

Bratcher, Mike, EMNRD

From: Amy Ruth <aruth@diversifiedfsi.com>
Sent: Thursday, July 18, 2013 2:00 PM
To: Bratcher, Mike, EMNRD
Cc: gawink@linenergy.com
Subject: Linn Energy JL Keel B #91
Attachments: Linn JL Keel B #91 Site Diagram w Sample Data.pdf; H301428 LINN surface.pdf; H301483 LINN exc bottom.pdf; C141.tiff

Mike,

Great talking with you this afternoon. We have begun excavating a few sites right away and need to request permission to go ahead with activities at their various junctures. Per our conversation, here is the data on the first site we'd like to discuss.

The Linn Energy site J.L. Keel B #91 (2RP-1294) spill that was previously being looked at by Etech has been excavated by Diversified to 1 and 2 ft. bgs and confirmation samples were collected. Attached are the site diagram and lab data. We would like permission to backfill the site and proceed to a site closure report. Please let me know if you would like to see photos or would rather set up a meeting in person. I still owe you lunch. Either way, here is the data. Thank you!

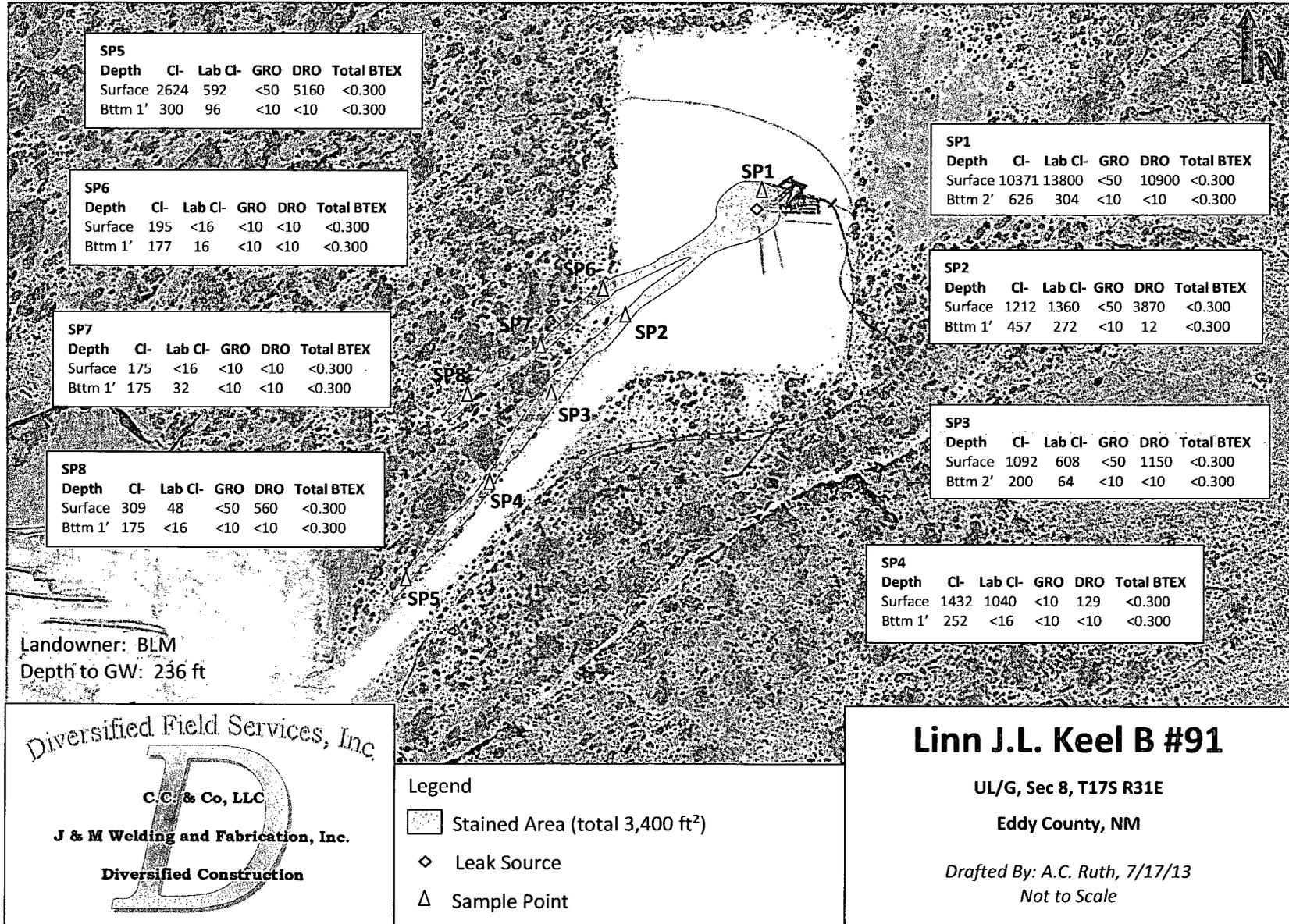
Amy C. Ruth

Diversified Field Services, Inc.
315 S. Leech St.
Hobbs, NM 88240
Office: (575)397-6437
Mobile: (575)390-5454
Fax: (575)393-2981

"Nothing will work unless you do." -Maya Angelou

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Site Diagram with Sample Data





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

June 27, 2013

GARY WINK

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: J L KEEL B #91

Enclosed are the results of analyses for samples received by the laboratory on 06/20/13 8:05.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in cursive script that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	06/20/2013	Sampling Date:	06/17/2013
Reported:	06/27/2013	Sampling Type:	Soil
Project Name:	J L KEEL B #91	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 1 SURFACE (H301428-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/22/2013	ND	1.81	90.7	2.00	8.53		
Toluene*	<0.050	0.050	06/22/2013	ND	1.95	97.5	2.00	7.49		
Ethylbenzene*	<0.050	0.050	06/22/2013	ND	2.11	106	2.00	7.27		
Total Xylenes*	<0.150	0.150	06/22/2013	ND	6.35	106	6.00	6.93		
Total BTEX	<0.300	0.300	06/22/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	13800	16.0	06/24/2013	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS							S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<50.0	50.0	06/21/2013	ND	213	106	200	0.956			
DRO >C10-C28	10900	50.0	06/21/2013	ND	213	106	200	3.66			

Surrogate: 1-Chlorooctane 92.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 403 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/20/2013
 Reported: 06/27/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/17/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 3 SURFACE (H301428-03)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/22/2013	ND	1.81	90.7	2.00	8.53		
Toluene*	<0.050	0.050	06/22/2013	ND	1.95	97.5	2.00	7.49		
Ethylbenzene*	<0.050	0.050	06/22/2013	ND	2.11	106	2.00	7.27		
Total Xylenes*	<0.150	0.150	06/22/2013	ND	6.35	106	6.00	6.93		
Total BTEX	<0.300	0.300	06/22/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	06/24/2013	ND	432	108	400	3.77		

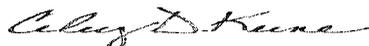
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<50.0	50.0	06/21/2013	ND	213	106	200	0.956		
DRO >C10-C28	1150	50.0	06/21/2013	ND	213	106	200	3.66		

Surrogate: 1-Chlorooctane 91.0 % 65.2-140
Surrogate: 1-Chlorooctadecane 120 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/20/2013
 Reported: 06/27/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/17/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 4 SURFACE (H301428-04)

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	06/21/2013	ND	1.81	90.7	2.00	8.53		
Toluene*	<0.050	0.050	06/21/2013	ND	1.95	97.5	2.00	7.49		
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.11	106	2.00	7.27		
Total Xylenes*	<0.150	0.150	06/21/2013	ND	6.35	106	6.00	6.93		
Total BTEX	<0.300	0.300	06/21/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	06/24/2013	ND	432	108	400	3.77		

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	06/21/2013	ND	213	106	200	0.956		
DRO >C10-C28	129	10.0	06/21/2013	ND	213	106	200	3.66		

Surrogate: 1-Chlorooctane 92.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.5 % 63.6-154

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Celest D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	06/20/2013	Sampling Date:	06/17/2013
Reported:	06/27/2013	Sampling Type:	Soil
Project Name:	J L KEEL B #91	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 6 SURFACE (H301428-06)

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	06/21/2013	ND	1.81	90.7	2.00	8.53		
Toluene*	<0.050	0.050	06/21/2013	ND	1.95	97.5	2.00	7.49		
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.11	106	2.00	7.27		
Total Xylenes*	<0.150	0.150	06/21/2013	ND	6.35	106	6.00	6.93		
Total BTEX	<0.300	0.300	06/21/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 118 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/24/2013	ND	432	108	400	3.77		

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	06/21/2013	ND	213	106	200	0.956		
DRO >C10-C28	<10.0	10.0	06/21/2013	ND	213	106	200	3.66		

Surrogate: 1-Chlorooctane 94.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 97.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/20/2013
 Reported: 06/27/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/17/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 7 SURFACE (H301428-07)

BTEX 8021B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/24/2013	ND	1.96	98.0	2.00	3.95		
Toluene*	<0.050	0.050	06/24/2013	ND	2.09	104	2.00	3.79		
Ethylbenzene*	<0.050	0.050	06/24/2013	ND	2.25	112	2.00	3.79		
Total Xylenes*	<0.150	0.150	06/24/2013	ND	6.79	113	6.00	3.17		
Total BTEX	<0.300	0.300	06/24/2013	ND				200		

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/24/2013	ND	432	108	400	3.77		

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	06/21/2013	ND	213	106	200	0.956		
DRO >C10-C28	<10.0	10.0	06/21/2013	ND	213	106	200	3.66		

Surrogate: 1-Chlorooctane 93.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.9 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Linn Energy</u>		BILL TO		ANALYSIS REQUEST											
Project Manager: <u>Gary Wink</u>		P.O. #:													
Address:		Company:													
City:	State:	Zip:	Attn:												
Phone #:	Fax #:		Address: <u>same</u>												
Project #:	Project Owner:		City:												
Project Name:			State: Zip:												
Project Location: <u>SL Keel B#91</u>			Phone #:												
Sampler Name: <u>L. Gonzalez</u>			Fax #:												
FOR LAB USE ONLY															
Lab I.D.	Sample I.D.	(GRAB OR (COMP. # CONTAINERS	MATRIX					PRESERV.		SAMPLING		chlorides	TPH 8015M	BTEX	
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:				DATE
<u>H301428</u>															
<u>1</u>	<u>SP1 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>735</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>2</u>	<u>SP2 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>813</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>3</u>	<u>SP3 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>951</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>4</u>	<u>SP4 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>1037</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>5</u>	<u>SP5 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>1124</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>6</u>	<u>SP6 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>1254</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>7</u>	<u>SP7 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>1324</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>8</u>	<u>SP8 Surface</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<u>6/17</u>	<u>1350</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Relinquished By: <u>[Signature]</u>	Date: <u>6-17-13</u> Time: <u>1615</u>	Received By: <u>[Signature]</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By: <u>[Signature]</u>	Date: <u>6-20-13</u> Time: <u>805</u>	Received By: <u>[Signature]</u>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: <u>[Signature]</u>	REMARKS: Email: <u>gawink@linnenergy.com</u> <u>Amth@diversifiedpsi.com</u>	

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



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

July 02, 2013

GARY WINK

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: J L KEEL B #91

Enclosed are the results of analyses for samples received by the laboratory on 06/25/13 15:45.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in cursive script that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 1 BOTTOM 2' (H301483-01)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.100	0.100	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 109 % 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	304	16.0	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 93.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.4 % 63.6-154

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	06/25/2013	Sampling Date:	06/24/2013
Reported:	07/02/2013	Sampling Type:	Soil
Project Name:	J L KEEL B #91	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 BOTTOM 1' (H301483-02)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.050	0.050	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 92.3 % 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	272	16.0	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	12.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 89.0 % 65.2-140
Surrogate: 1-Chlorooctadecane 91.3 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 3 BOTTOM 2' (H301483-03)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.050	0.050	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 97.3 % 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	64.0	16.0	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 92.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.5 % 63.6-154

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Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 4 BOTTOM 1' (H301483-04)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.100	0.100	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 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	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 89.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.2 % 63.6-154

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Caley D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 5 BOTTOM 1' (H301483-05)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.050	0.050	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 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	96.0	16.0	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 104 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.4 % 63.6-154

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Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 6 BOTTOM 1' (H301483-06)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.100	0.100	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 91.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.9 % 63.6-154

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Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 7 BOTTOM 1' (H301483-07)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.050	0.050	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 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	32.0	16.0	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

Surrogate: 1-Chlorooctane 90.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.2 % 63.6-154

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Analytical Results For:

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

 Received: 06/25/2013
 Reported: 07/02/2013
 Project Name: J L KEEL B #91
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 06/24/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 8 BOTTOM 1' (H301483-08)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2013	ND	1.80	89.8	2.00	15.2		
Toluene*	<0.050	0.050	06/28/2013	ND	1.94	97.1	2.00	15.4		
Ethylbenzene*	<0.050	0.050	06/28/2013	ND	2.05	102	2.00	16.5		
Total Xylenes*	<0.150	0.150	06/28/2013	ND	6.22	104	6.00	17.8		
Total BTEX	<0.300	0.300	06/28/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	06/27/2013	ND	400	100	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	06/26/2013	ND	208	104	200	0.798		
DRO >C10-C28	<10.0	10.0	06/26/2013	ND	220	110	200	0.475		

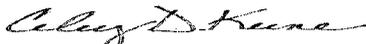
Surrogate: 1-Chlorooctane 90.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.4 % 63.6-154

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Caley 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 <i>Samples reported on an as received basis (wet) unless otherwise noted on report</i>

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