



# Linn Energy Turner B #78

## CLOSURE REPORT

---

API No. 30-015-05303

Release Date: 05/07/14

Unit J, Section 20, Township 17 South, Range 31 East

April 7, 2015

**Prepared by:**

Environmental Department  
Diversified Field Service, Inc.

26 W. Snyder  
Hobbs, NM 88240  
Phone: (575)964-8394  
Fax: (575)393-8396

# Table of Contents

---

- 1 Introduction
- 2 Site Activities
- 3 Conclusion

## APPENDICES

Appendix I – Initial Form C-141

Appendix II – Site Photographs

Appendix III – Site Diagram

Appendix IV – Laboratory Analyses

Appendix V – Final C-141

# Turner B #78

## 1 INTRODUCTION

---

Linn Energy (Linn) has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located south west of Maljamar, NM, in Eddy County. The leak site resulted from a produced water leak. The source of the leak was due to corrosion on a 2" fiberglass collar on an injection line. When the leak was being repaired, Linn employees found an incidental blowout 800ft from the reportable release point. Approximately 17bbls of produced water was released and 5bbls were recovered from both areas of release. A C-141 (Appendix I) was submitted to the NMOCD on May 8th, 2014.

## 2 SITE ACTIVITIES

---

On May 14, 2014, DFSI personnel obtained surface samples from the release site, which included SP1-SP12. Each surface sample was field tested for chlorides and TPH and all returned above the allowed limits.

On March 20, 2014, DFSI returned to the site to complete the delineation process for this location. Field samples were taken on twelve sample points, each sample was tested for chloride levels as well as TPH. The TPH samples were performed using a Mini Rae Photoionization Detector (PID). All clean field samples found under the BLM/NMOCD standards, were taken to Cardinal Lab of Hobbs to obtain confirmation samples. Results are attached (Appendix IV).

On October 22, 2014, DFSI employees dug out a 65' x 65' x 8' deep hole on the pad of neighboring well Turner B 96. The bottom of the hole was lined with a 20 mil liner.

From October 22, 2014 to November 13, 2015, the entire 7294 sq. ft. area of compacted soil from the Turner B 78 was excavated to 2'bgs. The contaminated soil was then buried in the hole at the Turner B 96. After the contaminated area was completely dug out and transferred to the hole at the Turner B 96, a cap was installed at 4' using a 20 mil liner. The remainder of the dug-out hole was backfilled with clean soil and the area will be reseeded when approved by Linn Energy.

The contaminated area around SP7 and SP8 was also excavated and lined at 4' with a 20mil liner and the remainder of the clean soil that was excavated for the deep bury area was used as

well, as pushing in the native sand for surface reseeding procedures to return this site to its natural state.

### **3 CONCLUSION**

---

According to the U.S. Geological Survey and the NM Office of the State Engineer, there were no records of groundwater in the immediate vicinity, however depth to groundwater in the area averages greater than 220 ft. bgs indicating no potential threat to groundwater or life forms.

# Appendix I

INITIAL FORM C-141

---

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

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Linn Operating	Contact: Brian Wall	
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739	
Facility Name: Turner B 78	Facility Type: Injection	
Surface Owner: Federal	Mineral Owner:	API No.: 30-015-05303

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	20	17S	31E	2080	South	1980	East	Eddy

**Latitude:** 32.8185247710611 **Longitude:** -103.889788634368

### NATURE OF RELEASE


Type of Release: Produced Water	Volume of Release: 17 bbls	Volume Recovered: 5 bbls
Source of Release: 2" Fiberglass collar	Date and Hour of Occurrence: 05/07/2014	Date and Hour of Discovery: 05/07/2014 0930
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? M. Burton- BLM M.Bratcher-NM OCD	
By Whom? Brian Wall	Date and Hour 05/08/2014 0645	
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.\*: Replaced 400ft 2 inch fiber glass line from well head number 78 west. Crew pressured up on line and noticed pressure dropped, shut in valve and drove towards well head, found the same line further down west about another 800ft that blew out of the collar.

Describe Area Affected and Cleanup Action Taken.\* : Leak ran north west through arroyo, 1236 feet long by 2ftwide. Estimated barrels lost 17. Water truck was used on leak site and picked 5barrels/BSG roustabout gang fixed line, Diversified back hoe was used to dig out line. Scrape and remove contaminated soils. Haul to approved disposal and haul back clean soils to replace.

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><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Brian Wall	Approved by District Supervisor:	
Title: Construction Foreman II	Approval Date:	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 05/08/2014	Phone: 806-367-0645	

\* Attach Additional Sheets If Necessary

# Appendix II

## SITE PHOTOS

---

# Linn Energy, Turner B 78

Unit Letter J, Section 20, T17S R31E



Sign marking location 10/26/13



Spill location with sample point





Spill Location with sample point



Spill location with sample point





Spill area excavated with liner installation



Pit area on Turner B 96 dug out and placed with liner





Hole buried on Turner B 96 and backfilled with fresh topsoil/caliche



Plate installed for deep bury at Turner B 96



Backfilled spill area, closure pic (Needs seeding)



Backfilled area, closure pic (Needs seeding)





Backfilled spill area, closure pic (Needs seeding)

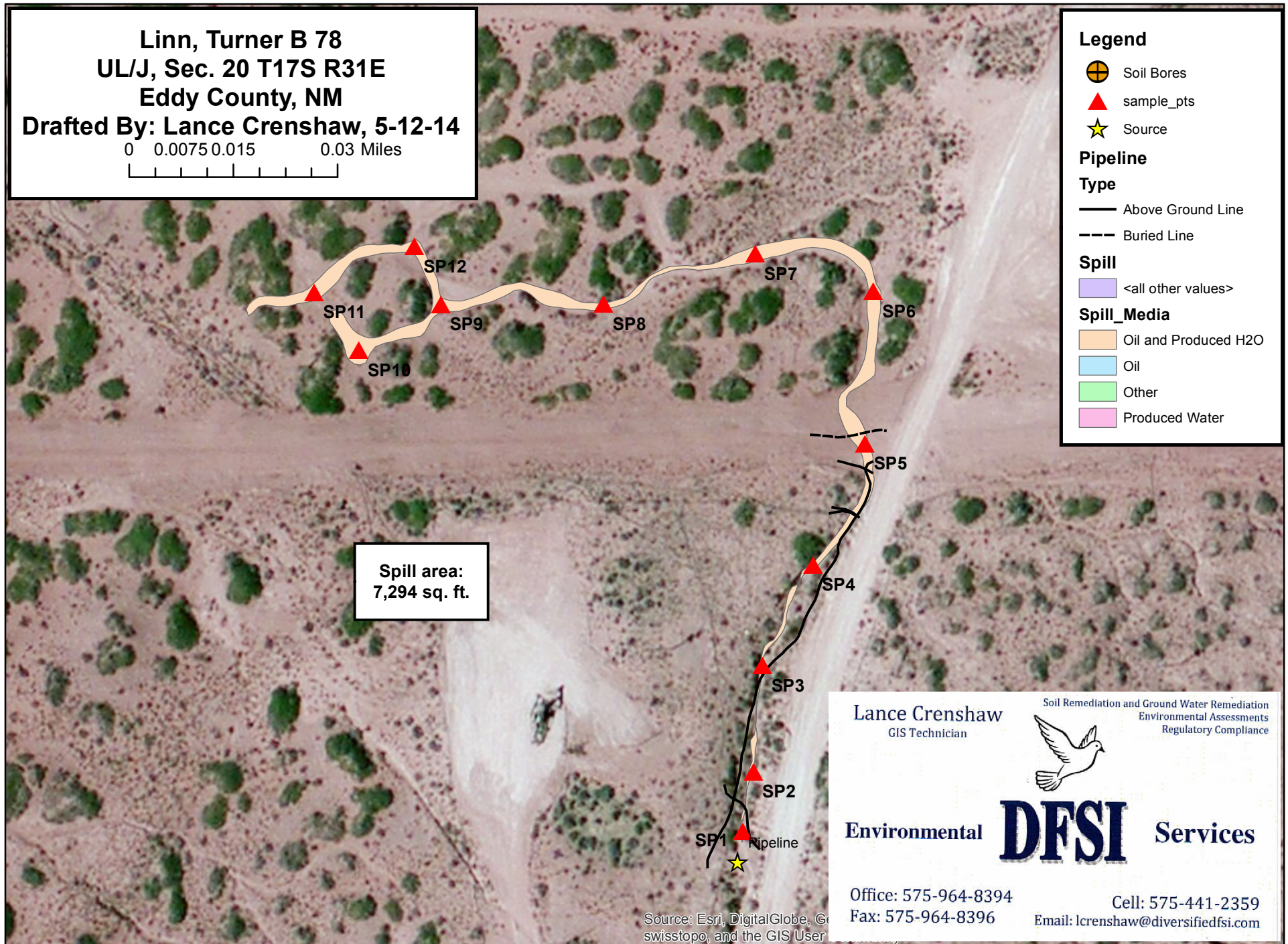
# Appendix III

## SITE MAP

---

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

# Site Diagram



# Appendix IV

## LABORATORY ANALYSES

---

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





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

---

May 28, 2014

BRIAN WALL

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: TURNER B #78

Enclosed are the results of analyses for samples received by the laboratory on 05/21/14 16:45.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**LINN OPERATING-HOBBS  
BRIAN WALL  
2130 W. BENDER  
HOBBS NM, 88240  
Fax To: (575) 738-1740Received: 05/21/2014  
Reported: 05/28/2014  
Project Name: TURNER B #78  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 05/20/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson**Sample ID: SP 1 @ 3' (H401565-01)**

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	05/27/2014	ND	2.25	113	2.00	0.180	
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350	
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12	
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04	
Total BTEx	<0.300	0.300	05/27/2014	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	05/27/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/25/2014	ND	201	101	200	3.56	
DRO >C10-C28	<10.0	10.0	05/25/2014	ND	221	110	200	6.31	

Surrogate: 1-Chlorooctane 124 % 65.2-140

Surrogate: 1-Chlorooctadecane 121 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 05/21/2014  
 Reported: 05/28/2014  
 Project Name: TURNER B #78  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 05/21/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 4' (H401565-02)**

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	05/27/2014	ND	2.25	113	2.00	0.180		
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350		
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12		
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04		
Total BTEx	<0.300	0.300	05/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	192	16.0	05/27/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/25/2014	ND	201	101	200	3.56	
DRO >C10-C28	<10.0	10.0	05/25/2014	ND	221	110	200	6.31	

Surrogate: 1-Chlorooctane 124 % 65.2-140

Surrogate: 1-Chlorooctadecane 126 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 05/21/2014  
 Reported: 05/28/2014  
 Project Name: TURNER B #78  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 05/21/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 3 @ 4' (H401565-03)**

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	05/27/2014	ND	2.25	113	2.00	0.180		
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350		
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12		
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04		
Total BTEx	<0.300	0.300	05/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 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	128	16.0	05/27/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/25/2014	ND	201	101	200	3.56	
DRO >C10-C28	<10.0	10.0	05/25/2014	ND	221	110	200	6.31	

Surrogate: 1-Chlorooctane 91.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.3 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 4 @ 4' (H401565-04)**

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	05/27/2014	ND	2.25	113	2.00	0.180		
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350		
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12		
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04		
Total BTEx	<0.300	0.300	05/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 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	80.0	16.0	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<10.0	10.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 112 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 5 @ 3' (H401565-05)**

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	05/27/2014	ND	2.25	113	2.00	0.180		
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350		
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12		
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04		
Total BTEx	<0.300	0.300	05/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 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	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<10.0	10.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 109 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 05/21/2014  
 Reported: 05/28/2014  
 Project Name: TURNER B #78  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 05/21/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 6 @ 5' (H401565-06)**

BTX 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	05/27/2014	ND	2.25	113	2.00	0.180	
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350	
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12	
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04	
Total BTX	<0.300	0.300	05/27/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 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	448	16.0	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<10.0	10.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 99.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.7 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 05/21/2014  
 Reported: 05/28/2014  
 Project Name: TURNER B #78  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 05/21/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 7 @ 8' (H401565-07)**

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	05/27/2014	ND	2.25	113	2.00	0.180		
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350		
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12		
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04		
Total BTEx	<0.300	0.300	05/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 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	128	16.0	05/28/2014	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<50.0	50.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 118 % 65.2-140

Surrogate: 1-Chlorooctadecane 119 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 8 @ 6' (H401565-08)**

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	05/27/2014	ND	2.25	113	2.00	0.180	
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350	
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12	
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04	
Total BTEx	<0.300	0.300	05/27/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 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	48.0	16.0	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<10.0	10.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 112 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 9 @ 2' (H401565-09)**

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	05/27/2014	ND	2.25	113	2.00	0.180	
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350	
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12	
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04	
Total BTEx	<0.300	0.300	05/27/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 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	224	16.0	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<10.0	10.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 99.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.4 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 10 @ 2' (H401565-10)**

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	05/27/2014	ND	2.25	113	2.00	0.180	
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350	
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12	
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04	
Total BTEx	<0.300	0.300	05/27/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 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	160	16.0	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<50.0	50.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 11 @ 2' (H401565-11)**

BTX 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	05/27/2014	ND	2.25	113	2.00	0.180		
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350		
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12		
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04		
Total BTX	<0.300	0.300	05/27/2014	ND						

Surrogate: 4-Bromofluorobenzene (PID) 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	336	16.0	05/28/2014	ND	416	104	400	3.92		

TPH 8015M			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5		
DRO >C10-C28	32.3	10.0	05/26/2014	ND	210	105	200	20.0		

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/21/2014	Sampling Date:	05/21/2014
Reported:	05/28/2014	Sampling Type:	Soil
Project Name:	TURNER B #78	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 12 @ 2' (H401565-12)**

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	05/27/2014	ND	2.25	113	2.00	0.180	
Toluene*	<0.050	0.050	05/27/2014	ND	2.23	111	2.00	0.350	
Ethylbenzene*	<0.050	0.050	05/27/2014	ND	2.14	107	2.00	1.12	
Total Xylenes*	<0.150	0.150	05/27/2014	ND	6.72	112	6.00	2.04	
Total BTEx	<0.300	0.300	05/27/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	05/28/2014	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/26/2014	ND	199	99.7	200	21.5	
DRO >C10-C28	<10.0	10.0	05/26/2014	ND	210	105	200	20.0	

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

---

Cardinal Laboratories

\*=Accredited Analyte

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



---

Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

**(575) 393-2326 FAX (575) 393-2476**

Company Name: Linn Energy

Project Manager: Brian Wall

Address:

City:

Phone #:

Project #:

Project Name:

Project Location: Betty Turner B 78

Sampler Name: Michael Auer

P.O. #:

Company: Linn Energy

Attn: Brian Wall

Address:

City:

State:

Phone #:

Fax #:

State:

Zip:

City:

Project Owner:

Fax #:

FOR LAB USE ONLY

Lab I.D. H401505

Sample I.D.

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

DATE

TIME

CL

TPH

SEDA

Matrix

Preserv

Sampling

SP.10.3

SP.20.4

SP.30.4

SP.40.4

SP.50.3

SP.60.5

SP.70.8

SP.80.6

SP.90.2

SP.100.7

SP.110.1

SP.120.1

SP.130.1

SP.140.1

SP.150.1

SP.160.1

SP.170.1

SP.180.1

SP.190.1

SP.200.1

SP.210.1

SP.220.1

SP.230.1

SP.240.1

SP.250.1

SP.260.1

SP.270.1

SP.280.1

SP.290.1

SP.300.1

SP.310.1

SP.320.1

SP.330.1

SP.340.1

SP.350.1

SP.360.1

SP.370.1

SP.380.1

SP.390.1

SP.400.1

SP.410.1

SP.420.1

SP.430.1

SP.440.1

SP.450.1

SP.460.1

SP.470.1

SP.480.1

SP.490.1

SP.500.1

SP.510.1

SP.520.1

SP.530.1

SP.540.1

SP.550.1

SP.560.1

SP.570.1

SP.580.1

SP.590.1

SP.600.1

SP.610.1

SP.620.1

SP.630.1

SP.640.1

SP.650.1

SP.660.1

SP.670.1

SP.680.1

SP.690.1

SP.700.1

SP.710.1

SP.720.1

SP.730.1

SP.740.1

SP.750.1

SP.760.1

SP.770.1

SP.780.1

SP.790.1

SP.800.1

SP.810.1

SP.820.1

SP.830.1

SP.840.1

SP.850.1

SP.860.1

SP.870.1

SP.880.1

SP.890.1

SP.900.1

SP.910.1

SP.920.1

SP.930.1

SP.940.1

SP.950.1

SP.960.1

SP.970.1

SP.980.1

SP.990.1

SP.1000.1

SP.1010.1

SP.1020.1

SP.1030.1

SP.1040.1

SP.1050.1

SP.1060.1

SP.1070.1

SP.1080.1

SP.1090.1

SP.1100.1

SP.1110.1

SP.1120.1

SP.1130.1

SP.1140.1

SP.1150.1

SP.1160.1

SP.1170.1

SP.1180.1

SP.1190.1

SP.1200.1

SP.1210.1

SP.1220.1

SP.1230.1

SP.1240.1

SP.1250.1

SP.1260.1

SP.1270.1

SP.1280.1

SP.1290.1

SP.1300.1

SP.1310.1

SP.1320.1

SP.1330.1

SP.1340.1

SP.1350.1

SP.1360.1

SP.1370.1

SP.1380.1

SP.1390.1

SP.1400.1

SP.1410.1

SP.1420.1

SP.1430.1

SP.1440.1

SP.1450.1

SP.1460.1

SP.1470.1

SP.1480.1

SP.1490.1

SP.1500.1

SP.1510.1

SP.1520.1

SP.1530.1

SP.1540.1

SP.1550.1

SP.1560.1

SP.1570.1

SP.1580.1

SP.1590.1

SP.1600.1

SP.1610.1

SP.1620.1

SP.1630.1

SP.1640.1

SP.1650.1

SP.1660.1

SP.1670.1

SP.1680.1

SP.1690.1

SP.1700.1

SP.1710.1

SP.1720.1

SP.1730.1

SP.1740.1

SP.1750.1

SP.1760.1

SP.1770.1

SP.1780.1

SP.1790.1

SP.1800.1

SP.1810.1

SP.1820.1

SP.1830.1

SP.1840.1

SP.1850.1

SP.1860.1

SP.1870.1

SP.1880.1

SP.1890.1

SP.1900.1

SP.1910.1

SP.1920.1

SP.1930.1

SP.1940.1

SP.1950.1

SP.1960.1

SP.1970.1

SP.1980.1

SP.1990.1

SP.2000.1

SP.2010.1

SP.2020.1

SP.2030.1

SP.2040.1

SP.2050.1

SP.2060.1

SP.2070.1

SP.2080.1

SP.2090.1

SP.2100.1

SP.2110.1

SP.2120.1

SP.2130.1

SP.2140.1

SP.2150.1

SP.2160.1

SP.2170.1

SP.2180.1

SP.2190.1

SP.2200.1

SP.2210.1

SP.2220.1

SP.2230.1

SP.2240.1

SP.2250.1

SP.2260.1

SP.2270.1

SP.2280.1

SP.2290.1

SP.2300.1

SP.2310.1

SP.2320.1

SP.2330.1

SP.2340.1

SP.2350.1

SP.2360.1

SP.2370.1

SP.2380.1

SP.2390.1

SP.2400.1

SP.2410.1

SP.2420.1

SP.2430.1

SP.2440.1

SP.2450.1

SP.2460.1

SP.2470.1

SP.2480.1

SP.2490.1

SP.2500.1

SP.2510.1

SP.2520.1

SP.2530.1

SP.2540.1

SP.2550.1

SP.2560.1

SP.2570.1

SP.2580.1

SP.2590.1

SP.2600.1

SP.2610.1

SP.2620.1

SP.2630.1

SP.2640.1

SP.2650.1

SP.2660.1

SP.2670.1

SP.2680.1

SP.2690.1

SP.2700.1

SP.2710.1

SP.2720.1

SP.2730.1

SP.2740.1

SP.2750.1

SP.2760.1

SP.2770.1

SP.2780.1

SP.2790.1

SP.2800.1

SP.2810.1

SP.2820.1

SP.2830.1

SP.2840.1

SP.2850.1

SP.2860.1

SP.2870.1

SP.2880.1

SP.2890.1



### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

#### BILL TO

#### ANALYSIS REQUEST

Company Name: <u>Lim Energy</u>		P.O. #:																																													
Project Manager: <u>Brian Weil</u>		Company: <u>Lim Energy</u>																																													
Address:		Attn: <u>Brian Weil</u>																																													
City:		Address:																																													
State:		City:																																													
Zip:		State:																																													
Phone #:		Phone #:																																													
Fax #:		Fax #:																																													
Project #:		Project Owner:																																													
Project Name:		Project Location: <u>Turn B 78</u>																																													
Sampler Name: <u>Michael Alvar</u>		Sample Location: <u>Turn B 78</u>																																													
FOR LAB USE ONLY		Matrix		PRESERV		SAMPLING																																									
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME		CL		TPT		BTEX													
<u>H40565</u>		<u>11 spill @ 2'</u>		<u>91</u>		<u>1</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>5/21/14</u>		<u>2:45</u>		<u>X</u>		<u>X</u>		<u>X</u>													
<u>12 spill @ 2'</u>		<u>91</u>		<u>1</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>X</u>		<u>5/21/14</u>		<u>3:30</u>		<u>X</u>		<u>X</u>		<u>X</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 analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:

Date:

Received By:

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

Relinquished By:

Date:

Received By:

E-mail Results To:

Ngladden@diversifiedfsi.com

Rpons@diversifiedfsi.com

Tjennings@diversifiedfsi.com

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition

Cool ☒ Yes ☐ No

Intact ☒ Yes ☐ No

CHECKED BY:

(initials)



## Diversified Environmental Services

Company Name:	<u>Linn Energy</u>
Location Name:	<u>Turner B#78</u>

SP Date:	5/14/2014	5/20/2014
Rel Date:	5/7/2014	

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

## Diversified Environmental Services

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

## Diversified Environmental Services

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

## Diversified Environmental Services

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

# Appendix V

FINAL C-141

---

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

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 Inc.	Contact	E.L. Gonzales
Address	2130 W Bender Blvd Hobbs, NM 88240	Telephone No.	575-738-1739
Facility Name	Turner B 78	Facility Type	Injection
Surface Owner	Federal	Mineral Owner	API No. 30-015-05303

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	20	17S	31E	2080	South	1980	East	Eddy

Latitude 32.8185247710611 Longitude -103.889788634368

### NATURE OF RELEASE

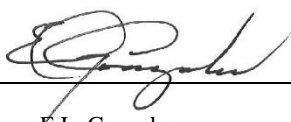
Type of Release Produced Water	Volume of Release 17 bbls	Volume Recovered 5 bbls
Source of Release 2" Fiberglass collar	Date and Hour of Occurrence 05/07/2014	Date and Hour of Discovery 05/07/2014 0930
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? M. Burton-BLM M.Bratcher-NM OCD	
By Whom? Brian Wall	Date and Hour 05/08/2014 0645	
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.\* Replaced 400ft 2 inch fiber glass line from well head number 78 west. Crew pressured up on line and noticed pressure dropped, shut in valve and drove towards well head, found the same line further down west about another 800ft that blew out of the collar.

Describe Area Affected and Cleanup Action Taken.\* Leak ran north west through arroyo, 1236 feet long by 2ft wide. Estimated barrels lost 17. Water truck was used on leak site and picked 5barrels/BSG roustabout gang fixed line, Diversified back hoe was used to dig out line. Scrape and remove contaminated soils. Haul to approved disposal and haul back clean soils to replace.

On May 14, 2014, DFSI personnel obtained surface samples from the release site, which included SP1-SP12. Each surface sample was field tested for chlorides and TPH and all returned above the allowed limits. On March 20, 2014, DFSI returned to the site to complete the delineation process for this location. Field samples were taken on twelve sample points, each sample was tested for chloride levels as well as TPH. The TPH samples were performed using a Mini Rae Photoionization Detector (PID). All clean field samples found under the BLM/NMOCD standards, were taken to Cardinal Lab of Hobbs to obtain confirmation samples. Results are attached (Appendix IV). On October 22, 2014, DFSI employees dug out a 65' x 65' x 8' deep hole on the pad of neighboring well Turner B 96. The bottom of the hole was lined with a 20 mil liner. From October 22, 2014 to November 13, 2015, the entire 7294 sq. ft. area of compacted soil from the Turner B 78 was excavated to 2'bgs. The contaminated soil was then buried in the hole at the Turner B 96. After the contaminated area was completely dug out and transferred to the hole at the Turner B 96, a cap was installed at 4' using a 20 mil liner. The remainder of the dug-out hole was backfilled with clean soil and the area will be reseeded when approved by Linn Energy. The contaminated area around SP7 and SP8 was also excavated and lined at 4' with a 20mil liner and the remainder of the clean soil that was excavated for the deep bury area was used as Diversified Field Service, Inc.

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

Signature: 	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: E.L. Gonzales	Approved by Environmental Specialist:		
Title: Production Supervisor	Approval Date:	Expiration Date:	
E-mail Address: elgonzales@linenergy.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 04/27/2015	Phone: 505-504-8002		

\* Attach Additional Sheets If Necessary