

LINN ENERGY

2130 W. Bender Blvd. Hobbs, NM 88241 Phone 575.738.1739

Max Friess & Fren Supply Line 2RP-2033

Corrective Action Plan

API No. 3001505284

Release Date: May 20th, 2013

Unit Letter L, Section 20, Township 17S, Range 31E

Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241 Phone 575.393.2967

December 5th, 2013

Mike Bratcher

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau – District 2 811 S. First St. Artesia, NM 88210

RE: Corrective Action Plan Linn Energy – Max Friess & Fren Supply Line (2RP-2033) UL/L sec. 20 T17S R31E API No. 3001505284

Mr. Bratcher:

Linn Energy (Linn) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

Background and Previous Work

The site is located approximately 4.8 miles east of Loco Hills, New Mexico at UL/L sec. 20 T17S R31E. This site is in an area of no known groundwater.

On May 20th, 2013, Linn discovered a break in a supply line, which released 20 barrels of produced water. None of this fluid was recovered. The release affected 3,621 square feet of pasture land and a remediated, abandoned well site. An initial C-141 was sent to BLM and NMOCD and NMOCD approved the initial C-141 on October 31st, 2013 (Appendix A).

RECS received this site after another company began remediation efforts. The previous company took surface samples from 5 points within the release. At SP-2, a soil bore was installed on August 9th, 2013 to a depth of 40 ft bgs (Figure 1). Representative samples from these sampling events were taken to a commercial laboratory for analysis (Appendix B). SP-1, SP-2 and SP-3 returned elevated chloride values with depth but returned Gasoline Range Organics (GRO), Diesel Range Organics (DRO) and BTEX readings of non-detect. SP-4 returned laboratory chloride levels, GRO, DRO and BTEX below regulatory standards at the surface and at 1 ft bgs. SB-5 returned an elevated chloride level at the surface that dropped to non-detect at 1 ft bgs. GRO, DRO and BTEX readings at the surface and at 1 ft bgs were non-detect.

Corrective Action Plan

Based on the sampling conducted by the other environmental company, RECS recommends that the area around SP-1, SP-2 and SP-3 be excavated to 4 ft bgs (Figure 2). The excavated material will be disposed of at a NMOCD approved facility. At 4 ft

DEC 06 2013

bgs, grab samples will be taken along the excavation walls and sent to a commercial laboratory to confirm that chloride readings are below 1,000 mg/kg. At 4 ft bgs, a 20-mil reinforced poly liner will be installed and properly seated into the base of the excavation. The excavation will then be backfilled with clean, imported soil and contoured to the surrounding location.

The area around SP-4 and SP-5 will be scraped down 6 inches. The scraped material will be sent to a NMOCD approved facility for disposal. Clean soil will be imported to the site to backfill the scrape and contour it to the surrounding location.

Once the excavation and scrape are completed, soil amendments will be added as needed and the site will be seeded with a blend of native vegetation. Vegetation provides an infiltration barrier for the site, since plants capture water through their roots thereby reducing the amount of water traveling through the vadose zone to groundwater.

Once the CAP activities are completed, ROC will submit a report detailing the CAP activities and a request for 'remediation termination' or site closure.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

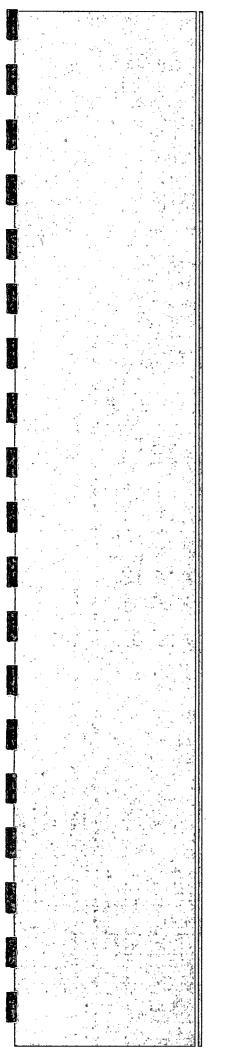
AC.W.

Lara Weinheimer Project Scientist RECS (575) 441-0431

cc. Mike Burton, BLM

Attachments:

Figure 1 – Initial Sampling Data Figure 2 – Proposed Liner and Scrape Appendix A – Initial C-141 Appendix B – Laboratory Analyses



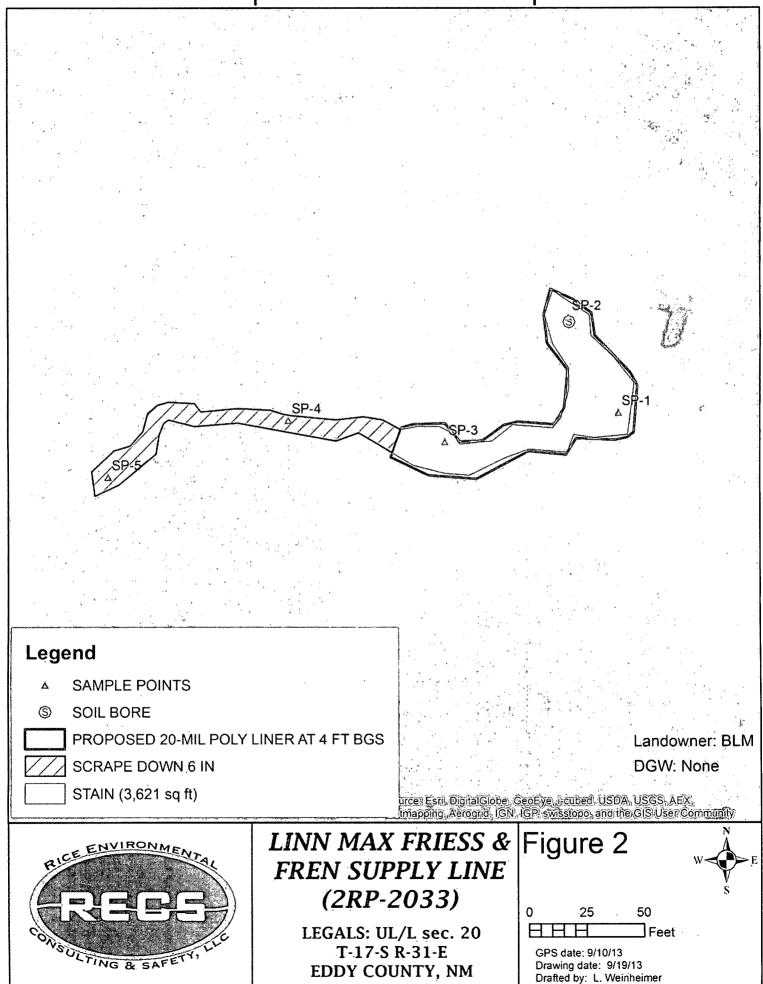
RICE Environmental Consulting and Safety (RECS) P.O. Box 2948, Hobbs, NM 88241 Phone 575.393.2967

Figures

Initial Sampling Data

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	US 82
SP-1 Depth Lab CI- GRO DRO Total B1	
Surface 17800 <10 <10 <0.3	
8' 1150 <10 <0.3	
SP-2.	
Depth Lab Cl- GRO DRO Total BT	EX
Surface 240 <10 <10 <0.3	
20' 1250 <10	
SP-3 Depth CI- Lab CI- GRO DRO T	otal BTEX
Surface 18400 <10 <10	<0.3
3 1255	∧SP-2 ▲
4 950 5 675	
6 675	
7 450	SP-4 SP 2 A
8 377 9 375 SP5	A SP-3 A
9 375 ^{SP45}	
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SP-4 Depth Lab CI- GRO DRO Total BT	andri in an
Surface 48, <10, <10 <0.3	
1' <16 <10 <10 <<0.3	
SP-5 Deoth Lab CI- GRO DRO Total BT	
Surface 24200 <10 <10 <0.3	
1' <16 <10 <0.3	
Legend	
▲ SAMPLE POINTS	
SOIL BORE	Landowner: BLM
STAIN (3,621 sq ft)	DGW None
EDDY COUNTY ROADS	
	Source: Esril, DigitalGlobe, GeoEye, Il cubed USDA, USGS, AEX, Getmapping, Aerogrid, IGN/IGP, swisstopo, and the GIS User Community,
zaren della interneti della	
RICE ENVIRONMENTAL	LINN MAX FRIESS & Figure 1
RUTAL	FREN SUPPLY LINE
	(2RP-2033) $0 50 100$
	LEGALS: UL/L sec. 20
NS LLC	T-17-S R-31-E GPS date: 9/10/13
NSULTING & SAFETY, LLC	EDDY COUNTY, NM Drawing date: 9/19/13 Drafted by: L. Weinheimer

Proposed Liner and Scrape



Appendix A Initial C-141

RICE Environmental Consulting and Safety (RECS) P.O. Box 2948 Hobbs, NM 88241 Phone 575.393.2967

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111 S. First, Sta, Anesia, NM <u>\$</u> 8210 <u>Astrict III</u> 000:Rio Bräžes, Road, Aztec, NM 87410	Qil Cons	ervation Division	NMBGRO	ARITERBOONINE D	istrict Office.in 15 29 NMAC.
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		Fc, NM 87505	. vže		
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Name of Company Linn Energy 2	69324	OPÉRATOR	IX In	iitial Report] Final Repor
Address 2130 W Bender Blvd., Hobbs,	NM*88240	Telephone: No. (806)/367	-0645.		
Facility Name Max Friess and Fren Sup		Facility: Type Supply the	10		
Surface:Owner BLM	Mineral Owne	ſ.		No. 3001505284	-
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Unit Letien Section Frownship Rang	e Feet from the Nor	th/South Line Feet from the	East/West-Li	ie County	,
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े सम्बर्भ भाष		E OF RELEASE			
Type of Release. Produced Water		Volume of Releases 7.16 b	ols" Volun	ne-Recovered/_0.bbl	s
Source of Release 'Supply Line		Date and Hour of Occurre 5/20/13	nçe Daie a 5/20/1	nd Hour of Discove	Γ Υ
Was Immediate Notice: Given?'	na tel mu	1 IF MESTO Whom?	i⊊072004	12)	<u> </u>
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		Date and Hour	The Watercourse	-	•••••
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By Whom ? Wash Watercourse Reaction? If a Watercourse was thipacted Describe Ful Describe Cause of Problem and Remedial Ac A break in the supply fine lead to a release of throughout the solid bore showed elevated chuerd Describe Area Affected and Cleanup Action A Contentive Action Plan with be developed to regulations all operators are regimed to report should their operations in we failed to accep should their operations in we failed to accep should their operations in we failed to accep and the environment. In addition is MOCD ac	Taken.* 2006. Taken.* 2006. Taken.* 2006. Taken.* 2006. Taken.* Taken.* Taken.* to remediate the area base ove is true find. complete. trahd/or file commission ince of a C-141 report ty hyvestigate inturcient contance of a C-141 report	If YES, Volume Impletion in: which covered 3 (21, sq 1) of neregial labornory for analysis notedeased to below 250 mg/s domining sampling data, of the best of mysknowledge and e notifications and perform cor the NMOCD marked as "Final tate containing for the base a f	paşiyre Jang! The A soll bare was at 40 if bes the first set of the set of the set Report "Jose and breat to pround set	c site was sampled if installed in the site t nurstion to NMOCE r releases which may i releases which may	Přuleš, and endanget of-liability human health
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Wasta Watercourse Reactical If a Watercourse was lingacted. Describe Full Describe Cause of Problem and Remedial Ac A breakin the supply line lead to a release of throughour describe Area Affected and cleanup Action 2013. The soil bore showed elevated chlorid Describe Area Affected and Cleanup Action A Corrective Action Plan witt be developed to regulations all operators are required to repo- public figath or the environment. The accept should their operations have failed to accup public figath or the environment. The accept should their operations are required to accup public figath or the Sol Wall Prince Name Brand Wall: Title: Construction Foremant f.	Taken.* 20.6013 of produced ware 20.6013 of produced ware 120.6013 of produced ware 120.6013 of 20.10 bgs, which Taken.* to remediate the area base ovels true and complete to rand/or file cenamicales ince of a C-141 report by icty investigate and rener centaries of a C+141 report centaries of a C+141 report centaries of a C+141 report s	If YES, Volume Impleting r: which covered 3,621, sq 11 of herefal labornory for analysis herefal labornory for analysis he	paşture Jand. The A soil bore anas a 40 h bes at 40 h bes ective actions for Report does for hreat to ground w f responsibility f NSER VATIO Specialist Signed By D13 Expirat	c site was sampled if installed in the site t nursularity which any releases which any releases which any releases which any releases which any sterr surface with or compliance with DNIDIVISION MALES	Přuleš ánd endánger of Jinger human fucáltán nývother túter
Wissia Watercourse Reactical? If a Watercourse was Implified. Describe Full Describe Cause of Problem and Remedial Ac A break in the supply fine lead to a release of throughour describe Area Affected and Cleanup Action 2013. The soil bore showed elevated chlorid Describe Area Affected and Cleanup Action A Contentive Action Plan witt be developed to regulations all operators are required to report public fight by the environment. The acception spould there or local faws and/or regulation Signature: <i>FYCH B WAU</i> Prince Name: Brian Walt	IV. 1 IV. 1 20. bbls of produced ware 20. bbls of produced ware 20. bbls of produced ware 20. bbls of produced ware clevelarat 20. (t bgs, which Takenst to remediate the area base over is true find complete t (and/or file cenam releas lance of a C-14 i report by tely investigate and renot contained of a C-14 i report by tely investigate and renot contained of a C-14 i report s	If YES, Volume Impleting r: which covered 3.621 sq 11 of hereigi labornory for analysis hereigi labornory for analysis hereigi sed to below 250 mg/kg domining sand perform corr alle NMOCD marked as "Bing incoronamination in all process i f does not relieve the operator t <u>OIL CO</u>	päşlung ländt Tin A söl böre avis a söl böre avis a 40 it ögs var 40 it	e site was sampled if installed in the site t nurstion to NMOEL r releases which may i releases which may i releases which may of compliance with; of compliance with;	Přuleš ánd endánger of Júbility humanheáltín ný other

Appendix B Laboratory Analyses

RICE Environmental Consulting and Safety (RECS) P.O. Box 2948 Hobbs, NM 88241 Phone 575.393.2967 July 11, 2013

GARY WINK

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: MAX FRIESS & FREN SUPPLY LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/27/13 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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 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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/27/2013	Sampling Date:	06/26/2013
Reported:	07/11/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 1 SURFACE (H301531-01)

BTEX 8260B	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	07/10/2013	ND	2.21	111	2.00	24.4	
Toluene*	<0.050	0.050	07/10/2013	ND	2.24	112	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/10/2013	ND	2.21	110	2.00	19.3	
Total Xylenes*	<0.150	0.150	07/10/2013	ND	6.71	112	6.00	17.4	
Surrogate: Dibromofluoromethane	96.5	% 61.3-14	2						
Surrogate: Toluene-d8	105 9	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	101 \$	65.7-14	1						
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	06/29/2013	ND	190	94.8	200	4.58	
DRO >C10-C28	<10.0	10.0	06/29/2013	ND	191	95.3	200	5.34	
Surrogate: 1-Chlorooctane	82.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	88.0	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/27/2013	Sampling Date:	06/26/2013
Reported:	07/11/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 2 SURFACE (H301531-02)

BTEX 8260B	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	07/10/2013	ND	2.21	111	2.00	24.4	
Toluene*	<0.050	0.050	07/10/2013	ND	2.24	112	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/10/2013	ND	2.21	110	2.00	19.3	
Total Xylenes*	<0.150	0.150	07/10/2013	ND	6.71	112	6.00	17.4	
Surrogate: Dibromofluoromethane	92.4	% 61.3-14	2						
Surrogate: Toluene-d8	107 9	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	104 \$	65.7-14	1						
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	06/29/2013	ND	190	94.8	200	4.58	
DRO >C10-C28	<10.0	10.0	06/29/2013	ND	191	95.3	200	5.34	
Surrogate: 1-Chlorooctane	81.2	% 65.2-14	0 .						
Surrogate: 1-Chlorooctadecane	86.9	% 63.6-15	4						

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*=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 claims based hours based cardinal bases for one consequential abareages.

Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 8



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/27/2013	Sampling Date:	06/26/2013
Reported:	07/11/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 3 SURFACE (H301531-03)

BTEX 8260B	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	07/10/2013	ND	2.21	111	2.00	24.4	
Toluene*	<0.050	0.050	07/10/2013	ND	2.24	112	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/10/2013	ND	2.21	110	2,00	19.3	
Total Xylenes*	<0.150	0.150	07/10/2013	ND	6.71	112	6.00	17.4	
Surrogate: Dibromofluoromethane	92.0-	% 61.3-14	2	-					
Surrogate: Toluene-d8	104 9	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	101 5	65.7-14	1						
ТРН 8015М	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	06/29/2013	ND	190	94.8	200	4.58	
DRO >C10-C28	<10.0	10.0	06/29/2013	ND	191	95.3	200	5.34	
Surrogate: 1-Chlorooctane	86.7	% 65.2-14	0.						
Surrogate: 1-Chlorooctadecane	92.3	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's hability 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 dama is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reprodued except in full with writen approval of cardinal boroarders.

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/27/2013	Sampling Date:	06/26/2013
Reported:	07/11/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 4 SURFACE (H301531-04)

BTEX 8260B	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	07/10/2013	ND	2.21	111	2.00	24.4	
Toluene*	<0.050	0.050	07/10/2013	ND	2.24	112	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/10/2013	ND	2.21	110	2.00	19.3	
Total Xylenes*	<0.150	0.150	07/10/2013	ND	6.71	112	6.00	17.4	
Surrogate: Dibromofluoromethane	95.3	% 61.3-14	2						
Surrogate: Toluene-d8	104	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	105	% 65.7-14	I						
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	06/29/2013	ND	190	94.8	200	4.58	
DRO >C10-C28	<10.0	10.0	06/29/2013	ND	191	95.3	200	5.34	
Surrogate: 1-Chlorooctane	88.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	90.4	% 63.6-15	4						

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 ensing 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 writen approval of Cardinal cardinations.

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Received:	06/27/2013	Sampling Date:	06/26/2013
Reported:	07/11/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 5 SURFACE (H301531-05)

BTEX 8260B	mg/	kg	Analyzed	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/10/2013	ND	2.21	111	2.00	24.4	
Toluene*	<0.050	0.050	07/10/2013	ND	2.24	112	2.00	21.9	
Ethylbenzene*	<0.050	0.050	07/10/2013	ND	2.21	110	. 2.00	19.3	
Total Xylenes*	<0.150	0.150	07/10/2013	ND	6.71	112	6.00	17.4	
Surrogate: Dibromofluoromethane	93.5	% 61.3-14	2						
Surrogate: Toluene-d8	105 5	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	102	65.7-14	1						
TPH 8015M	mg,	kg	Analyzee	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/01/2013	ND	179	89.6	200	13.3	
DRO >C10-C28	<10.0	10.0	07/01/2013	ND	179	89.3	200	17.3	
Surrogate: 1-Chlorooctane	. 87.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92. I	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager

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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.

**

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Chloride by SM4500CI-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

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 8 of 8

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

Company Name: Linn Energy	BILL TO			A	NALYS	IS RE	QUEST	•]
Project Manager: Gary Wink)	P.O. #:			·		1111				l interior
Address:	Company:									
City: State: Zip:	Attn:									
Phone #: Fax #:	Address:		:		•					
Project #: Project Owner:	city: Gr	174		· ·	· · · ·			:		
Project Name:	State: Zip:			:						
Project Location: Max Friess + Fren Supply Line	Phone #:	5		ľ						
Sampler Name: Lus Gowralez	Fax #:				• .•					
	PRESERV. SAMPLING		:							. :
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Lab I.D. Sample I.D.	ER : COOL	1 B]	ŀ		1.11				
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1 SPI Sorfale VI	6/26 1721	VV								-
Z SP2 Grokace 11	V 64B 1172	11			: .					1
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	6/26 1174					· .				
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analyses. All claims including trobes for hegigence and any other cause what over the area were unless including the service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, bysiness interruption, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such call	loss of use or loss of profit incurred by client its subsidi	aries	i Mataria	:::	. tat.	. : • • •	la national Rigi	· · · · · ·	· · · · · · · · · · · · · · · · · · ·	
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† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-7326

CARDINAL

July 02, 2013

GARY WINK

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: MAX FRIESS & FREN SUPPLY LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/27/13 13:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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 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,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/27/2013	Sampling Date:	06/10/2013
Reported:	07/02/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 1 @ SURFACE (H301532-01)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17800	16.0	07/02/2013	ND	432	108	400	0.00	

Sample ID: SP 2 @ SURFACE (H301532-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed -	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	07/02/2013	ND	432	108	400	0.00	

.

Sample ID: SP 3 @ SURFACE (H301532-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18400	16.0	07/02/2013	ND	432	108	400	0.00	

Sample ID: SP 4 @ SURFACE (H301532-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/02/2013	ND	432	108	400	0.00	

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Celug D.Kune

Celey D. Keene, Lab Director/Quality Manager



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/27/2013	Sampling Date:	06/10/2013
Reported:	07/02/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 5 @ SURFACE (H301532-05)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW	•				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	24200	16.0	07/02/2013	ND	432	108	400	0.00	

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Celey D.Keene

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 5



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

Page 4 of 5

NCARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 5 of 5

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

Company Name: Einn Energy	BILLIO		ANA	LYSIS REQU	EST	
Project Manager: Gary Wink)	P.O. #:					
Address:	Company:					
City: State: Zip:	Attn:					
Phone #: Fax #:	Address:					
Project #: Project Owner:	City: Cr					
Project Name: Nax Freißs JFren SupplyLiv	State: Zip:					
Project Location: Myjzmar, NM	Phone #:					
Sampler Name: Luis Gonzalez	Fax #:					• •
Lab I.D. Sample I.D. MATRIX H301532	PRESERV SAMPLING PRESERV SAMPLING AUTO	hlorid				
H301222 PI		\mathbb{N}				
						••••••••••••••••••••••••••••••••••••••
2 SPZ D Surface GIL	V 22/22					
3 SP3 A Surface GUL	5-N.13					
4 BPU A Surface GIL	5/5/18					
5 SP5 @ Surface, GII N	1 5.31.13	\checkmark				
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afficiates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such ck Relinguished By: Date: Received By:	n is based upon any of the above stated reasons or other Phone R		🗆 No 🛛 🗛 🗠	Phone #:		
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Cardinal cannot accept verbal changes. Please fax written changes to the second seco	10	· · · · · · · · · · · · · · · · · · ·				



July 05, 2013

GARY WINK

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: MAX FRIESS & FREN SUPPLY LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/28/13 13:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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 ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/28/2013	Sampling Date:	06/17/2013
Reported:	07/05/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 1 @ 8' (H301539-01)

BTEX 8021B	mg/	kg	Analyze	d By: AP				I-02		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/03/2013	ND	2.14	107	2.00	2.42	·	
Toluene*	<0.050	0.050	07/03/2013	ND	2.26	113	2.00	2.24		
Ethylbenzene*	<0.050	0.050	07/03/2013	ND	2.45	123	2.00	2.84		
Total Xylenes*	<0.150	0.150	07/03/2013	ND	7.44	124	6.00	2.43		
Total BTEX	<0.300	0.300	07/03/2013	ND						
Surrogate: 4-Bromofluorobenzene (PIL	1179	% 89.4-12	6							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1150	16.0	07/02/2013	ND	432	. 108	400	0.00		
TPH 8015M	mg/	kg	Analyze	d By: MS			<u>-</u>	<u>_</u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/01/2013	ND	179	89.6	200	13.3		
DRO >C10-C28	<10.0	10.0	07/01/2013	ND	179	89.3	200	17.3		
Surrogate: 1-Chlorooctane	91.6	% 65.2-14	0							
Surrogate: 1-Chlorooctadecane	93.1 9	63.6-15	4							

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Celey D. Kiene

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 6



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/28/2013	Sampling Date:	06/17/2013
Reported:	07/05/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 4 @ 1' (H301539-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP					I-02
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/03/2013	ND	2.14	107	2.00	2.42	
Toluene*	<0.050	0.050	07/03/2013	ND	2.26	113	2.00	2.24	
Ethylbenzene*	<0.050	0.050	07/03/2013	ND	2.45	123	2.00	2.84	
Total Xylenes*	<0.150	0.150	07/03/2013	ND	7.44	124	6.00	2.43	
Total BTEX	<0.300	0.300	07/03/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	118 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/02/2013	ND	432	108	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	07/01/2013	ND	179	89.6	200	13.3	
DRO >C10-C28	<10.0	10.0	07/01/2013	ND	179	89.3	200	17.3	
Surrogate: 1-Chlorooctane	91.6	% 65.2-14	40					·····	

Surrogate: I-Chlorooctadecane 91.7% 63.6-154

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*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 6



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	06/28/2013	Sampling Date:	06/17/2013
Reported:	07/05/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 5 @ 1' (H301539-03)

BTEX 8021B	mg/	kg	Analyze	d By: AP				I-02		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/03/2013	ND	2.14	107	2.00	2.42		
Toluene*	<0.050	0.050	07/03/2013	ND	2.26	113	2.00	2.24		
Ethylbenzene*	<0.050	0.050	07/03/2013	ND	2.45	123	2.00	2.84		
Total Xylenes*	<0.150	0.150	07/03/2013	ND	7.44	124	6.00	2.43		
Total BTEX	<0.300	0.300	07/03/2013	ND						
Surrogate: 4-Bromofluorobenzene (PIL	118 %	6 89.4-12	6							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	07/02/2013	ND	432	108	400	0.00		
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	07/01/2013	ND	179	89.6	200	13.3		
DRO >C10-C28	<10.0	10.0	07/01/2013	ND	179	89.3	200	17.3		
Surrogate: 1-Chlorooctane	92.8 9	65.2-14	0			· · · · · · · · · · · · · · · · · · ·				
Surrogate: 1-Chlorooctadecane	93.4 %	6 63.6-15	4							

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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 anising 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. Kune

Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

I-02	This result was analyzed outside of the EPA recommended holding time.
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 SM4500CI-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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Celeg D.Kune

Celey D. Keene, Lab Director/Quality Manager

Page 5 of 6



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

P.O. #:

Company:

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ANALYSIS REQUEST

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(575) 393-2326 FAX (575) 393-2476 **Company Name:** Project Manager: ari

City:	<u> </u>		State:	Zip:		Attn:
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Proj Sampler Name: 100 FOR LAB USE ONLY

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<u>H301539</u>

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NOTE: Liability and Dan analyses, All claims including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal within 30 days after completion of the applic

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† Cardinal cannot accept verbal changes. Please fax written changes to 57

Phone Result: Ves No Add'l Phone #: Fax Result: REMARKS: Ves D No Add'l Fax #:

Email: gawink@linnenergy.com aruth@diversified Psi.com



August 19, 2013

BRIAN WALL

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: MAX FRIESS & FREN SUPPLY LINE

Enclosed are the results of analyses for samples received by the laboratory on 08/09/13 16:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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 accredited 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 ENERGY BRIAN WALL RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	08/09/2013	Sampling Date:	08/09/2013-
Reported:	08/19/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR, NM		

Sample ID: SP 2 20' (H301894-01)

BTEX 8260B	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	08/19/2013	ND	2.15	108	2.00	3.67	
Toluene*	<0.050 0.050		08/19/2013	ND	2.16	108	2.00	4.83	
Ethylbenzene*	<0.050 0.050		08/19/2013	ND	2.10	105	2.00	4.57	
Total Xylenes*	<0.150 0.150		08/19/2013	08/19/2013 ND		104	6.00	4.81	
Total BTEX	<0.300 0.300		08/19/2013	08/19/2013 ND					
Surrogate: Dibromofluoromethane	97.7% 61.3-14		2						
Surrogate: Toluene-d8	101	101 % 71.3-12							
Surrogate: 4-Bromofluorobenzene	103	% 65.7-14	1						
Chloride, SM4500Cl-B	mg,		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250 16.0		08/13/2013	ND	432	108	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: DW			-		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/13/2013	ND	176	88.0	200	3.63	
DRO >C10-C28	<10.0	10.0	08/13/2013	ND	186	93.0	200	2.90	
Surrogate: 1-Chlorooctane	100 :	% 65.2-14	0	· · · · · · · · · · · · · · · · · · ·					·
Surrogate: 1-Chlorooctadecane	prooctadecane 109 % 63.6-154		4						

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Celay D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 5



LINN ENERGY BRIAN WALL RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	08/09/2013	Sampling Date:	08/09/2013	
Reported:	08/19/2013	Sampling Type:	Soil	
Project Name:	MAX FRIESS & FREN SUPPLY LINE	Sampling Condition:	Cool & Intact	
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson	
Project Location:	MALJAMAR, NM			

Sample ID: SP 2 40' (H301894-02)

BTEX 8260B	mg/	kg	Analyze	d By: MS					
Analyte	Result Reporting Lim		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/19/2013	ND	2.15	108	2.00	3.67	
Toluene*	< 0.050	<0.050 0.050		ND	2.16	108	2.00	4.83	
Ethylbenzene*	<0.050	<0.050 0.050		ND	2,10	105	2.00	4.57	•
Total Xylenes*	<0.150 0.150		08/19/2013	ND	6.24	104	6.00	4.81	
Total BTEX	<0.300 0.300		08/19/2013	08/19/2013 ND					
Surrogate: Dibromofluoromethane	rrogate: Dibromofluoromethane 95.1 % 61.3-		2						
Surrogate: Toluene-d8	101 % 71.3-12		9		•				
Surrogate: 4-Bromofluorobenzene	ogate: 4-Bromofluorobenzene 102 % 65.7-1		1						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	⊤rue Value QC	RPD	Qualifier
Chloride	144	16.0	08/13/2013	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/13/2013	ND	183	91.5	200	5.98	
DRO >C10-C28	<10.0	<10.0 10.0		ND	191	95.7	200	6.03	
Surrogate: 1-Chlorooctane	90.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	100 \$	63.6-15	4						
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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 5



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

Page 4 of 5



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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