



# Turner B #99

## REMEDIATION WORK PLAN

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API No. 30-015-26621

Release Date: 02/07/2012

Unit Letter L, Section 29, Township 17 South, Range 31 East

RP# 2RP-1054

BLM Event# NU12070TG

**April 20, 2014**

**Prepared by:**

Michael Burton, Environmental Operations Director  
Diversified Field Service, Inc.  
3412 N. Dal Paso  
Hobbs, NM 88240  
Phone: (575)964-8394  
Fax: (575)393-8396

Mike Bratcher  
Environmental Specialist  
NM Oil Conservation District – Division 2  
811 S. First St.  
Artesia, NM 88210

RE: **Linn Energy Turner B #99 – Remediation Work Plan**  
UL/L, Section 29, T17S, R31E  
API No. 30-015-26621  
NMOCD Case #: 2R-1054

Mr. Bratcher,

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 spill resulted from an over pressured line, releasing a total of 5 barrels of produced water and 0.5 barrels of oil, with 2 barrels of produced water and 10 gallons of oil recovered. The impacted area is on the side of the lease road adjacent to the pad. An initial C-141 was submitted to the NMOCD on October 14, 2011, and approved on February 28, 2012 (Appendix I).

### **Site Assessment and Delineation**

On June 30, 2014, DFSI personnel were on site to obtain samples within the leak area (Figure 1). Eight 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). Field samples were submitted for analysis at Cardinal Laboratories of Hobbs, NM to obtain confirmation, resulting in concentrations below NMOCD and BLM regulatory guidelines at a depth of 2' bgs, with the exception of SP1, which occurred at 5' bgs (Appendix II).

DFSI has conducted a groundwater study of the area and has determined, according to the New Mexico Office of the State Engineer, there is no groundwater beneath this site. Therefore, no eminent danger of groundwater impact or threat to life is anticipated (Appendix III).

## Conclusion

After careful review DFSI on behalf of Linn Energy would like to propose the following:

Excavate the area around SP1 to a depth of 4' bgs. The remainder of the release area will be scraped 6" bgs. The entire area will be backfilled with clean, imported soil to ground surface and contoured to the surrounding area and then seeded with an approved BLM-NMOCD mix.

Following the approval of the above plan, DFSI will submit all proper closure documentation to the NMOCD and BLM in accordance to the State and Federal Guidelines set forth.

Please feel free to contact me with any questions concerning this remediation plan request.

Sincerely,



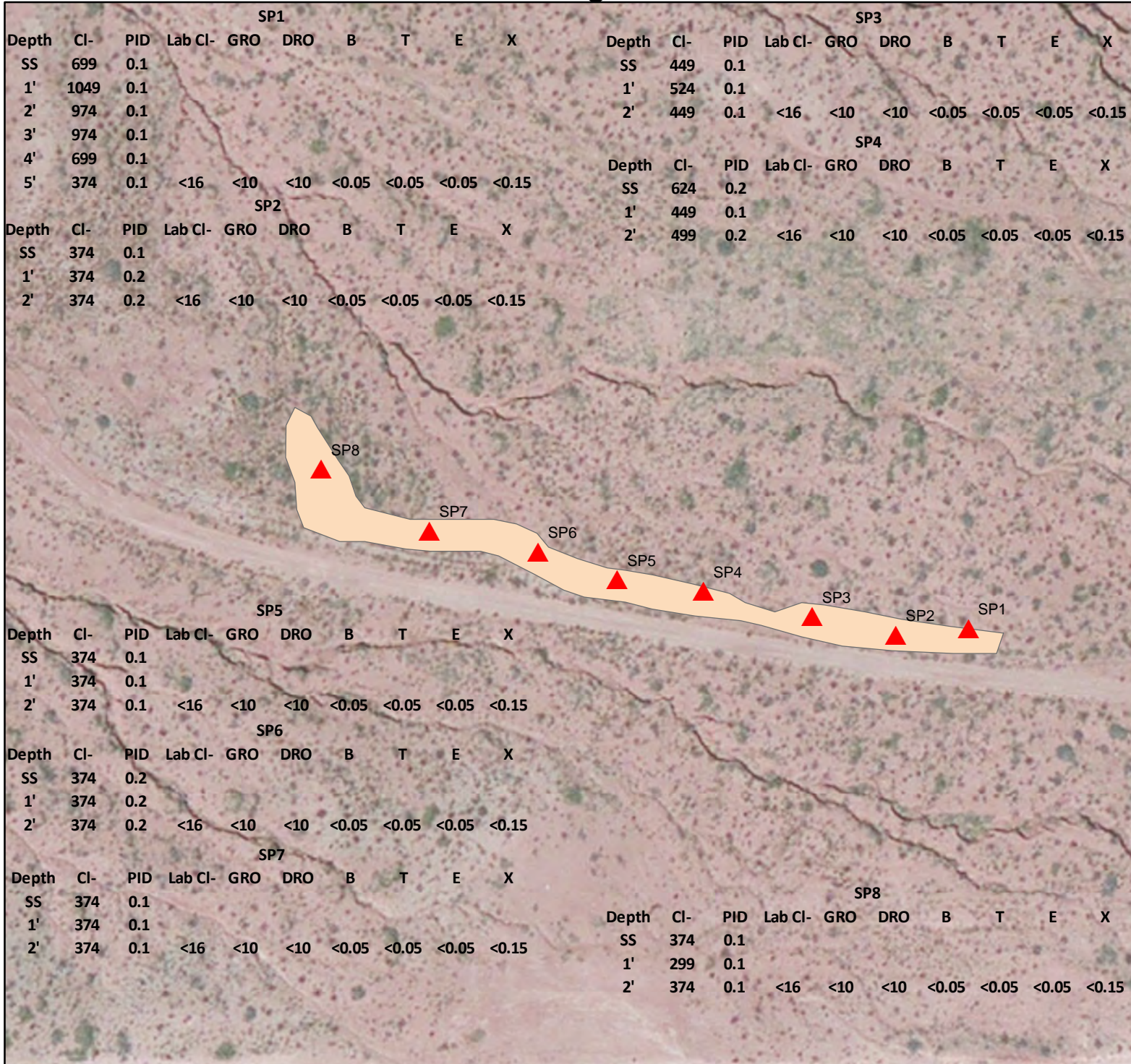
Michael Burton  
Environmental Operations Director | Diversified Field Service, Inc.  
206 West Snyder | Hobbs, NM 88240  
Office: (575)964-8394 | Mobile: (575)390-5454  
Fax: (575)964-8396 | Email: Mburton@diversifiedfsi.com

cc Shelly Tucker

Figure 1 – Site Map  
Appendix I – Initial C-141  
Appendix II – Laboratory Analysis  
Appendix III – Groundwater Study



# Site Diagram



## Legend

▲ Sample Points

Oil and Produced Water (15,461 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  
Turner B #99  
Unit Letter L, Section 29, T17S, R31E  
Eddy County, NM  
API #: 30-015-26621  
NMOCD Case #: 2R-1054**

Mapped: 07/29/2014 LC  
Drafted by: L. Flores  
04/20/2016

0 25 50 100 150 200  
Feet

# Appendix I

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  
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

RECEIVED

FEB 28 2012

NMOCD ARTESIA

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

REVISED

Release Notification and Corrective Action

NMLB1206131638

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Linn Operating 269324	Contact: Joë Hernandez
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739
Facility Name: Turner B #99	Facility Type: Oil Well
Surface Owner: Federal	Mineral Owner: Federal
API No.: 3001526621	

LOCATION OF RELEASE

Unit Letter L	Section 29	Township 17S	Range 31E	Feet from the 2590	North/South Line South	Feet from the 100	East/West Line West	County Eddy
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Latitude: 32.8054229524098 Longitude: -103.900125487933

NATURE OF RELEASE

Type of Release: Produced Water/ Oil Condensate	Volume of Release: 5 / .5	Volume Recovered: 2 / 10gal.
Source of Release: Polly Pipeline	Date and Hour of Occurrence: 02/07/2012 1:00pm	Date and Hour of Discovery: 02/07/2012 1:30pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? M. Bratcher-NM OCD Terry Gregston-BLM	
By Whom? Joe Hernandez	Date and Hour 02/07/2012 3:00pm	
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.\*: 2" Flow line pressured up and clamp gave out

Describe Area Affected and Cleanup Action Taken.\* : leaking out 151ft x 2ft wide on side of lease road and next to unit TB #99. A.C.D. Vac Truck. Further remedial action pending.

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: 

Printed Name: Joe Hernandez

Title: Production Foreman

E-mail Address: jhernandez@innenergy.com

Date: 2/28/2012

Phone: 575-942-9492

OIL CONSERVATION DIVISION

Approved by District Supervisor: 

Approval Date:

MAR 01 2012

Expiration Date:

Conditions of Approval:

Attached ☐

Remediation per OCD Rules &  
Guidelines. SUBMIT REMEDIATION  
PROPOSAL NOT LATER THAN:

4/1/2012

2RP-1054

\* Attach Additional Sheets If Necessary

# Appendix II

## LABORATORY ANALYSIS

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



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

---

July 07, 2014

BRIAN WALL

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: TURNER B #99

Enclosed are the results of analyses for samples received by the laboratory on 07/01/14 14:50.

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

Received: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 1 @ 5' (H401996-01)**

BTEX 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/03/2014	ND	1.83	91.3	2.00	23.7	
Toluene*	<0.050	0.050	07/03/2014	ND	1.60	79.9	2.00	24.4	
Ethylbenzene*	<0.050	0.050	07/03/2014	ND	1.50	74.9	2.00	23.3	
Total Xylenes*	<0.150	0.150	07/03/2014	ND	4.68	78.0	6.00	25.1	
Total BTEX	<0.300	0.300	07/03/2014	ND					

Surrogate: Dibromofluoromethane 97.9 % 61.3-142

Surrogate: Toluene-d8 104 % 71.3-129

Surrogate: 4-Bromofluorobenzene 93.7 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69	

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	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	188	93.9	200	1.88	

Surrogate: 1-Chlorooctane 112 % 65.2-140

Surrogate: 1-Chlorooctadecane 122 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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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: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 2 @ 2' (H401996-02)**

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEX	<0.300	0.300	07/04/2014	ND						

*Surrogate: Dibromofluoromethane* 102 % 61.3-142  
*Surrogate: Toluene-d8* 106 % 71.3-129  
*Surrogate: 4-Bromofluorobenzene* 99.3 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	188	93.9	200	1.88	

*Surrogate: 1-Chlorooctane* 109 % 65.2-140  
*Surrogate: 1-Chlorooctadecane* 115 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 3 @ 2' (H401996-03)**

BTEx 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEx	<0.300	0.300	07/04/2014	ND						

*Surrogate: Dibromofluoromethane* 99.9 % 61.3-142  
*Surrogate: Toluene-d8* 105 % 71.3-129  
*Surrogate: 4-Bromofluorobenzene* 92.7 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	178	88.9	200	0.368	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	188	93.9	200	1.88	

*Surrogate: 1-Chlorooctane* 109 % 65.2-140  
*Surrogate: 1-Chlorooctadecane* 120 % 63.6-154

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\*=Accredited Analyte

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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: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 4 @ 2' (H401996-04)**

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEX	<0.300	0.300	07/04/2014	ND						

Surrogate: Dibromofluoromethane 100 % 61.3-142

Surrogate: Toluene-d8 105 % 71.3-129

Surrogate: 4-Bromofluorobenzene 93.8 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	183	91.5	200	1.68	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	199	99.5	200	0.594	

Surrogate: 1-Chlorooctane 95.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.8 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/01/2014  
Reported: 07/07/2014  
Project Name: TURNER B #99  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: SP. 5 @ 2' (H401996-05)**

BTEx 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEx	<0.300	0.300	07/04/2014	ND						

Surrogate: Dibromofluoromethane 99.2 % 61.3-142  
Surrogate: Toluene-d8 104 % 71.3-129  
Surrogate: 4-Bromofluorobenzene 96.7 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	183	91.5	200	1.68	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	199	99.5	200	0.594	

Surrogate: 1-Chlorooctane 91.1 % 65.2-140  
Surrogate: 1-Chlorooctadecane 94.5 % 63.6-154

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\*=Accredited Analyte

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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: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 6 @ 2' (H401996-06)**

BTEx 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEx	<0.300	0.300	07/04/2014	ND						

Surrogate: Dibromofluoromethane 96.6 % 61.3-142  
 Surrogate: Toluene-d8 103 % 71.3-129  
 Surrogate: 4-Bromofluorobenzene 94.9 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	183	91.5	200	1.68	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	199	99.5	200	0.594	

Surrogate: 1-Chlorooctane 111 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 116 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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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: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 7 @ 2' (H401996-07)**

BTEx 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEx	<0.300	0.300	07/04/2014	ND						

Surrogate: Dibromofluoromethane 99.2 % 61.3-142  
 Surrogate: Toluene-d8 102 % 71.3-129  
 Surrogate: 4-Bromofluorobenzene 95.0 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	183	91.5	200	1.68	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	199	99.5	200	0.594	

Surrogate: 1-Chlorooctane 113 % 65.2-140  
 Surrogate: 1-Chlorooctadecane 124 % 63.6-154

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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: 07/01/2014  
 Reported: 07/07/2014  
 Project Name: TURNER B #99  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 06/30/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Kathy Perez

**Sample ID: SP. 8 @ 2' (H401996-08)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/04/2014	ND	1.83	91.3	2.00	23.7		
Toluene*	<0.050	0.050	07/04/2014	ND	1.60	79.9	2.00	24.4		
Ethylbenzene*	<0.050	0.050	07/04/2014	ND	1.50	74.9	2.00	23.3		
Total Xylenes*	<0.150	0.150	07/04/2014	ND	4.68	78.0	6.00	25.1		
Total BTEX	<0.300	0.300	07/04/2014	ND						

*Surrogate: Dibromofluoromethane* 95.1 % 61.3-142  
*Surrogate: Toluene-d8* 107 % 71.3-129  
*Surrogate: 4-Bromofluorobenzene* 96.9 % 65.7-141

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	07/03/2014	ND	400	100	400	7.69		

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	07/02/2014	ND	183	91.5	200	1.68	
DRO >C10-C28	<10.0	10.0	07/02/2014	ND	199	99.5	200	0.594	

*Surrogate: 1-Chlorooctane* 109 % 65.2-140  
*Surrogate: 1-Chlorooctadecane* 118 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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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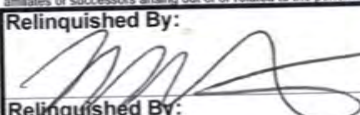
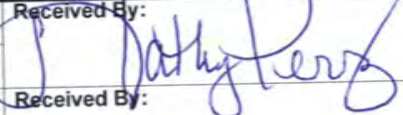
Celey D. Keene, Lab Director/Quality Manager

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Linn Energy</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>															
Project Manager: <u>Brian Wall</u>				P.O. #:																			
Address:				Company: <u>Linn Energy</u>																			
City:		State:		Zip:		Attn: <u>Brian Wall</u>																	
Phone #:		Fax #:		Address:																			
Project #:		Project Owner:		City:																			
Project Name:				State:																Zip:			
Project Location: <u>Turner B99</u>				Phone #:																			
Sampler Name: <u>Michael Alue</u>				Fax #:																			
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									
<u>H401996</u>																							
1	sp. 1 @ 5'	8	1			X				X			6/30/14	12:00	X	X	X						
2	sp. 2 @ 2'	8	1			X				X			↑	12:05	X	X	X						
3	sp. 3 @ 2'	8	1			X				X				12:10	X	X	X						
4	sp. 4 @ 2'	8	1			X				X				12:15	X	X	X						
5	sp. 5 @ 2'	8	1			X				X				12:20	X	X	X						
6	sp. 6 @ 2'	8	1			X				X				12:25	X	X	X						
7	sp. 7 @ 2'	8	1			X				X				12:30	X	X	X						
8	sp. 8 @ 2'	8	1			X				X				12:35	X	X	X						

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>6/1/14</u>	Received By: 	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: <u>9:50</u>	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One)	Date:	Time:	REMARKS:	
Sampler - UPS - Bus - Other: <u>3.2° 154</u>	Sample Condition	Cool Intact	E-mail Results To:	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Ngladden@diversifiedfsi.com	
			Rpons@diversifiedfsi.com	
			Tjennings@diversifiedfsi.com	

# Appendix III

## GROUNDWATER STUDY

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



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<a href="#">RA 11590 POD1</a>			ED	2	1	3	32	17S	31E	603315	3628545		158	
<a href="#">RA 11590 POD3</a>			ED	3	1	2	32	17S	31E	603932	3629260		60	
<a href="#">RA 11590 POD4</a>			ED	4	1	1	32	17S	31E	603308	3629253		55	

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

**Record Count:** 3

### PLSS Search:

**Section(s):** 19, 20, 21, 28, 29, 30, 31, 32, 33  
**Township:** 17S  
**Range:** 31E