23

Enclosed are the results of analyses for samples received by the laboratory on 11/20/15 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](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:**

 LINN OPERATING-HOBBS  
 DENNIS POTTER  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	LEA D #23	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SAMPLE POINT 1 @ 2' (H503085-01)**

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	11/25/2015	ND	2.11	106	2.00	3.99	
Toluene*	<0.050	0.050	11/25/2015	ND	2.11	105	2.00	4.90	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.22	111	2.00	4.05	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.40	107	6.00	3.31	
Total BTEX	<0.300	0.300	11/25/2015	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140*

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	11/25/2015	ND	400	100	400	14.8	

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	11/24/2015	ND	198	98.8	200	2.97	
DRO >C10-C28	<10.0	10.0	11/24/2015	ND	197	98.6	200	3.60	

*Surrogate: 1-Chlorooctane 105 % 35-147*
*Surrogate: 1-Chlorooctadecane 111 % 28-171*

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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



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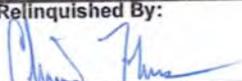
Celey D. Keene, Lab Director/Quality Manager

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

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

Company Name: <u>Linn</u>		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																							
Project Manager: <u>Dennis Potter</u>		P.O. #:																											
Address:		Company:																											
City: State: Zip:		Attn:																											
Phone #: Fax #:		Address:																											
Project #: Project Owner:		City:																											
Project Name: <u>Linn</u>		State: Zip:																											
Project Location: <u>Lea D #23</u>		Phone #:																											
Sampler Name: <u>Chris Flores</u>		Fax #:																											
FOR LAB USE ONLY																													
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX														PRESERV.		SAMPLING									
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME															
<u>H503085</u>	<u>1 Sample Point 1 @ 2'</u>	<u>G</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>11/20/2015</u>	<u>2:00pm</u>	<u>Chloride</u>	<u>BTEX</u>	<u>TPH</u>												

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

Relinquished By: 	Date: <u>11/20/2015</u> Time:	Received By: <u>Jodi Benson</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: <u>JCF</u> (Initials)	
REMARKS: <u>email to: lorenshaw@diversifiedfsi.com</u> <u>malves</u> <u>mpurton</u> <u>mpatterson</u> <u>cflores</u>				

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

# Appendix IV

## SOIL BORE INSTALLATION LABORATORY ANALYSIS

---

Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394



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

---

December 14, 2015

DENNIS POTTER

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: LEA D #23

Enclosed are the results of analyses for samples received by the laboratory on 12/08/15 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 DENNIS POTTER  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	12/08/2015	Sampling Date:	12/08/2015
Reported:	12/14/2015	Sampling Type:	Soil
Project Name:	LEA D #23	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SOIL BORE 1 @ 50' (H503200-01)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.063</b>	0.050	12/11/2015	ND	1.75	87.7	2.00	2.38	
<b>Toluene*</b>	<b>2.49</b>	0.050	12/11/2015	ND	1.75	87.5	2.00	2.03	
<b>Ethylbenzene*</b>	<b>4.30</b>	0.050	12/11/2015	ND	1.82	91.1	2.00	2.56	
<b>Total Xylenes*</b>	<b>9.61</b>	0.150	12/11/2015	ND	5.38	89.7	6.00	2.04	
<b>Total BTEX</b>	<b>16.5</b>	0.300	12/11/2015	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 168 % 73.6-140*

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1250</b>	16.0	12/11/2015	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>53.4</b>	10.0	12/10/2015	ND	203	101	200	0.611	
<b>DRO &gt;C10-C28</b>	<b>137</b>	10.0	12/10/2015	ND	195	97.4	200	1.22	

*Surrogate: 1-Chlorooctane 85.6 % 35-147*
*Surrogate: 1-Chlorooctadecane 84.8 % 28-171*

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- S-04            The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND             Analyte NOT DETECTED at or above the reporting limit
- RPD            Relative Percent Difference
- \*\*              Samples not received at proper temperature of 6°C or below.
- \*\*\*             Insufficient time to reach temperature.
- Chloride by SM450Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report



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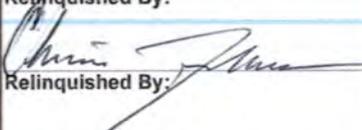
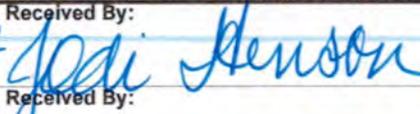
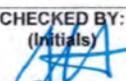
Celey D. Keene, Lab Director/Quality Manager

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

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

Company Name: <b>Linn Operating</b>		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																							
Project Manager: <b>Dennis Potter</b>		P.O. #:																											
Address:		Company: <b>Linn</b>																											
City:	State:	Zip:	Attn: <b>Dennis Potter</b>																										
Phone #:	Fax #:	Address:																											
Project #:	Project Owner:			City:																									
Project Name: <b>Linn</b>	State:				Zip:																								
Project Location: <b>Canal Head Lea D #23</b>	Phone #:																												
Sampler Name: <b>Chris Flores</b>	Fax #:																												
FOR LAB USE ONLY																													
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX														PRESERV.	SAMPLING										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME															
<b>H503200</b>	<b>Soil Bone 1 @ 50'</b>	<b>6</b>	<b>1</b>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<b>12-8-15</b>	<b>12:30PM</b>	<b>Chloride</b>	<b>TPH</b>	<b>BTEX</b>												

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: <b>12/8/15</b>	Received By: 	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: <b>4:45</b>	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Date:	Received By:	REMARKS: email to : <b>icrenshaw@diversifiedfsi.com</b> <b>m. Alvas@diversifiedfsi.com</b> <b>m. Burton@diversifiedfsi.com</b> <b>m. Patterson@diversifiedfsi.com</b> <b>C. Flores@diversifiedfsi.com</b>	
Sample Condition Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Time:	Checked By: 		

#54

# Appendix V

## EXCAVATION SIDEWALLS LABORATORY ANALYSIS

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

May 20, 2016

DENNIS POTTER

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: LEA D #023

Enclosed are the results of analyses for samples received by the laboratory on 05/19/16 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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:

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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,



Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 DENNIS POTTER  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	05/19/2016	Sampling Date:	05/19/2016
Reported:	05/20/2016	Sampling Type:	Soil
Project Name:	LEA D #023	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 4' EXCAVATION N WALL (H601099-01)**

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	05/19/2016	ND	2.19	110	2.00	1.30	
Toluene*	<0.050	0.050	05/19/2016	ND	2.11	106	2.00	1.27	
Ethylbenzene*	<0.050	0.050	05/19/2016	ND	1.88	94.0	2.00	0.958	
Total Xylenes*	<0.150	0.150	05/19/2016	ND	5.85	97.4	6.00	0.568	
Total BTEX	<0.300	0.300	05/19/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 73.6-140

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	05/20/2016	ND	416	104	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	05/19/2016	ND	173	86.3	200	4.67	
DRO >C10-C28	<10.0	10.0	05/19/2016	ND	179	89.6	200	9.25	

Surrogate: 1-Chlorooctane 81.8 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 DENNIS POTTER  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	05/19/2016	Sampling Date:	05/19/2016
Reported:	05/20/2016	Sampling Type:	Soil
Project Name:	LEA D #023	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 4' EXCAVATION S WALL (H601099-02)**

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	05/19/2016	ND	2.19	110	2.00	1.30		
Toluene*	<0.050	0.050	05/19/2016	ND	2.11	106	2.00	1.27		
Ethylbenzene*	<0.050	0.050	05/19/2016	ND	1.88	94.0	2.00	0.958		
Total Xylenes*	<0.150	0.150	05/19/2016	ND	5.85	97.4	6.00	0.568		
Total BTEX	<0.300	0.300	05/19/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 73.6-140

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	05/20/2016	ND	416	104	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	05/19/2016	ND	173	86.3	200	4.67		
DRO >C10-C28	<10.0	10.0	05/19/2016	ND	179	89.6	200	9.25		

Surrogate: 1-Chlorooctane 70.5 % 35-147

Surrogate: 1-Chlorooctadecane 89.7 % 28-171

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 DENNIS POTTER  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	05/19/2016	Sampling Date:	05/19/2016
Reported:	05/20/2016	Sampling Type:	Soil
Project Name:	LEA D #023	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 4' EXCAVATION E WALL (H601099-03)**

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	05/19/2016	ND	2.19	110	2.00	1.30	
Toluene*	<0.050	0.050	05/19/2016	ND	2.11	106	2.00	1.27	
Ethylbenzene*	<0.050	0.050	05/19/2016	ND	1.88	94.0	2.00	0.958	
Total Xylenes*	<0.150	0.150	05/19/2016	ND	5.85	97.4	6.00	0.568	
Total BTEX	<0.300	0.300	05/19/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	05/20/2016	ND	416	104	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	05/19/2016	ND	173	86.3	200	4.67	
DRO >C10-C28	<10.0	10.0	05/19/2016	ND	179	89.6	200	9.25	

Surrogate: 1-Chlorooctane 76.6 % 35-147

Surrogate: 1-Chlorooctadecane 98.6 % 28-171

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 LINN OPERATING-HOBBS  
 DENNIS POTTER  
 2130 W. BENDER  
 HOBBS NM, 88240  
 Fax To: (575) 738-1740

Received:	05/19/2016	Sampling Date:	05/19/2016
Reported:	05/20/2016	Sampling Type:	Soil
Project Name:	LEA D #023	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: 4' EXCAVATION W WALL (H601099-04)**

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	05/19/2016	ND	2.19	110	2.00	1.30		
Toluene*	<0.050	0.050	05/19/2016	ND	2.11	106	2.00	1.27		
Ethylbenzene*	<0.050	0.050	05/19/2016	ND	1.88	94.0	2.00	0.958		
Total Xylenes*	<0.150	0.150	05/19/2016	ND	5.85	97.4	6.00	0.568		
Total BTEX	<0.300	0.300	05/19/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>48.0</b>	16.0	05/20/2016	ND	416	104	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	05/19/2016	ND	173	86.3	200	4.67		
DRO >C10-C28	<10.0	10.0	05/19/2016	ND	179	89.6	200	9.25		

Surrogate: 1-Chlorooctane 73.4 % 35-147

Surrogate: 1-Chlorooctadecane 99.6 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Mike Snyder For 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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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



# Appendix VI

## SITE PHOTOS

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# Lea D #023

Unit Letter F, Section 25, T17S, R31E

NMOCD Case #: 2R-3095

## PHOTO PAGE

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Site prior



Site prior



Collecting samples by auger, facing southwest

11/20/2015



Collecting soil samples by soil bore installation, facing northwest

12/7/2015



Collecting excavation wall samples, facing northeast 5/19/2016



Importing topsoil, facing northwest 5/19/2016



Exporting soil, facing northeast 5/19/2016



Excavating site down to 4', facing north 5/19/2016



Excavating site, facing northwest 5/19/2016



Excavating site, facing southwest 5/19/2016

# Appendix VII

## SEEDING REPORT

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

**DIVERSIFIED FIELD SERVICES, INC.**

Project: Lea D #23

Date Started: 5/23/16

Seed and lbs used: 2,000 sq. ft.

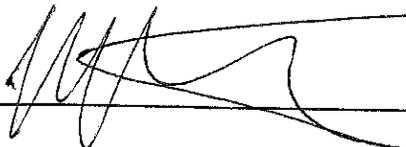
Date Completed: 5/23/16

**Curtis and Curtis, Inc.**  
 4500 North Prince  
 Clovis, NM 88101  
 Phone: (575) 762-4759  
 www.curtisseed.com

Diversified Construction  
 2,000 Sq. Ft. LPC Mix  
 1 - 2,000 Sq. Ft. Bag @ 3.71 Bulk Pounds  
 Job: Lea #23

Lot# M-13685-1

<u>Item</u>	<u>Origin</u>	<u>Purity</u>	<u>Germ</u>	<u>Dormant</u>	<u>Total Germination</u>	<u>Test Date</u>	<u>Total PLS Pounds</u>	
Plains Bristlegrass VNS	Oklahoma	12.93%	84.00%	12.00%	96.00%	12/15	0.46	
Sand Bluestem Woodward	Texas	0.60%	95.00%	0.00%	95.00%	11/15	0.46	
Little Bluestem Cimarron	Texas	7.95%	79.00%	16.00%	95.00%	01/16	0.28	
Sideoats Grama El Reno	Texas	0.74%	86.00%	7.00%	93.00%	09/15	0.55	
Coreopsis Plains	Colorado	0.25%	84.00%	6.00%	90.00%	09/15	0.18	
Sand Dropseed VNS	Texas	2.50%	32.00%	65.00%	97.00%	05/16	0.09	
Four-Wing Saltbush VNS	New Mexico	0.88%	18.00%	47.00%	65.00%	05/16	0.46	
Other Crop:		5.97%						
Weed Seed:		0.05%						
Inert Matter:		17.07%						
There Are 1 Bags For This Mix This Bag Weighs 3.71 Bulk Pounds Use This Bag For 2,000 Sq. Ft.								
Total Bulk Pounds:								4

Supervisor: 

# Appendix VIII

UPDATED GROUNDWATER STUDY

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394



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# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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No records found.

**PLSS Search:**

**Section(s):** 22, 23, 24, 25,  
26, 27, 34, 35,  
36      **Township:** 17S      **Range:** 31E

# Appendix IX

FINAL C-141

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Diversified Field Service, Inc.  
206 W. Snyder  
Hobbs, NM 88240  
(575) 964-8394

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: Linn Operating Inc.	Contact: E. L. Gonzales
Address: 2130 W Bender Blvd, Hobbs, NM 88240	Telephone No: 575-738-1739
Facility Name: Lea D #023	Facility Type: Oil Producer

Surface Owner: Federal	Mineral Owner:	API No. 30-015-29703
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from	East/West Line	County
F	26	17S	31E	1322	North	1322	West	Eddy

Latitude: 32.8092232 Longitude: -103.8445892

**NATURE OF RELEASE**

Type of Release: Oil / Produced Water	Volume of Release: 3 bbls / 3 bbls	Volume Recovered: 0 / 0
Source of Release: Flow Line Fuse	Date and Hour of Occurrence 07/03/15	Date and Hour of Discovery 07/03/15 1:13 PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
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.\*  
As I was driving to the Lea D #023, just north east of Lea D #007 injection well, I saw the flow line from well #023 spraying fluid into the pasture. I drove to the Lea D #023 and shut the well in to stop it from making a bigger mess. The fluid was coming out from an old fuse that gave out. I called the roustabout gang to come and refuse the flow line and also called a backhoe to come and clean up the impacted area. The impacted area was about a 10 ft by 10 ft area.

Describe Area Affected and Cleanup Action Taken.  
On November 20, 2015, DFSI personnel on site to obtain samples within the leak area. Three samples were obtained and field sampled for chloride levels, as well as BTEX. The BTEX samples were performed using a Mini Rae Photoionization Detector (PID). Auger refusal was encountered at 8' and 9', SP2 and SP3, respectively. A clean field sample at SP1 was obtained and submitted for laboratory analysis at Cardinal Laboratories of Hobbs, NM for confirmation. On December 8, 2015, DFSI personnel returned to the location to install one soil bore. At 50' bgs, refusal was encountered. The 50' sample was submitted for laboratory analysis at Cardinal Laboratories of Hobbs, NM. A work plan was submitted to NMOCD and BLM on January 21, 2016, and approved on February 4, 2016 by BLM and on February 18, 2016 by NMOCD, with stipulations. Beginning May 5, 2016, DFSI personnel were on site to excavate to 4' bgs around SP2 and SP3. At the base of the excavation, a 20-mil liner was installed and properly seated. As per NMOCD request, sidewall samples of the excavation were obtained and submitted for analysis at Cardinal Laboratories of Hobbs, NM, resulting in low chloride, TPH and BTEX concentrations below regulatory limits. The excavation was backfilled with clean, imported soil to ground surface and contoured to the surrounding area. Contaminated soil was properly disposed of at an NMOCD approved facility. The pasture area of the site was seeded with a mixture of blended vegetation.

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: EL Gonzales	Approved by Environmental Specialist:	
Title: Production Supervisor	Approval Date:	Expiration Date:
E-mail Address: elgonzales@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 05-26-2016 Phone: 505-504-8002		

\* Attach Additional Sheets If Necessary