

MGU #002

CLOSURE REPORT

API No. 30-025-42628

Release Date: October 25, 2015

Unit Letter O, Section 21, Township 17 South, Range 32 East

July 5, 2016

Prepared by:

Laura Flores Environmental Department Diversified Field Service, Inc. 206 W. Snyder Hobbs, NM 88240 Phone: (575)964-8394 Fax: (575)393-8396

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Diversified Field Service, Inc. 3412 N. Dal Paso Hobbs, NM 88240 (575) 964-8394

MGU #002

1 INTRODUCTION

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

The site is located east of Maljamar, NM, in Lea County. The release resulted from a pin hole developing in a 2" steel line, impacting a two-track lease road and pasture area east of the site. A total of approximately ½ barrel of oil and produced water was released with none recovered. The impacted area is located within the lease road. An initial C-141 was submitted to the NMOCD on October 30, 2015 (Appendix I).

2 SITE ACTIVITIES

On October 29, 2015, DFSI personnel were on site to scrape the visibly impacted area. On November 6, 2015, DFSI personnel returned to the site to obtain samples within the leak area (Figure 1). Seven 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).

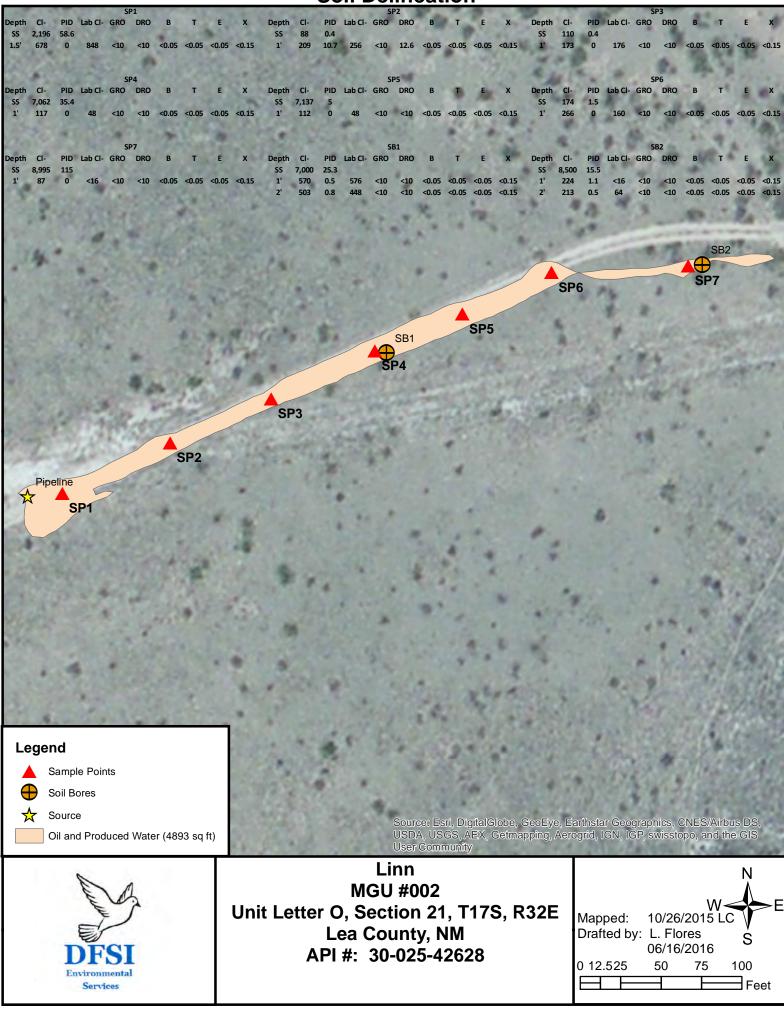
To further delineate the site, on November 19, 2015, DFSI personnel installed two soil bores to obtain confirmation samples. All clean field samples under NMOCD and BLM regulatory guidelines were submitted for laboratory analysis at Cardinal Laboratories of Hobbs, NM to obtain confirmation (Appendix II).

A work plan was submitted to BLM on January 19, 2016, and approved by BLM on January 20, 2016, with stipulations. Beginning June 9, 2016, DFSI personnel were on site to excavate the release area. Prior to backfilling, confirmatory samples taken at 1.5 ft at SP1 and 1 ft at the remaining six samples were submitted for analysis at Cardinal Laboratories of Hobbs, NM to obtain confirmation (Appendix III). The excavation was backfilled with clean, imported topsoil on the pasture area and caliche within the road to ground surface and contoured to the surrounding area (Appendix IV). Contaminated soil was properly disposed of at an NMOCD approved facility.

3 CONCLUSION

According to the U.S. Geological Survey and the NM Office of the State Engineer, depth to groundwater in the area averages 106 ft. bgs. Based on the report and work completed, any remaining chloride and BTEX components in the vadose zone will not affect groundwater beneath this site, with vegetation expected to return to normal; therefore, DFSI, on behalf of Linn, submits the final C-141 (Appendix V) and respectfully requests the closure of this regulatory file.

Soil Delineation



Appendix I

INITIAL C-141

Diversified Field Service, Inc. 206 W. Snyder Hobbs, NM 88240 (575) 964-8394 Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release	Notification and Corre	ective Action		
	OPERATO	R 🛛	Initial Report	Final Report
Name of Company Linn Operating Inc.	Contact E.L	. Gonzales		
Address 2130 W Bender Blvd Hobbs, NM 8	Telephone No.	575-738-1739		
Facility Name MGU #2	Facility Type	Injection		
Surface Owner, Federal	Mineral Owner		API No. 30-025-4	7678

LOCATION OF RELEASE

									_
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County	
Ο	21	17S	32E	400	South	2100	East	Lea	

Latitude 32.8139238102197 Longitude -103.769739540332

NATURE OF RELEASE

Type of Release Oil	Volume of Release ¹ / ₂ bbl	Volume Recovered 0
Source of Release Steel Pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
	10/25/2015	10/25/2015 10:00am
Was Immediate Notice Given?	If YES, To Whom?	
Yes No Not Required		
By Whom?	Date and Hour	
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	tercourse.
🗌 Yes 🖾 No		
If a Watercourse was Impacted, Describe Fully.*		
n a watercourse was impacted, Describe Funy.		
Describe Cause of Problem and Remedial Action Taken.* Today while r	unning route there was an apparent re	lease of fluid that was 1000 ft. west of the
MGU #2 wellhead+B6 alongside of the road coming from a 2 inch steel f		
proceeded to shut in the wells that the line belonged to. Once shut off we	were able to find that the 2 inch steel	line and a small pin hole the fluid was
coming out of.		
Describe Area Affected and Cleanup Action Taken.* The release was app	movimetaly 15ft of the widest point on	d 10ft long A small amount of fluid ran
east downhill along the road that was no more than 10 ft. long but no long		
small amount being in the pasture. The fluid released was oil and was ab		
sman amount being in the pasture. The null released was on and was ab	Sut han a barrer in totar with zero barr	ers being recovered.
I hereby certify that the information given above is true and complete to t	he best of my knowledge and understa	and that pursuant to NMOCD rules and
regulations all operators are required to report and/or file certain release n		
public health or the environment. The acceptance of a C-141 report by th		
should their operations have failed to adequately investigate and remediat		
or the environment. In addition, NMOCD acceptance of a C-141 report d	oes not relieve the operator of respons	sibility for compliance with any other
federal, state, or local laws and/or regulations.		
	OIL CONSERV	VATION DIVISION
Signature: Jongolu		
Printed Name: E.L. Gonzales	Approved by Environmental Speciali	st:
Timed Name. E.E. Gonzales		
Title: Production Supervisor	Approval Date:	Expiration Date:
	-TL	
E-mail Address: elgonzales@linnenergy.com	Conditions of Approval:	
· · · ·	**	Attached

Date:10/30/2015Phone:505-504-8002* Attach Additional Sheets If Necessary

Appendix II

SOIL BORE INSTALLATION LABORATORY ANALYSIS

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



January 12, 2016

JOE HERNANDEZ LINN OPERATING-HOBBS 2130 W. BENDER HOBBS, NM 88240

RE: MGU #2

Enclosed are the results of analyses for samples received by the laboratory on 01/06/16 8:25.

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/ga/lab_accred_certif.html.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	01/06/2016	Sampling Date:	01/05/2016
Reported:	01/12/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 1 @ 1' (H600022-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/11/2016	ND	1.77	88.3	2.00	10.9	
Toluene*	<0.050	0.050	01/11/2016	ND	1.75	87.6	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/11/2016	ND	1.60	79.8	2.00	11.1	
Total Xylenes*	<0.150	0.150	01/11/2016	ND	4.93	82.1	6.00	10.1	
Total BTEX	<0.300	0.300	01/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 %	6 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	01/06/2016	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/09/2016	ND	187	93.4	200	6.06	
DRO >C10-C28	<10.0	10.0	01/09/2016	ND	198	99.1	200	2.98	
Surrogate: 1-Chlorooctane	65.7 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	70.4 9	28-171							

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	01/06/2016	Sampling Date:	01/05/2016
Reported:	01/12/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 1 @ 2' (H600022-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/11/2016	ND	1.77	88.3	2.00	10.9	
Toluene*	<0.050	0.050	01/11/2016	ND	1.75	87.6	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/11/2016	ND	1.60	79.8	2.00	11.1	
Total Xylenes*	<0.150	0.150	01/11/2016	ND	4.93	82.1	6.00	10.1	
Total BTEX	<0.300	0.300	01/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	01/06/2016	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/09/2016	ND	187	93.4	200	6.06	
DRO >C10-C28	<10.0	10.0	01/09/2016	ND	198	99.1	200	2.98	
Surrogate: 1-Chlorooctane	65.2	% 35-147	7						
Surrogate: 1-Chlorooctadecane	69.5	28-171	,						

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	01/06/2016	Sampling Date:	01/05/2016
Reported:	01/12/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 2 @ 1' (H600022-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/11/2016	ND	1.77	88.3	2.00	10.9	
Toluene*	<0.050	0.050	01/11/2016	ND	1.75	87.6	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/11/2016	ND	1.60	79.8	2.00	11.1	
Total Xylenes*	<0.150	0.150	01/11/2016	ND	4.93	82.1	6.00	10.1	
Total BTEX	<0.300	0.300	01/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/06/2016	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/09/2016	ND	187	93.4	200	6.06	
DRO >C10-C28	<10.0	10.0	01/09/2016	ND	198	99.1	200	2.98	
Surrogate: 1-Chlorooctane	68.2	% 35-147	7						
Surrogate: 1-Chlorooctadecane	73.1	% 28-171							

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	01/06/2016	Sampling Date:	01/05/2016
Reported:	01/12/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOIL BORE 2 @ 2' (H600022-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/11/2016	ND	1.77	88.3	2.00	10.9	
Toluene*	<0.050	0.050	01/11/2016	ND	1.75	87.6	2.00	10.0	
Ethylbenzene*	<0.050	0.050	01/11/2016	ND	1.60	79.8	2.00	11.1	
Total Xylenes*	<0.150	0.150	01/11/2016	ND	4.93	82.1	6.00	10.1	
Total BTEX	<0.300	0.300	01/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.5	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	01/06/2016	ND	416	104	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/09/2016	ND	187	93.4	200	6.06	
DRO >C10-C28	<10.0	10.0	01/09/2016	ND	198	99.1	200	2.98	
Surrogate: 1-Chlorooctane	57.3	% 35-147	,						

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*=Accredited Analyte

Celez D. Keine

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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

Company Name	Linn							BILL TO				ANALYSIS REQUEST											
Project Manage	r:							P.O.	#:				Γ	T	T	1	T	T	T	I	T		
Address:								Com	pan	y:L	inn	1	1		1								
City:	State:	Zij	p:					Attn: Jol Hernander				1											
Phone #:	Fax #:							Add															
Project #:	Project Ow	ner:						City:			1												
Project Name:	Linn							State: Zip:			1					1							
Project Location: MGU #2						Pho	ne #									1							
Sampler Name: Chris Flores					Fax	#:				1	1												
FOR LAB USE ONLY	P. P. Constant and the second second		Г	-	MA	TRIX	(F.	P	RES	ERV.	SAMPL	ING	1										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE	OTHER :	ICE / COOL	OTHER :	DATE	TIME	Maulda	Tol	N-101	5							
1	Soil Bore 1C1' Soil Bore 1C2	G	1		V				V		1-5-2014	10:00Am	X	N	X	8							
234	Soil Bore 102	G	1		V				V			14:10 Am		X	×	A-B							
3	Soil Bore 2 C1'	6	1		1			+	1			10:00 Am		X	X	\$		1	-				
9	Soil Bore 2 C2	G	14	-	V		-	+	1		1	10;10Am	4	X	X	X							
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		1		-			-	+	+				-									-	

analyses. All claims including those for negligence and any other cause whatoever shall be demed waived unless match in vehicles in the shall be limited to the amount paid by the client for the service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of true, or loss of profile incurved by client, its subcliaries,

atiliates or successors arising out of or related to the performance of services hereurder by Cardinal, regardless of whether succ haim inguated paper up of the above stated reasons or there was

Relinquished By: Relinquished By:	Time 3:25 (di Henson	Phone Result: Qes No Add" Phone #: Fax Result: Yes No Add" Phone #: Fax Result: Yes No Add" Fax #: REMARKS: Cimal to " [Crenshaw @ diversified fs; yhe Manderel; menergy.com malves (w mburton b
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	-6.82	Sample Condition Cool Intact See Pes No No No	mpatterson o cflores @

Page 7 of

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

Appendix III

CONFIRMATORY BOTTOM LABORATORY ANALYSIS

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



June 15, 2016

RICK RICKMAN LINN OPERATING-HOBBS 2130 W. BENDER HOBBS, NM 88240

RE: MGU #2

Enclosed are the results of analyses for samples received by the laboratory on 06/14/16 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 1 @ 1.5' (H601299-01)

BTEX 8260B	mg	′L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2016	ND	1.73	86.4	2.00	6.97	
Toluene*	<0.050	0.050	06/14/2016	ND	2.22	111	2.00	6.28	
Ethylbenzene*	<0.050	0.050	06/14/2016	ND	2.18	109	2.00	6.23	
Total Xylenes*	<0.150	0.150	06/14/2016	ND	7.27	121	6.00	6.51	
Total BTEX	<0.300	0.300	06/14/2016	ND					
Surrogate: Dibromofluoromethane	96.8	% 86.5-12	2						
Surrogate: Toluene-d8	108	85.7-11.	2						
Surrogate: 4-Bromofluorobenzene	90.3	% 86.3-11	7						
Chloride, SM4500Cl-B	mg	′kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	848	16.0	06/14/2016	ND	416	104	400	3.77	
TPH 8015M	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2016	ND	211	106	200	2.90	
DRO >C10-C28	<10.0	10.0	06/14/2016	ND	208	104	200	0.505	
Surrogate: 1-Chlorooctane	68.7	% 35-147							
Surrogate: 1-Chlorooctadecane	73.8	% 28-171							

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 2 @ 1' (H601299-02)

BTEX 8260B	mg	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/15/2016	ND	1.73	86.4	2.00	6.97	
Toluene*	<0.050	0.050	06/15/2016	ND	2.22	111	2.00	6.28	
Ethylbenzene*	<0.050	0.050	06/15/2016	ND	2.18	109	2.00	6.23	
Total Xylenes*	<0.150	0.150	06/15/2016	ND	7.27	121	6.00	6.51	
Total BTEX	<0.300	0.300	06/15/2016	ND					
Surrogate: Dibromofluoromethane	98.9	% 86.5-12	2						
Surrogate: Toluene-d8	106	% 85.7-11	2						
Surrogate: 4-Bromofluorobenzene	92.9	% 86.3-11	7						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	06/14/2016	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/15/2016	ND	211	106	200	2.90	
DRO >C10-C28	12.6	10.0	06/15/2016	ND	208	104	200	0.505	
Surrogate: 1-Chlorooctane	85.5	% 35-147	,						
Surrogate: 1-Chlorooctadecane	88.9	% 28-171							

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 3 @ 1' (H601299-03)

BTEX 8260B	mg,	′L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2016	ND	1.73	86.4	2.00	6.97	
Toluene*	<0.050	0.050	06/14/2016	ND	2.22	111	2.00	6.28	
Ethylbenzene*	<0.050	0.050	06/14/2016	ND	2.18	109	2.00	6.23	
Total Xylenes*	<0.150	0.150	06/14/2016	ND	7.27	121	6.00	6.51	
Total BTEX	<0.300	0.300	06/14/2016	ND					
Surrogate: Dibromofluoromethane	98.3	% 86.5-12	2						
Surrogate: Toluene-d8	110 9	85.7-11.	2						
Surrogate: 4-Bromofluorobenzene	91.9	% 86.3-11	7						
Chloride, SM4500Cl-B	mg	′kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	06/14/2016	ND	416	104	400	3.77	
TPH 8015M	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/15/2016	ND	211	106	200	2.90	
DRO >C10-C28	<10.0	10.0	06/15/2016	ND	208	104	200	0.505	
Surrogate: 1-Chlorooctane	66.8	% 35-147	,						
Surrogate: 1-Chlorooctadecane	64.3	% 28-171							

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 4 @ 1' (H601299-04)

BTEX 8260B	mg	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2016	ND	1.73	86.4	2.00	6.97	
Toluene*	<0.050	0.050	06/14/2016	ND	2.22	111	2.00	6.28	
Ethylbenzene*	<0.050	0.050	06/14/2016	ND	2.18	109	2.00	6.23	
Total Xylenes*	<0.150	0.150	06/14/2016	ND	7.27	121	6.00	6.51	
Total BTEX	<0.300	0.300	06/14/2016	ND					
Surrogate: Dibromofluoromethane	95.7	% 86.5-12	2						
Surrogate: Toluene-d8	110	85.7-11	2						
Surrogate: 4-Bromofluorobenzene	92.9	% 86.3-11	7						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/14/2016	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/15/2016	ND	211	106	200	2.90	
DRO >C10-C28	<10.0	10.0	06/15/2016	ND	208	104	200	0.505	
Surrogate: 1-Chlorooctane	79.4	% 35-147							
Surrogate: 1-Chlorooctadecane	75.9	% 28-171							

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 5 @ 1' (H601299-05)

BTEX 8260B	mg,	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2016	ND	1.73	86.4	2.00	6.97	
Toluene*	<0.050	0.050	06/14/2016	ND	2.22	111	2.00	6.28	
Ethylbenzene*	<0.050	0.050	06/14/2016	ND	2.18	109	2.00	6.23	
Total Xylenes*	ylenes* <0.150 0.150		06/14/2016	ND	7.27	121	6.00	6.51	
Total BTEX	<0.300	0.300	06/14/2016	ND					
Surrogate: Dibromofluoromethane	96.7	% 86.5-12	2						
Surrogate: Toluene-d8	110 9	85.7-11	2						
Surrogate: 4-Bromofluorobenzene	rogate: 4-Bromofluorobenzene 92.5 % 86.3-1.		7						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/14/2016	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/15/2016	ND	211	106	200	2.90	
DRO >C10-C28	<10.0	10.0	06/15/2016	ND	208	104	200	0.505	
Surrogate: 1-Chlorooctane	77.5	% 35-147	,						
Surrogate: 1-Chlorooctadecane	82.2	% 28-171							

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 6 @ 1' (H601299-06)

BTEX 8260B	mg,	′L	Analyze	d By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	06/14/2016	ND	1.73	86.4	2.00	6.97			
Toluene*	<0.050	0.050	06/14/2016	ND	2.22	111	2.00	6.28			
Ethylbenzene*	<0.050	0.050	06/14/2016	ND	2.18	109	2.00	6.23			
Total Xylenes*	<0.150 0.150		06/14/2016	ND	7.27	121	6.00	6.51			
Total BTEX	<0.300	0.300	06/14/2016	ND							
Surrogate: Dibromofluoromethane	95.5	% 86.5-12	2								
Surrogate: Toluene-d8	110	85.7-11.	2								
Surrogate: 4-Bromofluorobenzene	ogate: 4-Bromofluorobenzene 91.1 % 86.3-1.		7								
Chloride, SM4500Cl-B	mg,	′kg	Analyze	d By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	160	16.0	06/14/2016	ND	416	104	400	3.77			
TPH 8015M	mg	′kg	Analyze	d By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<10.0	10.0	06/15/2016	ND	211	106	200	2.90			
DRO >C10-C28	<10.0	10.0	06/15/2016	ND	208	104	200	0.505			
Surrogate: 1-Chlorooctane	87.7	% 35-147									
Surrogate: 1-Chlorooctadecane	88. <i>3</i>	% 28-171									

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/14/2016	Sampling Date:	06/14/2016
Reported:	06/15/2016	Sampling Type:	Soil
Project Name:	MGU #2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SAMPLE PT. 7 @ 1' (H601299-07)

BTEX 8260B	mg,	/L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2016	ND	1.73	86.4	2.00	6.97	
Toluene*	<0.050	0.050	06/14/2016	ND	2.22	111	2.00	6.28	
Ethylbenzene*	<0.050	0.050	06/14/2016	ND	2.18	109	2.00	6.23	
Total Xylenes*	<0.150 0.150		06/14/2016	ND	7.27	121	6.00	6.51	
Total BTEX	<0.300	0.300	06/14/2016	ND					
Surrogate: Dibromofluoromethane	97.7	% 86.5-12	2						
Surrogate: Toluene-d8	109 % 85.7-112		2						
Surrogate: 4-Bromofluorobenzene	e 90.3 % 86.3-11		7						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/14/2016	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/15/2016	ND	211	106	200	2.90	
DRO >C10-C28	<10.0	10.0	06/15/2016	ND	208	104	200	0.505	
Surrogate: 1-Chlorooctane	71.7	% 35-147							
Surrogate: 1-Chlorooctadecane	77.1	% 28-171							

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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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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 claims based upon any of the above stated reasons or otherwise. Results relate only to the sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Loratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Maria	nd, Ho	bbs,	, NM	88240
(575) 393-2326	FAX	(575)	393-	2476

Company Name: LINN									B	11	LL TO						ANA	LYSI	SR	EQU	EST				
Project Manage	Project Manager: Rick Rickman									÷							T	1	T		T	T	T	T	T
Address:								Company:																	
City:	City: State: Zip:							Att	tn:					1											
Phone #: Fax #:						Ad	dre	SS:				1													
Project #: Project Owner:						Cit	y:						k												
Project Name: LINN							Sta	ate:		2	Zip:														
Project Location: MGU #002						Ph	one	#:																	
	Chris Flores							Fax	x #:																
FOR LAB USE ONLY		(C)OMP.	Γ	-	M/	TRI	X		PR	ESER	4	SAMPL	ING												
Lab I.D.	Sample I.D.		# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL		ДАТЕ	TIME	Chloride	HQ1-	RTEV	V I V								
1	Sample Point I @1.5'	() (G)RAB (1		V	1				V		0/14/2016	11:30 Am	X	X	×									-
23	Sample Point 2 (2 1)	G	1		V					1		1	8:30 pm	X	X	X									
3	Sample Point 3 @ 1'	6	1		V	1-				V			9:00 AM	X	X	X									
4	Sample Point y @ 1	6	1	\vdash	V	1				V	1	/	10:00 AM	X	X	X									
5	Sample Point 5 @ 1	G	1		V	1	-			V	+	(10:20 AM	X	X	X									
9	Sample foint 6 (2)	G	1	\vdash	V	1				V	1	1	10:40Am	Ť	+	×							_		
	Sample Point 7 (° 1'	6	1		1					V	ł	*	11:00 AW	×	×	×						-	-		-
	1				-	-					-		_		-										

service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliales or successors arising out of or related to the performance of services hereunder by Cardinal renamiles of whether such claim is based or

Relinquished By:	Date: Received By:	Phone Result: Yes No Add'I Phone #:
Chin the	TIME 3540di Menson	Fax Result: Ves No Add'I Fax #: REMARKS: - Amail to: I floves @diversifiedfsi.com
Relinquished By:	Daté: Received By:	cflores @
Delivered By: (Circle One)	Time:	malves a
Sampler - UPS - Bus - Other:	5.3c Sample Condition CHECKED BY: Cool Intact (Initials)	monterion @
† Cardinal cannot accept verb	al changes. Please fax written changes to (575) 393-2526	e

Appendix IV

SITE PHOTOS

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

MGU #002

Photo Page



Site prior



Collecting samples



Excavating site



Site prior



Installing soil bore



Backfill completed

Appendix V

FINAL C-141

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

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

220 S. St. Fran	cis Dr., Santa	i Fe, NM 87505		Sa	anta Fe.	NM 875	05		-						
			Rele	ease Notific	cation	and Co	rrective A	ction	1.1	1.1.1.1					
					1991.3	OPERAT	FOR	🗌 Initi	al Report	Final Repor					
Name of Co	ompany: 1	Linn Energy			0	Contact: EL Gonzales									
		der, Hobbs,		40	1	Telephone N	No. 575-738-17	39							
Facility Nat					F	Facility Typ	e: Injection								
Surface Ow	mant Eada			Mineral (wner	Federal	ALL LANDING	APING	. 30-025-4	2628					
Surface Ow	ner: Fede	rai	-		1.1.1.1.1	1.0.1.1.1.1	1.00								
						OF RE	A DESCRIPTION OF A DESC	1 m	La						
Unit Letter O	Section 21	Township 17S	Range 31E	Feet from the 400		South Line outh	Feet from 2100	East/West Line East	County Lea						
			Lati	tude: 32.813923	3810219	7 Longitud	e: -103.769739	9540332							
				NAT	FURE	OF REL	EASE								
Type of Rela	ease: Oil	C				and the second second second	f Release: 1/2 bbl		Recovered:						
Source of R		el pipeline					Iour of Occurrer		Hour of Di 15 10:00 an						
		<u></u>			_	10/25/201 If YES, Te	the second se	10/25/20	15 10:00 an	n					
Was Immed	iate Notice	Given?]Yes [🗌 No 🔲 Not F	Required										
By Whom?		1. 10				Date and Hour: If YES, Volume Impacting the Watercourse.									
Was a Wate	rcourse Rea	iched?	Yes	No No		II 1155, V	orume impacting	, the watercourse.							
If a Watara	weea was In	npacted, Desc	ribe Fully	*					_						
Describe An On October obtain samp performed laboratory a installed tw laboratory a by BLM or confirmato	rea Affectec 29, 2015, I oles within t using a Min analysis at C o soil bores analysis at C a January 20 ry samples t	and Cleanup DFSI personne he leak area. i Rae Photoio Cardinal Laboo to obtain con Cardinal Laboo 0, 2016, with s aken at 1.5' b The excavat	Action T el were on Seven sar nization E ratories of firmation ratories of tipulation ogs at SP1 ion was b	aken. site to scrape the nples were obtain Detector (PID). A 'Hobbs, NM to ol samples. All clea 'Hobbs, NM to ol s. Beginning Jun	visibly in ed and fid ll clean fi otain conf an field sa btain conf e 9, 2016 remaining an, impor	npacted area eld sampled eld samples firmation. Tramples under firmation. A , DFSI perso g six sample: ted topsoil o	. On November for chloride leve under NMOCD a o further delinear NMOCD and B work plan was s nnel were on site s were submitted n the pasture are:	LM regulatory guid aubmitted to BLM of to excavate the rel for analysis at Card a and caliche within	onnel return The BTE2 y guidelines mber 19, 20 delines were on January 1 ease area. F dinal Labora	ted to the site to X samples were were submitted for 15, DFSI personnel					
regulations public heal should thei or the envi	all operato th or the en r operations ronment. Ir	rs are required vironment. T	to report he accepta o adequate AOCD acc	and/or file certain ance of a C-141 re ely investigate and ceptance of a C-14	n release i port by the	notifications ne NMOCD	and perform cor marked as "Fina ation that pose a eve the operator	of responsibility to	elieve the option of the compliance of the compl	perator of liability water, human health e with any other					
Signature:	56	P	1			Approved	OIL CO	NSERVATIO	N DIVIS	ION					
	me: EL Go	7.84				Approval I)ate:	Expiratio	on Date:						
1	dress: elgor	ervisor nzales@linner	nergy.com			1.01.01.7	of Approval:		Attach	ned 🔲					
1.0	6/30/2016	Phone: 57:	1.1.1.1		_										

* Attach Additional Sheets If Necessary