

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

RE: Linn Energy Turner B #78 – Remediation Work Plan
UL/J, Section 20, T17S, R31E
API No. 30-015-05303

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 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 was submitted to the NMOCD on May 8th, 2014 (The 2RP number has yet to be determined).

Site Assessment and Delineation

On May 14th, 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 20th, 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 chlorides 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. And the results confirmed that bottom samples of each sample point were as follows:

SP1: 3' – 400 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP2: 4' – 192 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP3: 4' – 128 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP4: 4' – 80 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP5: 3' – 16 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP6: 5' – 448 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP7: 8' – 128 mg/kg chlorides, <0.30 mg/kg BTEX and <50 mg/kg GRO/DRO
SP8: 6' – 48 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP9: 2' – 224 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP10: 2' – 160 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO
SP11: 2' – 336 mg/kg chlorides, <0.30 mg/kg BTEX and <32.3 mg/kg GRO/DRO
SP12: 2' - <16 mg/kg chlorides, <0.30 mg/kg BTEX and <10 mg/kg GRO/DRO

DFSI has conducted a groundwater study of the area and has determined that according to the New Mexico Office of the State Engineer the average depth to groundwater for this area is 236 foot below ground surface. Therefore, no eminent danger of groundwater impact or threat to life is anticipated.

Conclusion

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

Option 1

Excavate the entire 7294 sq. ft. area of compacted soil to 2'bgs, haul the contaminated soil to an approved disposal site, and excavate another foot in depth at SP2 and SP4 (for a total of 3'), backfill with fresh imported topsoil. Then reseed the entire area with a native vegetation mixture as per the BLM's guidelines for returning the site to its natural state. Due to buried lines in the area of SP5, a hydro-vac truck will be used to properly and safely excavate around the live line.

Option 2

Excavate the entire 7294 sq. ft. area of compacted soil to 2'bgs. Excavate a 65' x 65' x 8' deep hole, line the bottom and sides with a 20 mil liner, bury the contaminated soil, install a cap at 4' by using a 20 mil liner and backfill with the clean excavated soil and reseed area. The deep bury area will be buried at the nearest Linn Energy well pad. The contaminated area around SP7 and SP8 will also be excavated and lined at 4' with a 20mil liner and the remainder of the clean soil that was excavated for the deep bury area will be used as well as pushing in the native sand for surface reseeding procedures to return this site to its natural state. Some imported topsoil maybe needed to finalize this procedure to ensure proper growth.

Side wall samples will be taking during the excavation procedure to ensure that all contaminants have been remediated. These samples will also be taken to an approved lab for confirmation before backfilling takes place.

Following the approval of one of the above plans, either Option 1 or Option 2 above and after the remediation has taken place, 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,

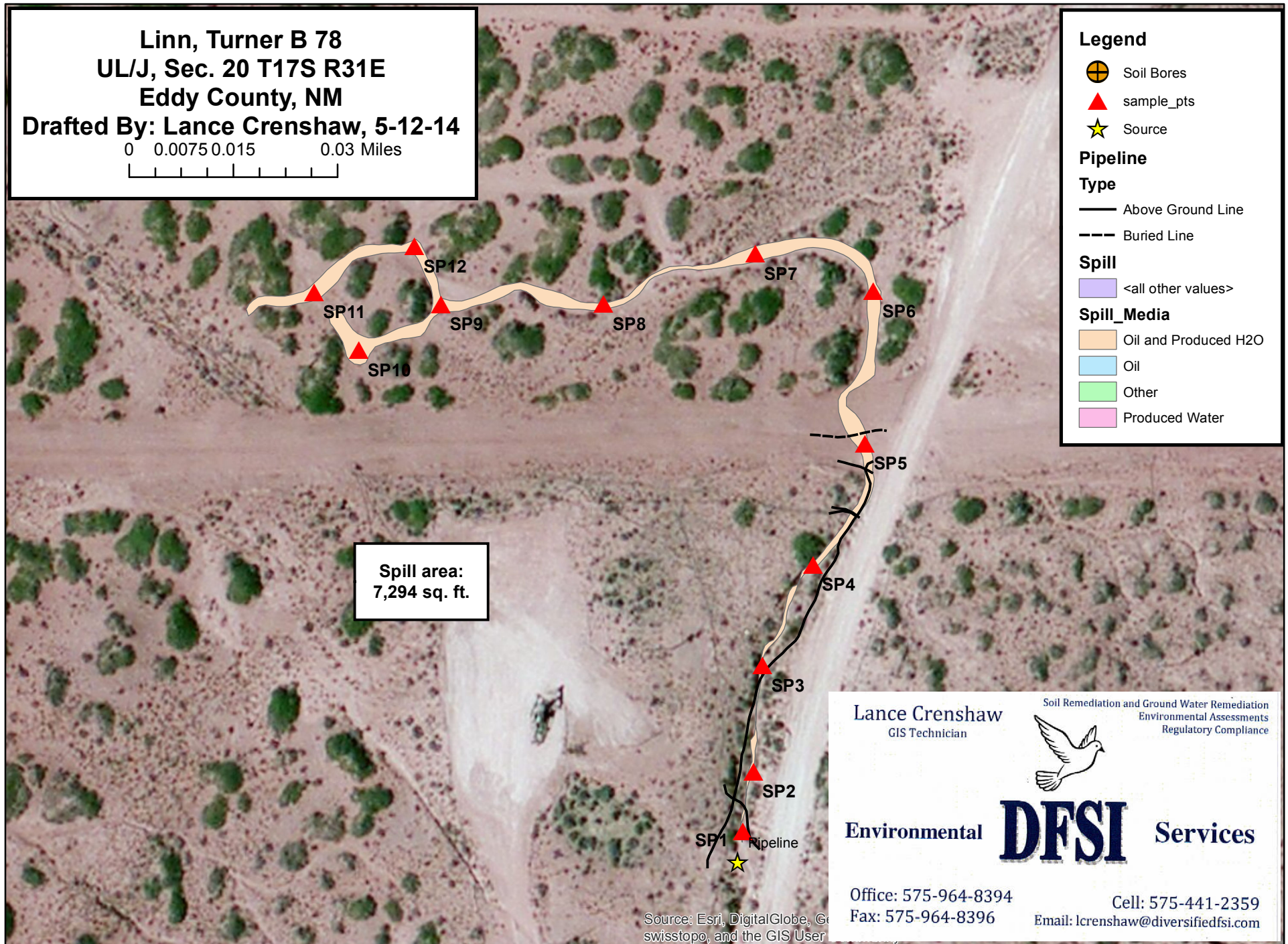


Natalie Gladden
Environmental Consultant
Diversified Field Service, Inc.
315 S. Leech
Hobbs, NM 88240
Office: (575)964-8394
Mobile: (575)602-1786
Fax: (575)964-8396
Email: ngladden@diversifiedfsi.com

cc Jennifer Van Curen
NM Bureau of Land Management

Attachments: Initial Form C-141
Site/Sample Map
Sample Data
Lab Analytical Data

Site Diagram



Diversified Environmental Services

Company Name: Linn Energy
Location Name: Turner B#78

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



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.

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

Sampling Date: 05/20/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 1 @ 3' (H401565-01)

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) 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

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Celey D. Keene, Lab Director/Quality Manager

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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)

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) 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	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

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 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)

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) 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	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

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 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

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 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)

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	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

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 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

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 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 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, SM4500CI-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

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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:	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

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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:	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

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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:	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

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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

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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 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, 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	05/28/2014	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

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Lin Energy
Project Manager: Brian Wall

P.O. #:
Company: Lin Energy
Attn: Brian Wall

Address:

City: State: Zip:

Phone #: Fax #:

Project #: Project Owner:

Project Name:

Project Location: Del Rio Turn B 78

Sample Name: Michael Auer

FOR LAB USE ONLY

Matrix

Preserv

Sampling

Lab I.D. Sample I.D.

H401505

(G)RAB OR (C)OMP. # CONTAINERS

DATE TIME

SP103

5/20/14 8:30

SP204

5/21/14 8:40

SP304

5/21/14 9:30

SP404

5/21/14 10:10

SP503

5/21/14 11:05

SP605

5/21/14 12:30

SP708

5/21/14 1:45

SP806

5/21/14 2:00

SP902

5/21/14 2:20

SP1007

5/21/14 2:30

Relinquished By: Michael Auer

Received By: Michael Auer

Date: 5/14/14

Time: 4:45

Relinquished By: Michael Auer

Received By: Michael Auer

Delivered By: (Circle One)

Sample Condition

Cool ☒ Intact ☒

Checked By: Michael Auer

Sampler - UPS - Bus - Other:

5.62



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

[illegible]