

Linn Energy Turner B #8

CLOSURE REPORT

2RP-1110

API No. 30-015-05280

Release Date: 3/28/2012

Unit Letter B, Section 20, Township 17 South, Range 31 East

May 30, 2014

Prepared by:

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

NM OIL CONSERVATION ARTESIA DISTRICT JUN 0 4 2014

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

Turner B #8

1 INTRODUCTION

Linn Energy (Linn) has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located southwest of Maljamar NM, Unit letter 'B', sec. 20, T17S R31E, in Eddy County. The impact to this site resulted from a compromise to the injection line at the collar due to corrosion around the threads. Linn Energy shut in the line at the header and repaired the line. Linn Energy took proactive measures by injecting fresh water combined with soap in order to force the fluids to surface. There was approximately 12,960 sq. ft. of impacted area. DFSI was retained to fully remediate the site. (Figure).

A form C-141 was submitted to the NMOCD on April 16, 2012 (RP-1110). (Appendix I)

2 SITE ACTIVITIES

On December 07, 2012 a former contractor began delineation, site assessment, partial delineation and excavation of this site.

On June 10, 2013 DFSI revisited the site to collect bottom, north wall and south wall representative samples for confirmation of the perimeter of the spill area. There were six sample points established for this purpose. All representative samples were sent to a commercial laboratory for confirmation. They were tested for chloride, BTEX, GRO, DRO, whereby all of the analyses returned acceptable limits, the chlorides were <384 mg/kg, BTEX <.300 mg/kg, and DRO, GRO were non-detect (Appendix IV).

On July 23, 2013 DFSI personnel revisited the site to establish eight (8) sample points, further delineate by 1ft. segments, and field tested soil samples until acceptable levels of chloride and BTEX could be ascertained. Personnel retrieved representative samples from SP2 and SP6 on this date, and sent to commercial laboratory for confirmation. Personnel retrieved a representative soil sample for SP2 at 16 ft. bgs., and of SP6 at 2ft. bgs., these were sent to the lab for confirmation. The results returned on SP2 for chloride were 992 mg/kg, BTEX, DRO and GRO were non-detect. The results returned for SP6 on chloride content were 48 mg/kg, BTEX <.300, GRO <10, and DRO 78.2 mg/kg.

On July 30, 2013 DFSI personnel returned to the site to simultaneously field test for SP1, SP5 and SP8 respectively. Again the above aforementioned protocol was followed for field testing by 1ft. intervals until acceptable soil chemical results could be attained. Representative samples were retrieved for SP1 at 7ft. bgs, SP5 at 2 ft. bgs, and SP8 at 5ft. bgs. These were sent to the commercial laboratory for confirmation analyses.

The chloride results for SP1 were 352 mg/kg, SP5 chlorides were 512 mg/kg, and for SP8 chlorides were 1390 mg/kg. The results for the above sample points regarding BTEX, DRO and GRO were all non-detect.

DFSI personnel delineated SP2 by 1ft. intervals and field tested for chloride, however at 17ft. bgs., auger refusal was encountered. Therefore, on February 17, 2014 a drill point (hereinafter referred to as SB2), was established and bored to a depth of 70 ft. bgs. This soil bore sample was sent to a commercial laboratory for confirmation, whereby the results returned were as follows for SB2: chloride content was 176 mg/kg, BTEX, DRO and GRO were non-detect.

On February 27, 2014 DFSI submitted a proposed remediation plan for the above aforementioned site to the BLM, and NMOCD respectively, complete with a site excavation diagram (Figure). Whereby, it was noted that the site had been previously excavated to 6ft. bgs. DFSI proposed to backfill to 4ft. bgs., install a 20 mil liner, and backfilled with fresh topsoil. The plan was conditionally approved on February 27, 2014: liner key set on sides of excavation, and knocking sidewalls in on the liner in order to ensure enough ground cover to establish a sound root zone for vegetation (Appendix V).

On March 11, 2014 DFSI personnel revisited the site to establish nine (9) sample points for sidewall confirmation. The representative soil samples were sent to a commercial laboratory for analyses. The results returned chloride results of <768 mg/kg for all samples. SP3, SP5, and SP7 returned the highest levels of chloride for the above sidewall samples. Therefore, on March 11, 2014 DFSI personnel returned to the site to excavate out an additional foot off of the sidewalls for SP3, SP5, and SP7. Representative samples were once again field sampled and sent to a commercial laboratory for confirmation. The analyses returned results of <208 mg/kg for chloride constituent (Appendix IV). Photographs of site activities can be viewed in Appendix II.

3 CONCLUSION

On March 14, 2014 the liner installation and backfill operation was complete. On March 26, 2014 the site was tilled and seeded with 150 lbs. of native seed mixture providing an infiltration barrier and restoring the site to its natural state. According to the U.S. Geological Survey and the NM Office of the State Engineer, there were no records of groundwater in the immediate vicinity, however depth to groundwater in the area averages greater than 220 ft. bgs (Appendix III). Thereby, presenting no imposed impact to groundwater or life forms as a result of this incident. Based on the removal of soils containing elevated chloride and visual staining at the site to an NMOCD approved facility, DFSI, on behalf of Linn, submits the final form C-141 (Appendix V), and respectfully requests the closure of the regulatory file for the Linn Energy Turner B #8 site.

Leak Area and Sample Points

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Appendix I

INITIAL FORM C-141

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

District 1	Chata - P	March	(RECEIVI	T T
1625 N. French Dr., Hobbs, NM 88240 District II Energy		New Mex and Natura	lico il Resources	APR 16 20	12 Form C- Revised October 10, 2
[30] W. Grand Avenue, Artesia, NM 88210 District III		rvation Di		1000 ABT	ESUArepriate District Offic
District IV		h St. Franc			sectande with 19.15.29 NM
1220 S. St. Francis Dr., Santa Fe, NM 87505		e, NM 875			
APJ 30-015-05280 Release Not	ificatio	n and Co	orrective A	ction	
nMLB/2/16 38784		OPERA	and the second	🛛 Initi	al Report 🔲 Final R
Name of Company: Linn Operating 269 : Address: 2130 W. Bender Hobbs, NM 88240	324		<u>Hernandez</u> No.: 575-738-17	139	
Facility Name: Turner B North #8		Facility Typ			
Surface Owner: Federal Miner	al Owner:	Federal		API No	o.: 3001505280
		N OF REI	LEASE		
Unit Letter Section Township Range Feet from t B 20 17S 31E 660	1	/South Line North	Feet from the 1980	East/West Line East	County Eddy
			1200		
Latitude: 32.825	484253602	2 Longitud	e: -103.8898124	77226	
Ν	ATURE	OF REL	EASE		
Type of Release: Produced Water / Oil		Volume of	Release: 145 /		Recovered: 0 / 2
Source of Release: Pipeline-FG			lour of Occurrenc 10:00am	e: Date and 3/28/2011	Hour of Discovery: 2 10:30am
Was Immediate Notice Given?	t Danui	If YES, To	Whom?		
By Whom? Joe Hemandez	. Required		r-NM OCD / 1 our 3/28/2012 4	erry Gregston-BLN	л
Was a Watercourse Reached?			lume Impacting t		·····
Describe Cause of Problem and Remedial Action Taken.*: inji in at header. Ru pump trks and pumped 800 bbl fresh water w Describe Area Affected and Cleanup Action Taken.*: Leak su Further remedial action pending	/ soap to ge	t leak to surfa	ce.		
I hereby certify that the information given above is true and co regulations all operators are required to report and/or file certai public health or the environment. The acceptance of a C-141 r should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-1 federal, state, or local laws and/or regulations.	in release no report by the id remediate	otifications an NMOCD ma contamination	d perform correct trked as "Final Re- on that pose a three the operator of r	tive actions for rele eport" does not reli at to ground water	eases which may endanger eve the operator of liability , surface water, human healt ompliance with any other
Signature:			Signed B	· Alily &	Contractor_
Printed Name: Joe Hernandez			District Supervise	- •	·
Title: Production Foreman	/	Al Approval Date		L Expiration	Date:
E-mail Address: jhernandez@linnenergy.com Date: 04/16/2012 Phone: 575-942-9492		Conditions of			Attached
Attach Additional Sheets If Necessary	- Re Guide	- diation	n per OCD Ru	es &	

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Appendix II

SITE PHOTOGRAPHS

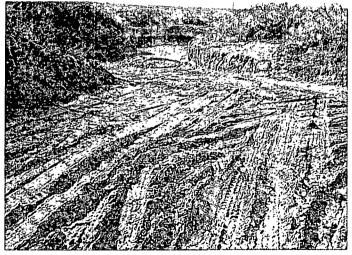
Diversified Field Service, Inc. 3412 N. Dal Paso Hobbs, NM 88240 (575) 964-8394

Linn Energy Turner B #8

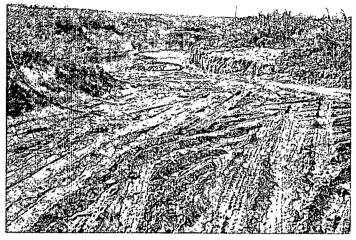
Unit Letter B, Section 20, T17S R31E



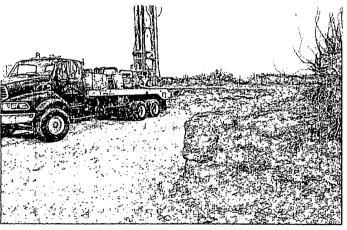
Sign marking location 6/11/12



Leak surfacing SE and SW of injection line 9/4/13



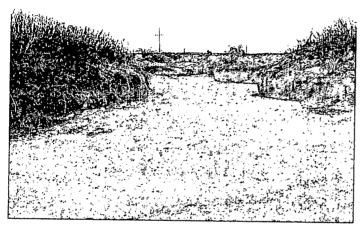
Spill location SE of injection line 9/4/13



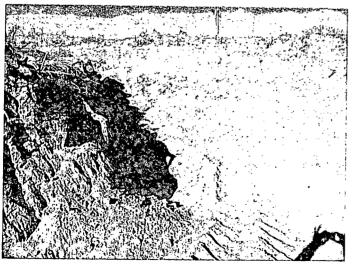
Drilling soil bore 2/18/14

Linn Energy Turner B #8

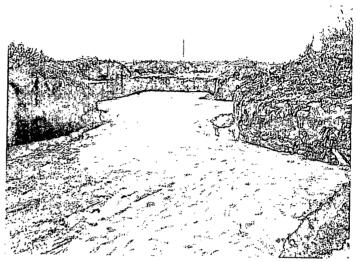
Unit Letter B, Section 20, T17S R31E



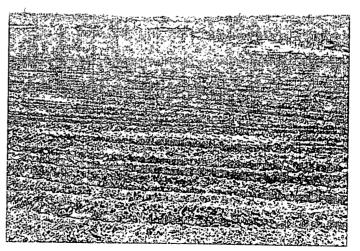
Backfill of excavation to 4 ft. 3/3/14



Backfill over the liner 3/12/14



Backfill of excavation to 4 ft. 3/10/14



Site at completion of seeding 3/27/14

Appendix III

GROUNDWATER **D**ATA

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

GROUND WATER SEARCH

	Linr	n Energy Turn	er B No	orth #8		
UL:	<u> </u>	ec: 20	T:	175	R:	31E
Groundwa	ater Depth:	220~	,	ft.		
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No records found.

PLSS Search:

Township 16S Range 30E



No records found.

PLSS Search:

Township 168 Range 30E



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Average Depth to Water: 297 feet

Minimum Depth: 287 feet

Maximum Depth: 314 feet

Record Count: 9

PLSS Search

Township 168 Range 31E

*UTM location was derived from PLSS - see Halp



(with Ownership Information)

				(R=POD has been replaced					
				and no longer serves this file,	(quarters are 1=NW 2:	=NE 3=SW 4=	-SE)		
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<u>671</u>	L PRO 0	JOHN H. TRIGG	LE <u>L 04671</u>		Shallow 1 1 2 12 16S 31E	610114	3645538

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POD Number: L 04671

Sorted by: File Number

M location was derived from PLSS - see Help

data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completenibility, usability, or suitability for any particular purpose of the data.

18/13 2:32 PM



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

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*UTM location was derived from PLSS - see Help

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The data is furnished by the NMOSE ISC and is accepted by the recipient with the expressed understanding that the OSE SC make no warranties expressed or implied, concerning the accuracy completeness, reliability, usability, or suitability for any particular purpose of the data

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3646391' 🥪

L 11189

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(with Ownership Information)

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				and no longer serves this file.	, (quarters are 1	=NW 2=NE 3=SW 4	=SE)	
	(acre ft	per annum)		C=the file is closed)	(quarters are s	mallest to largest) (NAD83 UTM in mete	
	Sub				d d c	1		
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source 6416 4	1 Sec Tws Rng	x	
L 02381	L PRO	0 GULF REFINING COMPANY	LE L 02381		Shallow 3 1	1 13 16S 32E	619086 36435	

Record Count: 1

POD Search:

POD Number: L 02381

Sorted by: File Number

'UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, comprehiability, usability, or suitability for any particular purpose of the data.

12/18/13 2:33 PM



(with Ownership Information)

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	(acre ft	per annum)		C=the file is closed)	(quarters are	smallest to largest) (I	NAD83 UTM in met
	Sub				a a	q	
WR File Nbr	basin Use Div	ersion Owner	County POD Number	Code Grant	Source 6416	4 Sec Tws Rng	X
L 02449	L PRO	0 PLYMOUTH OIL COMPANY	LE <u>L 02449</u>		Shallow	01 16S 32E	619661 36465

Record Count: 1

POD Search:

POD Number: L 02449

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*UTM location was derived from PLSS - see Help



(with Ownership Information)

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	(acre ft	per annum)		C=the file is closed)	(quarters a	are smalles	st to largest) (NAD83 UTM in met	
	Sub				q	99			
WR File Nbr	basin Use Div	ersion Owner	County POD Number	Code Grant	Source 64	416 4 Sec	Tws Rng	x	
L 02617	L PRO	0 GULF OIL CORPORATION	LE L 02617		Shallow	4 4 02	16S 32E	618656 36459	

Record Count: 1

POD Search:

POD Number: L 02617

Sorted by: File Number

*UTM location was derived from PLSS - see Help

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12/18/13 2:34 PM



(with Ownership Information)

				and no longer serves this file	e. (quarte	ers are 1	=NW	2=NE 3=SW 4	=SE)	
	(acre ft	per annum)		C=the file is closed)	(quarle	ers are s	malles	st to largest) (i	NAD83 UTM in me	
	Sub					qqo	1			
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source	6416 4	1 Sec	Tws Rng	х	
L 02752	L DOL	3 W W WILLIAMS	LE <u>L 02752</u>		Shallow	13	3 26	16S 32E	617521 36398	

Record Count: 1

POD Search:

POD Number: L 02752

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replace		
				and no longer serves this t	file, (quarters are 1=NW 2=NE 3=SW 4	=SE)
	(acre ft	per annum)		C=the file is closed)	(quarters are smallest to largest) (I	NAD83 UTM in met
	Sub				999	
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng	X
L 02846	L PRO	0 CONTINENTAL OIL COMPANY	LE <u>L 02846</u>		Shallow 4 2 1 11 16S 32E	617956 36454

Record Count: 1

POD Search:

POD Number: L 02846

Sorted by: File Number

'UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replaced	nas been replaced					
				and no longer serves this file.	e, (quarters are 1=NW 2=NE 3=SW 4=SE)					
(acre ft per annum)				C=the file is closed)	(quarters are smallest to largest) (NAD83 UTM in met-					
	Sub				ववव					
WR File Nbr	basin Use Div	ersion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng	х				
L 02954	L PRO	0 SCHOENFELD-HUNTER-KITCH DRG CO	LE <u>L 02954</u>		Shallow 2 4 03 16S 32E	617043 36463				

Record Count: 1

POD Search:

POD Number: L 02954

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

			(R=POD has been replaced		
			and no longer serves this file,	, (quarters are 1=NW 2=NE 3=SW 4=SE)	
	(acre ft per annum)		C=the file is closed)	(quarters are smallest to largest) (NAD83 UTM in met	
	Sub			999	
WR File Nbr	basin Use Diversion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng X	
L 03631	L PRO 0 MAGNOLIA PETROLEUM COMPANY	LE <u>L 03631</u>		Shallow 1 2 02 16S 32E 618240 36471	

Record Count: 1

POD Search:

POD Number: L 03631

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replaced and no longer serves this file.	been replaced serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)						
	(acre ft	per annum)		C=the file is closed)				to largest) (I		1 in me	
	Sub					q q q					
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source (6416 4	Sec	Tws Rng	х		
L 04930	L STK	3 JULIA WILLIAMS	LE <u>L 04930</u>		Shallow	1	23	16S 32E	617698	3642(

Record Count: 1

POD Search:

POD Number: L 04930

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replaced						
				and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)						
	(acre	t per annum)		C=the file is closed) (quarters are smallest to largest) (NAD83 UT						
Sub			q q q							
WR File Nbr	basin Use Div	version Owner	County POD Number	Code Grant	Source 6416	4 Sec Tws Rng	x			
L 05494	L COM	165 CITY OF CARLSBAD	LE <u>L 05494</u>		Shallow	36 16S 32E	619758 36384			

Record Count: 1

POD Search:

POD Number: L 05494

Sorted by: File Number

'UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replaced and no longer serves this file,						mo
	(acre ft	per annum)		C=the file is closed)	(quarter	's are sr	nallest	o largest)	(NAD83 UTM in I	me
	Sub					9 9 9				
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source	6416 4	Sec 7	ws Rng	x	
L 06557	L STK	3 TAYLOR CATTLE COMPANY	LE <u>L 06557</u>		Shallow	14	21	16S 32E	615089 36	641.

Record Count: 1

POD Search:

POD Number: L 06557

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replac					
				and no longer serves this	file, (quarters are 1=NW 2=NE 3=SW 4	=SE)			
	(acre ft	per annum)		C=the file is closed) (quarters are smallest to largest) (NAD83 UTM					
	Sub				qqq				
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng	X			
L 06807	L PRO	0 SHARP DRILLING COMPANY	LE <u>L 06807</u>		Shallow 1 4 4 09 16S 32E	615356 3644:			

Record Count: 1

POD Search:

POD Number: L 06807

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

	(acre tt per annum) Sub			(H=POD has been replaced and no longer serves this file.	(quarters are 1=NW 2=NE 3=SW 4	3=SW 4=SE)		
	(acre t	t per annum)		C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in				
	Sub				999			
WR File Nbr	basin Use Div	ersion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng	х		
L 07823	L PRO	0 E R WEST ENGINEERING	LE L 07823		Shallow 2 2 2 16 16S 32E	615561 36439		

Record Count: 1

POD Search:

POD Number: L 07823

Sorted by: File Number

'UTM location was derived from PLSS - see Help



(with Ownership Information)

			(R=POD has been replaced and no longer serves this file.								
	(acre ft per annum)		(quarters are smallest to largest) (NAD83 UTM in me								
	Sub			999							
WR File Nbr	basin Use Diversion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng X							
L 08084	L COM 750 MOR-WEST CORPORATION	LE <u>L 08084</u>		Shallow 1 1 1 16 16S 32E 614157 3643!							
		LE <u>L 08084 POD4</u>		Shallow 2 26 16S 32E 618522 3640							
		LE <u>L 08084 POD5</u>		Shallow 4 1 4 26 16S 32E 618425 3639							
		LE <u>L 08084 S</u>	R	Shallow 2 1 1 36 16S 32E 619239 3639							
		LE L08084 S2	R	Shallow 3 1 1 36 16S 32E 619039 3638!							
		LE <u>L 08084 S3</u>		Shallow 2 26 16S 32E 618522 3640 [,]							

Record Count: 6

POD Search:

POD Number: L 08084

Sorted by: File Number

*UTM location was derived from PLSS - see Help



(with Ownership Information)

			(R=POD has been replaced				
			and no longer serves this file. (quarters are 1=NW 2=NE 3=SW 4=SE)				
	(acre ft per annum)		C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in				
	Sub			d d d			
WR File Nbr	basin Use Diversion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng X			
L 08084	L COM 750 MOR-WEST CORPORATION	LE L 08084 S3		Shallow 2 26 16S 32E 618522 36404			

Record Count: 1

POD Search:

POD Number: L 08084 S3

Sorted by: File Number

*UTM location was derived from PLSS - see Help

Average Depth to Water:	224 feet
Minimum Depth:	65 feet
Maximum Depth:	280 feet

Record Count: 22

PLSS Search:

Township. 16S Range 32E



No records found.

PLSS Search:

Township 178 Range 30E



(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file)		• •						E 3=SW largest)		3 UTM in me	elers)		(In fee	t:
	POD		~	_	~							•	.	104
POB Number	Sub- Code basin Co	untv	Q 64			Sec	Tws	Rng	X	Y		•		Water Column
RA 11590 POD1		-					17S	-	603315	3628545	\$	158		
RA 11590 POD3	E	ED	3	l	2	32	17S	31E	603932	3629260	Ż	60		
RA 11590 POD4	E	ED	4	١	1	32	178	31E	603308	3629253	57	55		
										Average De	epth to	Water:		
										Mir	nimum	Depth:		
										Ma.	งเสานสา	Depth:		
Record Count, 3														

PLSS Search.

Township 115 Range 316



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW####### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replace O=orphaned C=the file is closed)	ed. (quar				IE 3=SM Targest)) UTM in maters)		(in feat)
POD Number L 04019	POD Sub- Code basin L	County LE				-	X 618468	۲ 3636186* خ ر م		Depth Water Water Column
L 04020	Ł	LE	33	4 02	175	32E	618268	3636168" 🥁	200	
L 04021	R L	LE	34	4 02	17S	32E	618670	3636170' 😽	190	
L 04021 POD3	t_	LE	3	4 03	17S	32E	516761	3636252* 🦕	247	
L 04021 S	4_	LE	2 4	4 03	17\$	32E	617262	3636354* 🧒	260	
L 13047 POD1	L	LE		11	17\$	32E	618187	3635254° 🎝	140	
L 13050 POD1	L	LE	2 2	1 10	175	32E	616463	3635945° 🈽	156	132 24
RA 08855		LE	4 1	1 10	175	32E	616061	3635742° 🎝	158	
RA 09505		LE	2 2	1 10	17S	325	616462	3635944 69	147	
RA 09505 S		LE	2 2	1 10	175	32E	616463	3635945° 😽	144	
RA 10175		LE	5	1 ZB	17S	32E	614814	3631005° 🎝	158	
RA 11684 POD1		LE	1 1	4 11	175	32E	618216	3635124 😽	275	
RA 11684 POD2		LE	1 1	4 11	175	325	618313	3635248 🥱	275	
RA 11684 POD3		LΕ	33	1 11	17S	32E	618262	3635371 57	275	
RA 11684 POD4		LE	13	2 11	175	325	618334	3635521 😽	275	
RA 11684 POD5		LE	31	4 11	17S	32E	618353	3635047 49	275	
RA 11734 POD1		LE	22	1 10	175	32E	615556	3635929 😽	165	

Average Depth to Water: 132 feet

Minimum Depth: 132 feet

Maximum Depth: 132 feet

Record Count: 17

PLSS Search:

Township: 17S Range: 32E

*UTM location was derived from PLSS - sea Help



(with Ownership Information)

No PODs found.

POD Search:

POD Number: L 13050 1



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)		quarters a					'	3 UTM in me	eters)		(In feel	
	POD											
POD Number	Sub- Code basin Cor	Q Q Unity 64 16			Twe	Rna	х	Y		-	•	Water Column
<u>CP 00818</u>	L	•			185		599289	3620364"		240	110101	Column
CP 00819	LI	E 2	4	32	18S	30E	594878	3618720-	\$1	150		
L 01978	L L	E I	3	23	18S	30E	598469	3621964*	5	65	44	24
								Average De	opth to	Water:	44 f	eet
								Mir	nimum	Depth:	ৰন (eet
								Max	dimum	Depth:	44	eet
Record Count: 3												

PLSS Search:

Township 188 Range 30E

'UTM location was derived from PLSS - see Help



(with Ownership Information)

			(R=POD has been replaced and no longer serves this file,	(quarters are 1=NW 2=NE 3=SW 4=SE)
	(acre ft per annum)		C=the file is closed)	(quarters are smallest to largest) (NAD83 UTM in me
	Sub			q q q
WR File Nbr	basin Use Diversion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng X
L 01978	L DOM 3 LA JOHNSON	LE L 01978		Shallow 1 3 23 18S 30E 598469 36215

Record Count: 1

POD Search:

POD Number: L 01978

Sorted by: File Number

*UTM location was derived from PLSS - see Help

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12/18/13 2:44 PM



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the	(R=POD has been replaced	1										
POD has been replaced	O=orphaned.	••										
& no longer serves a	C=the file is	(quar	ters a	are	1=NN	N 2=N	IE 3=\$M	/ 4=SE)				
water right file.)	closed)	(quar	ters :	are	smal	lest to	largest)	(NAD8	3 UTM in meters)		(In feet)
	POD											
	Sub-		QC	Q Q						Dapth	Depth	Water
POD Number	Code basin C	County	64 1	64	Sac	Tws	Rng	х	Y	Well	Water	Column
L 11092	L	LE	2	3	15	18S	31E	606849	3623669° 🦕	160	98	62
									Average Depth to	o Water:	98 fi	eet
									Minimun	1 Depth:	98 fi	eet
									Maximum	n Depth:	98 f	eet
Record Count: 1												

PLSS Search:

Township 188 Range 318

"UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R≈POD has been replaced			
				and no longer serves this file	, (quarters ar	re 1=NW 2=NE 3=SW 4=	SE)
	(acre ft	per annum)		C=the file is closed)	(quarters ar	re smallest to largest) (N	AD83 UTM in met
	Sub				q	9 9	
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source 641	164 Sec Tws Rng	х
L 11092	L DOM	3 NEW HOPE BAPTIST	LE <u>L 11092</u>		Shallow	2 3 15 18S 31E	606849 3623E

Record Count: 1

POD Search:

POD Number: L 11092

Sorted by: File Number

*UTM location was derived from PLSS - see Help



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file)	•••	• •					IE 3=SW largest)		3 UTM in meters)		(In feet)	
	Sub-			Q (D	V	V		Depth V	
POD Number CP 00566	Code basin Co L	•	4 (4			185 1	-	X 614960	۲ 3627280 ° کې	133	Water Co 65	68
CP 00672	L	.Е	:	44	07	185	32E	612475	3624947* 😽	524	430	94
CP 00672 CLW475398	О Ц	.E	,	4 4	07	18S	32E	612475	3624947° 🈽	540	460	08
CP 00677	Ļ	E		1 1	26	185	32E	617750	3621373* 49	700		
									Average Depth to	o Water:	318 fee	٤
									Minimum	n Depth:	65 fee	t
									Maximun	Depth:	460 fee	t
Record Count: 4												

PLSS Search.

Township 155 Range 328

'UTM location was derived from PLSS - see Help



(with Ownership Information)

				(R=POD has been replaced and no longer serves this file,	(quarters are 1=NW 2=NE 3=SW 4	=SE)
	(acre ft	per annum)		C=the file is closed)	(quarters are smallest to largest) (i	NAD83 UTM in met
	Sub				999	
WR File Nbr	basin Use Div	ersion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng	х
CP 00566	DOM	3 B.E. FRIZZELL	LE CP 00566		Shallow 4 4 1 04 18S 32E	614960 36272

Record Count: 1

POD Search:

POD Number: CP 00566

Sorted by: File Number

'UTM location was derived from PLSS - see Help

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12/18/13 2:45 PM



(with Ownership Information)

				(R=POD has been replaced			
				and no longer serves this file,	(quarters are 1)	=NW 2=NE 3=SW 4	=SE)
	(acre It	per annum)		C=the file is closed)	(quarters are s	mallest to largest) (I	NAD83 UTM in met
	Sub				qqq	l	
WR File Nbr	basin Use Dive	ersion Owner	County POD Number	Code Grant	Source 6416 4	Sec Tws Rng	x
CP 00672	STK	3 VIRGIL LINAM ESTATE	LE <u>CP 00672</u>		Shallow 4 4	07 18S 32E	612475 36249

Record Count: 1

POD Search:

POD Number: CP 00672

Sorted by: File Number

'UTM location was derived from PLSS - see Help



(with Ownership Information)

No PODs found.

POD Search:

POD Number: CP 00672 CLW475398



(with Ownership Information)

				(R=POD has been replace		
				and no longer serves this	s lile, (quarters are 1=NW 2=NE 3=SW 4=	=SE)
	(acre ft	per annum)		C=the file is closed)	(quarters are smallest to largest) (N	NAD83 UTM in met
	Sub				q q q	
WR File Nbr	basin Use Divi	ersion Owner	County POD Number	Code Grant	Source 6416 4 Sec Tws Rng	х
CP 00677	PRO	0 T X O PROD.	LE <u>CP 00677</u>		1 1 26 18S 32E	617750 36213

Record Count: 1

POD Search:

POD Number: CP 00677

Sorted by: File Number

'UTM location was derived from PLSS - see Help

Appendix IV

LABORATORY ANALYSES

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



June 21, 2013

GARY WINK

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: TURNER B #8

Enclosed are the results of analyses for samples received by the laboratory on 06/17/13 8:25.

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 accredited analytes.

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 2 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:	06/17/2013	Sampling Date:	06/10/2013
Reported:	06/21/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: BOTTOM N 3.5' (H301390-01)

BTEX 8021B	mg,	/kg	Analyze	d By: AP					·
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2013	ND	2.12	106	2.00	4.61	
Toluene*	<0.050	0.050	06/21/2013	ND	2.24	112	2.00	4.54	
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.43	122	2.00	4.76	
Total Xylenes*	<0.150	0.150	06/21/2013	ND	7.24	121	6.00	4.85	
Total BTEX	<0.300	0.300	06/21/2013	NÐ					

Surrogate: 4-Bromofluorobenzene (PIE 120 % 89.4-126

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: DW	<u> </u>	<u> </u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/20/2013	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS		<u> </u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/19/2013	ND	205	103	200	2.90	
DRO >C10-C28	<10.0	10.0	06/19/2013	ND	215	107	200	2.48	
Surrogate: 1-Chlorooctane	80.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	85.3	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

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Celeg Z. Kene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/17/2013	Sampling Date:	06/10/2013
Reported:	06/21/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: BOTTOM \$ 3.5' (H301390-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2013	ND	2.12	106	2.00	4.61	
Toluene*	<0.050	0.050	06/21/2013	ND	2.24	112	2.00	4.54	
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.43	122	2.00	4.76	
Total Xylenes*	<0.150	0.150	06/21/2013	ND	7.24	121	6.00	4.85	
Total BTEX	<0.300	0.300	06/21/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 %	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	224	16.0	06/20/2013	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	06/19/2013	ND	205	103	200	2.90	
DRO >C10-C28	<10.0	10.0	06/19/2013	ND	215	107	200	2.48	
Surrogate: 1-Chlorooctane	88.8 5	65.2-14	0	-					, <u>, , , , , , , , , , , , , , , , </u>
Surrogate: 1-Chlorooctadecane	93.0 9	63.6-15	4						

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Celeg Di Kene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/17/2013	Sampling Date:	06/10/2013
Reported:	06/21/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: N WALL CENTER #1 (H301390-03)

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	06/21/2013	ND	2.12	106	2.00	4.61	
Toluene*	<0.050	0.050	06/21/2013	ND	2.24	112	2.00	4.54	
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.43	122	2.00	4.76	
Total Xylenes*	<0.150	0.150	06/21/2013	ND	7.24	121	6.00	4.85	
Total BTEX	<0.300	0.300	06/21/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 108 % 89.4-126

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/20/2013	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	06/19/2013	ND	205	103	200	2.90	
DRO >C10-C28	<10.0	10.0	06/19/2013	ND	215	107	200	2.48	
Surrogate: 1-Chlorooctane	89.1	% 65.2-14	0			······································			
Surrogate: 1-Chlorooctadecane	95.1	% 63.6-15	4						

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Celeg Di 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:	06/17/2013	Sampling Date:	06/10/2013
Reported:	06/21/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: N WALL CENTER #2 (H301390-04)

BTEX 8021B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	ßS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2013	ND	2,12	106	2.00	4.61	
Toluene*	<0.050	0.050	06/21/2013	ND	2.24	112	2.00	4.54	
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2,43	122	2.00	4.76	
Total Xylenes*	<0.150	0.150	06/21/2013	ND	7.24	121	6.00	4.85	
Total BTEX	<0.300	0.300	06/21/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL 109 % 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	06/20/2013	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	06/20/2013	ND	196	98.2	200	5.62	
DRO >C10-C28	<10.0	10.0	06/20/2013	ND	209	105	200	2.41	
Surrogate: 1-Chlorooctane	90.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	96.9	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/17/2013	Sampling Date:	06/10/2013
Reported:	06/21/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S WALL CENTER #1 (H301390-05)

BTEX 8021B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2013	ND	2.12	106	2.00	4.61	
Toluene*	<0.050	0.050	06/21/2013	ND	2.24	112	2.00	4.54	
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.43	122	2.00	4.76	
Total Xylenes*	<0.150	0.150	06/21/2013	ND	7.24	121	6.00	4.85	
Total BTEX	<0.300	0.300	06/21/2013	ND					

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Surrogate: 4-Bromofluorobenzene (PIE 122 % 89.4-126

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/20/2013	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	06/20/2013	ND	196	98.2	200	5.62	
DRO >C10-C28	<10.0	10.0	06/20/2013	ND	209	105	200	2.41	
Surrogate: 1-Chlorooctane	81.7	% 65.2-14	0	<u> </u>					
Surrogate: 1-Chlorooctadecane	85.8	% 63.6-15	4						

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Celeg Di 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:	06/17/2013	Sampling Date:	06/10/2013
Reported:	06/21/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S WALL CENTER #2 (H301390-06)

BTEX 8021B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2013	ND	2.12	106	2.00	4.61	
Toluene*	<0.050	0.050	06/21/2013	ND	2.24	112	2.00	4.54	
Ethylbenzene*	<0.050	0.050	06/21/2013	ND	2.43	122	2.00	4.76	
Total Xylenes*	<0.150	0.150	06/21/2013	ND	7.24	121	6.00	4.85	
Total BTEX	<0.300	0.300	06/21/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109	% 89.4-12	6				,•,·		
Chlorida SM4500Cl-R		()	•						

Chloride, SM4500CI-B	ide, SM4500CI-Bmg/kg								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384 16.0		06/20/2013	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	06/20/2013	ND	196	98.2	200	5.62	
DRO >C10-C28	<10.0	10.0	06/20/2013	ND	209	105	200	2.41	
Surrogate: 1-Chlorooctane	83.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	84.3	% 63.6-15	4						

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Celez 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 SM4500CI-B does not require samples be received	at or below 6°C
Samples reported on an as received basis (wet) unless otherw	vise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

	(575) 393-2326 FAX (575) 393-2476																								
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≥ fax written changes to (575) 393-2326 † Cardinal cannot accept verbal changes. P

Yes Yes

No

No

Page 9 of 9



August 05, 2013

GARY WINK LINN ENERGY RR1, BOX 24 B KINGFISHER, OK 73750

RE: TURNER B #8

Enclosed are the results of analyses for samples received by the laboratory on 07/29/13 17:03.

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 to Keine

Celey D. Keene Lab Director/Quality Manager



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Analytical Results For:

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

Received:	07/29/2013	Sampling Date:	07/23/2013
Reported:	08/05/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR		

Sample ID: SP 2 @ 16' (H301782-01)

BTEX 8021B	'kg	Analyze	d By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTEX	<0.300	0.300	08/01/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	105 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					<u> </u>
Analyte	Result	Reporting Limit	Anafyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	07/30/2013	ND	400	100	400	7.69	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Anaiyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	

ND

07/31/2013

 Surrogate:
 1-Chlorooctane
 77.9 %
 65.2-140

 Surrogate:
 1-Chlorooctadecane
 103 %
 63.6-154

<10.0

10.0

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DRO >C10-C28

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Celey D. Keene, Lab Director/Quality Manager



LINN ENERGY GARY WINK RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693 07/29/2013 Sampling Date: 08/05/2013

Received:	07/29/2013	Sampling Date:	07/29/2013
Reported:	08/05/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR		

Sample ID: SP 6 @ 2' (H301782-02)

BTEX 8021B	mg/	kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTEX	<0.300	0.300	08/01/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	101 9	89.4-12	6						
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	07/30/2013	ND	400	100	400	7.69	
TPH 8015M	mg/	kg	Analyze	d By: MS					5-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DR0 >C10-C28	78.2	10.0	07/31/2013	ND	199	99.3	200	3.94	
Surrogate: 1-Chlorooctane	60.9 5	65.2-14	0						
Surrogate: 1-Chlorooctadecane	79.0 9	63.6-15	L						

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Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 5

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

5 of 5

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August 05, 2013

GARY WINK

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: TURNER B #8

Enclosed are the results of analyses for samples received by the laboratory on 07/30/13 16:30.

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,

Celeg 2 Kene

Celey D. Keene Lab Director/Quality Manager



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

Received:	07/30/2013	Sampling Date:	07/30/2013
Reported:	08/05/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR		

Sample ID: SP 1 @ 7' (H301797-01)

BTEX 8021B	mg/	kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	1.99	99.6	2.00	0.870	
Toluene*	<0.050	0.050	08/01/2013	ND	1.94	97.1	2.00	0.758	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.02	101	2.00	1.31	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.10	102	6.00	1.72	
Total BTEX	<0.300	0.300	08/01/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	104 %	6 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	08/01/2013	ND	416	104	400	3.92	
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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
Surrogate: 1-Chlorooctane	89.8 9	65.2-14	0				·		
Surrogate: 1-Chlorooctadecane	116 %	63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, 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 waved unless made in writing and received by client, it's ubidiant's after completion of the applicable service. In no event shall Cardinal be lable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incidented by client, it's subsidiant's, 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 statied reasons or otherwse. Results relate only to the samples identified above. This reproduced except in full with written approval of Cardinal Laboratores.

Celeg Li Keene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	07/30/2013	Sampling Date:	07/30/2013
Reported:	08/05/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALJAMAR		

Sample ID: SP 8 @ 5' (H301797-02)

BTEX 80218	mg/	kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	1.99	99.6	2.00	0.870	
Toluene*	<0.050	0.050	08/01/2013	ND	1.94	97.1	2.00	0.758	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.02	101	2.00	1.31	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.10	102	6.00	1.72	
Total BTEX	<0.300	0.300	08/01/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	104 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	08/01/2013	ND	416	104	400	3.92	
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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
Surrogate: 1-Chlorooctane	91.0	65.2-14	0						
Surrogate: 1-Chlorooctadecane	115 %	63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

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Celeg Di 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:	07/30/2013	Sampling Date:	07/30/2013
Reported:	08/05/2013	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	MALIAMAR		

Sample ID: SP 5 @ 2' (H301797-03)

mg/	/kg	Analyze	d By: DW					
Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
<0.050	0.050	08/01/2013	ND	1.99	99.6	2.00	0.870	
<0.050	0.050	08/01/2013	ND	1.94	97.1	2.00	0.758	
<0.050	0.050	08/01/2013	ND	2.02	101	2.00	1.31	
<0.150	0.150	08/01/2013	ND	6.10	102	6.00	1.72	
<0.300	0.300	08/01/2013	ND					
	Result <0.050 <0.050 <0.050 <0.150	<0.050 0.050 <0.050 0.050 <0.050 0.050 <0.150 0.150	Result Reporting Limit Analyzed <0.050	Result Reporting Limit Analyzed Method Blank <0.050	Result Reporting Limit Analyzed Method Blank BS <0.050	Result Reporting Limit Analyzed Method Blank BS % Recovery <0.050	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC <0.050	Result Reporting Limit Analyzed Method Blank 8S % Recovery True Value QC RPD <0.050

Surrogate: 4-Bromofluorobenzene (PIL 104 % 89.4-126

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	08/01/2013	ND	416	104	400	3.92	
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	08/01/2013	ND	183	91.5	200	10.9	
DRO >C10-C28	<10.0	10.0	08/01/2013	ND	190	95.0	200	10.7	
Surrogate: 1-Chlorooctane	102	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	131	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by dient 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 servee. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incidentified abort, 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 infilid abort, this produced excepts in full with interna paproval of Cardinal Laboratories.

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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 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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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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February 21, 2014

BRIAN WALL

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: TURNER B #8

Enclosed are the results of analyses for samples received by the laboratory on 02/17/14 15:30.

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.tceg.texas.gov/field/qa/lab accredited analytes.

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. Kene

Celey D. Keene Lab Director/Quality Manager



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

Received:	02/17/2014	Sampling Date:	02/17/2014
Reported:	02/21/2014	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 @ 65' (H400472-01)

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	02/20/2014	ND	2.46	123	2.00	2.42	
Toluene*	<0.050	0.050	02/20/2014	ND	2.17	108	2.00	2.14	
Ethylbenzene*	<0.050	0.050	02/20/2014	ND	2.18	109	2.00	3.74	
Total Xylenes*	<0.150	0.150	02/20/2014	ND	6.35	106	6.00	3.42	
Total BTEX	<0.300	0.300	02/20/2014	ND					
Surrogate: Dibromofluoromethane	104	% 61.3-14	2	<u></u>					
Surrogate: Toluene-d8	97.1	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	102	% 65.7-14	1						
Chioride, SM4500CI-B	mg,	/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/20/2014	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	02/19/2014	ND	200	100	200	5.07	
DRO >C10-C28	<10.0	10.0	02/19/2014	ND	192	96.2	200	7.57	
Surrogate: 1-Chlorooctane	91.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.1	% 63.6-15							

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*=Accredited Analyte

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Celeg Di Kiene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	02/17/2014	Sampling Date:	02/17/2014
Reported:	02/21/2014	Sampling Type:	Soil
Project Name:	TURNER B #8	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB 2 @ 70' (H400472-02)

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	02/21/2014	ND	2.46	123	2.00	2.42	
Toluene*	<0.050	0.050	02/21/2014	ND	2.17	108	2.00	2.14	
Ethylbenzene*	<0.050	0.050	02/21/2014	ND	2.18	109	2.00	3.74	
Total Xylenes*	<0.150	0.150	02/21/2014	ND	6.35	106	6.00	3.42	
Total BTEX	<0.300	0.300	02/21/2014	ND					
Surrogate: Dibromofluoromethane	109 :	% 61.3-14	2						
Surrogate: Toluene-d8	97.3	% 71.3-12	9						
Surrogate: 4-Bromofluorobenzene	102 9	65.7-14	1						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	02/20/2014	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	02/19/2014	ND	200	100	200	5.07	
DRO >C10-C28	<10.0	10.0	02/19/2014	ND	192	96.2	200	7.57	
Surrogate: 1-Chlorooctane	104 9	65.2-14	0						
Surrogate: 1-Chlorooctadecane	107 9	63.6-15	4						

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*=Accredited Analyte

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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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Page 4 of 5



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	Einn						-	-1990-	: : · · ·	-17	L 70						ANA	VSI	PE	ÕUE	ST			
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Project Name:	Turner BB				•		St	ate:	_	;	Zip:			}			[
Project Location	n:						РІ	one	#:					1				l	Į		[
Sampler Name:	Lance crenshaw						Fa	x #:	-	_														1
FOR LAB USE ONLY	· · · · · · · · · · · · · · · · · · ·				MATE	XIX		PR	ESEF	١V	SAMPL	NG]		h		1		1					
Lab I.D. H400472	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER WASTEWATER	SOIL	OIL SUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	CC	BTEX	GroDro									
1	532 8.65	G	1		v_{l}				V		2-17	[U. 0D	$\overline{\mathbf{v}}$	YU	V	1								
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PLEASE NOTE: Liability and Damages. Cardinats liability and client's exclusive remedy for any claim arising whether based in contract or tont, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinat within 30 days after completion of the applicable service. In no event shall Cardinat be liable for including university in the second waived unless instructions, loss of use, or loss of profits incurred by client, its subsidiaries, addition of the second seco

Relinquished By:		Phone Result: Ves No Add'I Phone #: Fax Result: Yes No Add'I Fax #:
Relinguished By:	Date: Received By:	Boual D Linnereigy.com
	Time:	aroppediversified fisi.com
Delivered By: (Circle One)	Sample Condition CHECKED BY: Cool Intact (Initials)	
Sampler - UPS - Bus - Other:	5.22 Dries Ves	

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2846-()



March 11, 2014

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BRIAN WALL LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: TURNER B #8

Enclosed are the results of analyses for samples received by the laboratory on 03/06/14 16:55.

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.tceg.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,

Celeg There

Celey D. Keene

Lab Director/Quality Manager

Page 1 of 5



	杨华岛剧	· .	1	1	ACID/BASE		₽ . ₽	one	1	dre	12	m	0	
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*	* CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	Page 5 o

1 70	ANALYSIS REQUEST	
ion Energy		
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o the amount paid by the client for the thin 30 days alter completion of the applicable fifts incurred by client, its subsidiaries,	ite 2 appNtable 65.	
Phone Result: Fax Result: REMARKS:	ult: Yes No AddT Phone #: : Yes No AddT Fax #: :	•
	husall@linnerergy.com	

RE	ECLAMATION FORM	SITE: Turner	B8
		Start Date:	3-26-14
		Completion Date:	3-26-14
step 1	Remove caliche and/or all discolo	red material (soil, caliche, et	al) for disposal.
<u>Step 2</u>		under pad. Sample and perfo 2 1' and resample and test. If nvironmental Director before	f sample is still
Step 3	Grid clean area and establish betw	veen 2 and 5 sample points.	
Step 4	Take appropriate samples and rur	n field tests on samples.	
		ome back higher than allowe :, contact Environmental Dir	
itep 5	When field sample tests are show soil to depth as require		and contour
<u>step 6</u>	Re-seed reclaimed area with seed seed tag to Envrionme	required by landowner (BLI ntal Office upon completion	
	<u>Note:</u> Record the amou	ant of seed used on tag.	
	<u>Seed Type</u> <u>Lbs. Used:</u>	·	-
itep 7	Ensure samples are taken to the a <u>this form</u> is returned to t	appropriate Scientific Lab for he Environmental Office upon	•
	NOTES: Remediate	en Site	

From:	Natalie Gladden
Sent:	Friday, February 28, 2014 1:04 PM
То:	Mike Burton (mburton@blm.gov)
Cc:	Michael Patterson; Rebecca Pons; Stephen McGhee (smcghee@diversifiedfs 'mike.bratcher@state.nm.us'
Subject:	Turner B #008
Mike,	
Thank you, we will ke	ep you posted.
Natalie Gladden	
ENVIRONMENTAL CON	
DFSI ENVIRONMENTAL	
CELL: 575-602-178 Office: 575-964-83	
FAX: 575-964-839	
EMAIL: ngladden@div	ersifiedfsi.com
From: Burton, Michae	el [mailto:mburton@blm.gov]
Sent: Friday, February	/ 28, 2014 12:55 PM
To: Natalie Gladden	

.com);

Subject: Re: Re:

Yes ma'am.

Mike Burton BLM-CFO Environmental Protection Specialist 575-234-2226 office 575-361-3574 cell <u>mburton@blm.gov</u>

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On Fri, Feb 28, 2014 at 12:53 PM, Natalie Gladden <<u>ngladden@diversifiedfsi.com</u>> wrote:

This is on the Turner B #008 correct?

1

contained herein, is prohibited. It you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

On Fri, Feb 28, 2014 at 11:56 AM, Natalie Gladden <<u>ngladden@diversifiedfsi.com</u>> wrote:

Diversified Field Service, Inc.

1 nursday February 27, 2014 5 ールズ 1 単 8396

Environmental Department 3412 N. Dal Paso Hobbs, NM 88240

Phone: (575)964-8394 Fax: (575)964-8396

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

RE: Turner B North #08 – Work Plan Remediation UL/B, Section 20, T17S, R31E API No. 30-015-05280

Mr. Bratcher,

Linn Energy (Linn) has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located west of Maljamar NM, in Eddy County. The site resulted from a separation at the collar in an injection line. There was approximately 150 bbls of produced water and oil leakage onto pasture area. The line was shut in at the header to stop the leak, and repair the line. Vacuum trucks pumped 800 bbls of fresh water with soap in order to force leak to surface ground. The leak surfaced south of injection line between Turner B #06 and Turner B #08 injections. The leak traveled southeast towards the Turner B #102 production lines. A form C-141 was submitted to the NMOCD on April 16, 2012.

Site Delineation

DFSI personnel used a hand auger to vertically delineate the leak area at several sample points. Soil samples were field screened for chloride and sent to a commercial lab for confirmation. Headspace measurements were also performed using a Mini RAE Photoionization Detector (PID). Samples were collected at surface and in 1 ft. intervals until two consecutive samples show chloride well below 1,000 mg/kg. Surface and bottom samples were submitted to a commercial laboratory for chloride, TPH, and BTEX analyses. On September 16, 2013 a soil bore was conducted to 75ft. bgs., and was submitted to a commercial lab for analysis. The lab results confirmed reduced Chlorides at 880 mg/kg.

On February 17, 2014 the site was revisited for an additional sore bore at the SP1 area (referred to as SB2). SB2 site was bored to a depth of 70ft bgs whereby the Chlorides were reduced to 176 mg/kg.

Diversified Field Service, Inc.

Environmental Department 3412 N. Dal Paso Hobbs, NM 88240 Phone: (575)964-8394 Fax: (575)964-8396

Conclusion

Site was previously excavated to 6ft bgs. DFSI is proposing to backfill with Caliche to 4ft. bgs., and install a 20mil. Liner. After installation of the liner; DFSI is requesting permission to backfill with topsoil. DFSI will remove any impacted soil to an NMOCD approved facility, seeded and restored to its natural state. DFSI will then submit all proper closure documentation to NMOCD and BLM in accordance with regulatory compliance.

Please contact me with any questions and/or concerns. Thank you.

Sincerely,

Natalie Gladden Environmental Consultant Diversified Field Service, Inc. 315 S. Leech Hobbs, NM 88240 Office: (575)397-6437 Mobile: (575)390-5454 Fax: (575)393-2981

cc Mike Burton NM Bureau of Land Management

Attachments:

C-141 Photo Page Site Diagram with Proposed excavation

Appendix VII

FINAL C-141

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

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Release Notification and Corrective Action

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

						OPERA	ΓOR		🗌 Initia	l Report	\boxtimes	Final Report	
Name of Co	ompany:	Linn Operat	ing, Inc.		(Contact: Bri	an Wall						
Address: 21	30 W. Ber	nder Hobbs,	NM 8824	40		Telephone 1	No. 575-738-173	39					
Facility Nar	ne: Turner	B North #8		·		Facility Typ	e: Injection						
Surface Ow	ner Fede	ral		Mineral (Dwner F	ederal		API No	0. 30-015-05280				
				LOCA	ATION	N OF REI	LEASE						
Unit Letter B	Section 20	Township 17S	Range 31E	Feet from the 660	North/ North	orth/South Line Feet from East/West Line County Eddy							
			La	titude: 32.8254	842536	02 Longitud	le -103.8812477	7226		· · · · · ·			
				NAT	URE	OF REL	EASE						
Type of Rele							Release 145bbls/			lecovered 0			
Source of Re	lease: Pipel	ine PG					lour of Occurrenc	e		Hour of Dis	covery (03/28/2012	
Was Immedi	ata Nation (Sucon?					2 10:00 A.M.		10:30 A.N	<u> </u>			
was minieur	ale Nolice (Yes 🔽] No 🗌 Not R	equired	If YES, To Mike Brate	ther NMOCD – T	errv Gr	egston BLN	1			
By Whom?	loe Hemano					1	lour: 03/28/2012						
Was a Water							olume Impacting t		ercourse.				
			Yes 🛛	No			8 ·						
The injection	NA Describe Cause of Problem and Remedial Action Taken.* The injection line came apart at the collar. There was evidence of erosion around the threads. The injection line was shut in at the header, Pump trucks were utilized to pump 800 bbls of fresh water with detergent forcing the leak to surface.										o trucks		
The leak surf approximatel	àced betwee y 12,950 sq	en the Turner . ft. of impact	B 6 Inject ed area. D	ion and the Turne FSI was retained	to remed	liate the site	according to NMC	COD an	d BLM gui	delines.			
regulations al public health should their o or the environ	ll operators or the enviro perations h nment. In a	are required to onment. The ave failed to a	o report an acceptance dequately OCD accept	e is true and comp nd/or file certain to ce of a C-141 report v investigate and rotance of a C-141	release no ort by the remediate	otifications a NMOCD m e contaminati	nd perform correc arked as "Final R on that pose a thr	ctive act ceport" of reat to g	tions for releases not releases not releases not releases round water	eases which eve the ope , surface wa	may enerator of ater, hur	danger liability man health	
							OIL CON	SERV	ATION	DIVISIO	<u>)N</u>		
Signature:	Fred B	Wall											
Printed Name	<u>e: Brian Wa</u>	11				Approved by Environmental Specialist:							
Title: Constru	uction Fore	nan II				Approval Da	te:		Expiration	Date:			
E-mail Addre	ess: bwall@	linnenergy.co	m		(Conditions o	f Approval:			Attached	н П	_	

Date: 05/28/14 Phone: 806-367-0645

* Attach Additional Sheets If Necessary

NM OIL CONSERVATION

ARTESIA DISTRICT

JUN 04 2014

RECEIVED