

## Bratcher, Mike, EMNRD

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**From:** Amy Ruth <aruth@diversifiedfsi.com>  
**Sent:** Sunday, January 05, 2014 11:28 AM  
**To:** Bratcher, Mike, EMNRD; Burton, Michael  
**Cc:** Wall, Fred; Michael Patterson  
**Subject:** 2RP-2045 Linn Energy Skelly Unit #33  
**Attachments:** Linn Energy Skelly Unit #33 - Site Diagram w Sample Points.pdf; Linn Energy Skelly Unit #33 Sample Summary Tables.xlsx.pdf; Linn Skelly Unit #33 Groundwater Search.pdf; Linn Skelly Unit #33 Photo Page.pdf

**Importance:** High

Hi Mike,

Firstly, I hope your holidays were nice and long enough! Please review this at your convenience. I have attached a site diagram and a separate sample summary table along with other supporting data. The laboratory reports that I summarize in the attached tables are sent in a second email following this one for your verification. Overall, there is a gradual vertical decline in chloride at the sample points to <1000 ppm.

I need to ask you about SP3. We got auger refusal at 12' bgs due to caliche. I understand the chloride is above 2000 ppm at this point. We will save this site for drilling if necessary, though I would like to make a case for proceeding with excavation and closure at this site as there is a gradual but definite decline in the chloride level at this sample point as well. A groundwater search of the area indicates that depth to water averages 263 ft+ (our groundwater search is included for your review).

We propose to excavate the areas encompassing SP1 through SP5 to a depth of 4 ft bgs, and install a reinforced plastic liner in the bottom of the excavation. We would also excavate the area surrounding SP6 to 1 ft bgs as the impact in this area was very shallow. We would backfill the site with clean imported topsoil, contour the site, and re-seed the disturbed area.

Please call me at any time with questions/concerns, and whether we need to place this site on our drilling list. Thank you very much for your help...

*Amy C. Ruth*

Environmental Director  
Diversified Field Services, Inc.  
3412 N. Dal Paso  
Hobbs, NM 88240  
Office: (575)964-8394  
Mobile: (575)390-5454  
Fax: (575)964-8396

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

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# Linn Energy Skelly Unit #33

## Sample Summary Tables

SP1

Depth	Cl-	Lab Cl-	GRO	DRO	B	T	E	X	Total BTEX
Surface	14495	14700	36.3	21.7	0.875	1.79	1.56	2.98	7.20
1'	5998								
2'	5148								
3'	3024								
4'	3423								
5'	3024								
6'	4123								
7'	3248								
8'	3124								
9'	2974								
10'	2074								
11'	1749								
12'	999								
13'	924								
14'	849								
15'	1224								
16'	1274								
17'	724								
18'	874	704	<10	<10	<0.050	<0.050	<0.050	<0.150	<0.300

SP2

Depth	Cl-	Lab Cl-	GRO	DRO	B	T	E	X	Total BTEX
Surface	12896	9860	<10	<10	0.079	0.197	0.179	0.356	0.811
1'	7697								
2'	1849								
3'	1299								
4'	1574								
5'	3998								
6'	4173								
7'	2824								
8'	2049								
9'	1999								
10'	1124								
11'	1624								
12'	699								
13'	524	224	<10	<10	<0.050	<0.050	<0.050	<0.150	<0.300

**SP3**

Depth	Cl-	Lab.Cl-	GRO	DRO	B	T	E	X	Total BTEX
Surface	8147	8260	<10	37.1	0.148	0.763	0.531	0.947	2.39
1'	5148								
2'	2611								
3'	6522								
4'	5923								
5'	6423								
6'	8322								
7'	3248								
8'	5748								
9'	4673								
10'	4998								
11'	3224								
12'	3174	2520	<10	<10	<0.050	<0.050	<0.050	<0.150	<0.300

**SP4**

Depth	Cl-	Lab.Cl-	GRO	DRO	B	T	E	X	Total BTEX
Surface	6947	6800	<10	<10	<0.050	0.116	0.137	0.298	0.550
1'	2499								
2'	3323								
3'	6373								
4'	5848								
5'	4398								
6'	3623								
7'	3548								
8'	1249								
9'	2849								
10'	1274								
11'	1374								
12'	849								
13'	474								
14'	624	400	<10	<10	<0.050	<0.050	<0.050	<0.150	<0.300

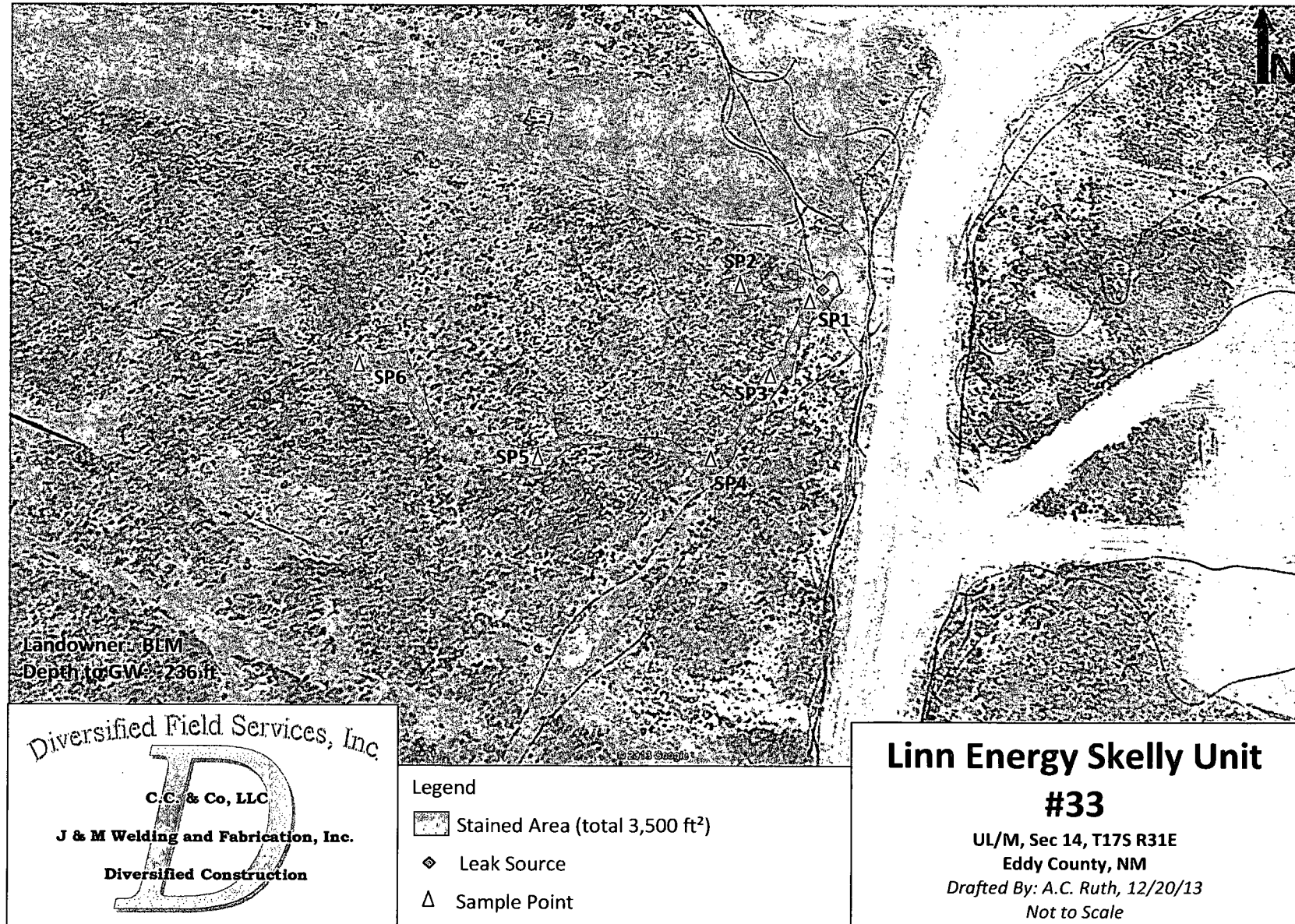
**SP5**

Depth	Cl-	Lab.Cl-	GRO	DRO	B	T	E	X	Total BTEX
Surface	4197	9330	<10	<10	<0.050	<0.050	0.050	<0.150	<0.300
1'	21243								
2'	6323								
3'	4698								
4'	3398								
5'	2849								
6'	3573								
7'	1599								
8'	2499								
9'	424								
10'	249	128	<10	<10	<0.050	<0.050	<0.050	<0.150	<0.300

**SP6**

Depth	Cl-	Lab.Cl-	GRO	DRO	B	T	E	X	Total BTEX
Surface	8447	9330	<10	<10	<0.050	0.055	0.052	<.150	<0.300
1'	224								
2'	174								
3'	199	<16	<10	<10	<0.050	<0.050	<0.050	<0.150	<0.300

# Site Diagram with Sample Points



# GROUND WATER SEARCH

Linn Energy Skelly Unit #33

UL:   M        Sec:   14        T:   17S        R:   31E  

Groundwater Depth:                     236                     ft. averaged

- ⊙ = NM Office of the State Engineer
- = U.S. Geological Survey (unknown well)
- ✕ = Site Location

Date: 12/17/13

By: Amy Ruth

	16S 30E	288' ⊙ 314' ⊙ 16S 31E ⊙ 295'	65' 260' ⊙ 248' ⊙ 275' ⊙ 254' ⊙ 16S 32E ⊙ 215' ⊙ 210' ⊙ 210' ⊙ 221' ⊙ 200' ⊙	
	17S 30E	17S 31E ✕	132' ⊙ 17S 32E	
	18S 30E 44' ⊙	98' ⊙ 18S 31E	65' ⊙ 430' ⊙ 18S 32E 460' ⊙	



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

No records found.

**PLSS Search:**

Township: 16S Range: 30E

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, completeness, reliability, usability, or suitability for any particular purpose of the data.

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WATER COLUMN/AVERAGE  
DEPTH TO WATER



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










(A CLW##### in the  
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closed) (quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q							X	Y	Depth Well	Depth Water	Water Column	
	Sub-Code	basin	County	64	16	4	Sec	Tws	Rng						
<u>L 03435</u>	L	LE		1	1	05	16S	31E	602954	3646955*					
<u>L 03852</u>	R	L	LE	2	2	2	14	16S	31E	609126	3643913*		370	314	56
<u>L 03852 POD4</u>	L	LE		3	4	3	13	16S	31E	609744	3642516*		333	299	34
<u>L 03852 POD5</u>	L	LE		3	2	13	16S	31E	610238	3643427*		328	295	33	
<u>L 03852 X</u>	R	L	LE	4	4	4	13	16S	31E	610749	3642526*		333	299	34
<u>L 03852 X2</u>	L	LE		3	2	2	13	16S	31E	610535	3643733*		330	287	43
<u>L 04671</u>	L	LE		1	1	2	12	16S	31E	610114	3645538*		340	288	52
<u>L 10203</u>	L	LE		4	4	3	14	16S	31E	608334	3642495*		310		
<u>L 10206</u>	L	LE		2	2	23	16S	31E	609045	3642204*		280			

Average Depth to Water: 297 feet

Minimum Depth: 287 feet

Maximum Depth: 314 feet

Record Count: 9

PLSS Search:

Township: 16S

Range: 31E

\*UTM location was derived from PLSS - see Help

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WATER COLUMN/ AVERAGE  
DEPTH TO WATER





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 02381	L	LE		3	1	13	16S	32E		619086	3643515*	308	215	93
L 02434	L	LE				01	16S	32E		619661	3646531*	337		
L 02449	L	LE				01	16S	32E		619661	3646531*	330	265	65
L 02617	L	LE		4	4	02	16S	32E		618656	3645924*	322	270	52
L 02752	L	LE		1	3	26	16S	32E		617521	3639880*	324	280	44
L 02846	L	LE		4	2	1	11	16S	32E	617956	3645413*	328	275	53
L 02954	L	LE		2	4	03	16S	32E		617043	3646310*	120	65	55
L 02993	L	LE		3	3	2	15	16S	32E	616572	3643391*	100		
L 03631	L	LE		1	2	02	16S	32E		618240	3647126*	315	250	65
L 04930	L	LE			1	23	16S	32E		617698	3642092*	307	210	97
L 05494	L	LE				36	16S	32E		619758	3638489*	303	200	103
L 06557	L	LE		1	4	21	16S	32E		615089	3641466*	295	210	85
L 06807	L	LE		1	4	4	09	16S	32E	615356	3644383*	290	248	42
L 07823	L	LE		2	2	2	16	16S	32E	615561	3643981*	269	247	22
L 08084	L	LE		1	1	1	16	16S	32E	614157	3643970*	317	260	57
L 08084 POD4	L	LE			2	26	16S	32E		618522	3640492*	303	233	70
L 08084 POD5	L	LE		4	1	4	26	16S	32E	618425	3639788*	296	165	131
L 08084 S3	L	LE			2	26	16S	32E		618522	3640492*	305	205	100
L 08241	L	LE		4	4	02	16S	32E		618656	3645924*	316		
L 10204	L	LE		4	2	2	04	16S	32E	615524	3646993*	319		
L 10205	L	LE		4	1	08	16S	32E		613038	3645066*	330		
L 11189	L	LE		1	1	4	04	16S	32E	614932	3646391*	350		

\*UTM location was derived from PLSS - see Help

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

Record Count: 22

PLSS Search:

Township: 16S      Range: 32E



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

No records found.

**PLSS Search:**

Township: 17S      Range: 30E

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WATER COLUMN/ AVERAGE  
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(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q								X	Y	Depth Well	Depth Water	Water Column
	Sub-Code	basin	County	64	16	4	Sec	Tws	Rng						
RA 11590 POD1			ED	2	1	3	32	17S	31E	603315	3628545		158		
RA 11590 POD3			ED	3	1	2	32	17S	31E	603932	3629260		60		
RA 11590 POD4			ED	4	1	1	32	17S	31E	603308	3629253		55		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 3

PLSS Search:

Township: 17S

Range: 31E

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(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 04019	L	LE		4	3	4	02	17S	32E	618468	3636166*	182		
L 04020	L	LE		3	3	4	02	17S	32E	618268	3636166*	200		
L 04021	R	L	LE	3	4	4	02	17S	32E	618670	3636170*	190		
L 04021 POD3	L	LE		3	4	03	17S	32E	616761	3636252*	247			
L 04021 S	L	LE		2	4	4	03	17S	32E	617262	3636354*	260		
L 13047 POD1	L	LE					11	17S	32E	618187	3635254*	140		
L 13050 POD1	L	LE		2	2	1	10	17S	32E	616463	3635945*	156	132	24
RA 08855		LE		4	1	1	10	17S	32E	616061	3635742*	158		
RA 09505		LE		2	2	1	10	17S	32E	616462	3635944	147		
RA 09505 S		LE		2	2	1	10	17S	32E	616463	3635945*	144		
RA 10175		LE		2	1	28	17S	32E	614814	3631005*	158			
RA 11684 POD1		LE		1	1	4	11	17S	32E	618216	3635124	275		
RA 11684 POD2		LE		1	1	4	11	17S	32E	618313	3635248	275		
RA 11684 POD3		LE		3	3	1	11	17S	32E	618262	3635371	275		
RA 11684 POD4		LE		1	3	2	11	17S	32E	618334	3635521	275		
RA 11684 POD5		LE		3	1	4	11	17S	32E	618353	3635047	275		
RA 11734 POD1		LE		2	2	1	10	17S	32E	616556	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 - see Help

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WATER COLUMN/ AVERAGE  
DEPTH TO WATER



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(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q						X	Y	Depth Well	Depth Water	Water Column
	Sub-Code	basin	County	64	16	4	Sec	Tws					
CP 00818		LE		1	4	26	18S	30E	599289	3620364*	240		
CP 00819		LE		2	4	32	18S	30E	594878	3618720*	150		
L 01978	L	LE		1	3	23	18S	30E	598469	3621964*	65	44	21

Average Depth to Water: 44 feet

Minimum Depth: 44 feet

Maximum Depth: 44 feet

Record Count: 3

PLSS Search:

Township: 18S

Range: 30E

\*UTM location was derived from PLSS - see Help

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(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 1	Q 2	Q 3	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 11092	L	LE		2	3	15	18	S	31	E	606849	3623669*	160	98	62

Average Depth to Water: 98 feet

Minimum Depth: 98 feet

Maximum Depth: 98 feet

Record Count: 1

PLSS Search:

Township: 18S

Range: 31E

\*UTM location was derived from PLSS - see Help

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closed)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub- Code	basin	County	Q Q Q			Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
				64	16	4								
CP 00566			LE	4	4	1	04	18S	32E	614960	3627280*	133	65	68
CP 00672			LE	4	4	07	18S	32E	612475	3624947*	524	430	94	
CP 00672 CLW475398	O		LE	4	4	07	18S	32E	612475	3624947*	540	460	80	
CP 00677			LE	1	1	26	18S	32E	617750	3621373*	700			

Average Depth to Water: 318 feet

Minimum Depth: 65 feet

Maximum Depth: 460 feet

Record Count: 4

PLSS Search:

Township: 18S

Range: 32E

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WATER COLUMN/ AVERAGE  
DEPTH TO WATER



# Linn Energy Skelly #33

Unit Letter M, Section 14, T17S R31E



Leak source buried steel pipeline

10/17/13



Impacted area

10/17/13



Impacted area

10/17/13

## Bratcher, Mike, EMNRD

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**From:** Amy Ruth <aruth@diversifiedfsi.com>  
**Sent:** Sunday, January 05, 2014 11:31 AM  
**To:** Bratcher, Mike, EMNRD; Burton, Michael  
**Cc:** Wall, Fred; Michael Patterson  
**Subject:** Labs - 2RP-2045 Linn Energy Skelly Unit #33  
**Attachments:** H302414 LINN.pdf; H302738 LINN.pdf

Hi Mike,

Here are the lab reports pertaining to my previous email. Thank you!

*Amy C. Ruth*

Environmental Director  
Diversified Field Services, Inc.  
3412 N. Dal Paso  
Hobbs, NM 88240  
Office: (575)964-8394  
Mobile: (575)390-5454  
Fax: (575)964-8396

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

October 08, 2013

BRIAN WALL

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: SKELLY UNIT #33

Enclosed are the results of analyses for samples received by the laboratory on 10/04/13 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/04/2013  
 Reported: 10/08/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 10/04/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 1 @ SURFACE (H302414-01)**

BTEX 8021B			mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	0.875	0.050	10/07/2013	ND	1.66	83.2	2.00	2.37		
Toluene*	1.79	0.050	10/07/2013	ND	1.76	87.8	2.00	1.71		
Ethylbenzene*	1.56	0.050	10/07/2013	ND	1.81	90.7	2.00	3.13		
Total Xylenes*	2.98	0.150	10/07/2013	ND	5.47	91.1	6.00	2.26		
Total BTEX	7.20	0.300	10/07/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 156 % 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
<b>Chloride</b>	<b>14700</b>	16.0	10/08/2013	ND	400	100	400	7.69	

TPH 8015M			mg/kg				Analyzed By: MS		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>36.3</b>	10.0	10/07/2013	ND	192	95.8	200	0.902	
<b>DRO &gt;C10-C28</b>	<b>21.7</b>	10.0	10/07/2013	ND	181	90.4	200	0.0160	

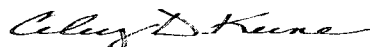
Surrogate: 1-Chlorooctane 87.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.4 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 10/04/2013  
 Reported: 10/08/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/04/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 2 @ SURFACE (H302414-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.079</b>	0.050	10/07/2013	ND	1.66	83.2	2.00	2.37	
<b>Toluene*</b>	<b>0.197</b>	0.050	10/07/2013	ND	1.76	87.8	2.00	1.71	
<b>Ethylbenzene*</b>	<b>0.179</b>	0.050	10/07/2013	ND	1.81	90.7	2.00	3.13	
<b>Total Xylenes*</b>	<b>0.356</b>	0.150	10/07/2013	ND	5.47	91.1	6.00	2.26	
<b>Total BTEX</b>	<b>0.811</b>	0.300	10/07/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 124 % 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
<b>Chloride</b>	<b>9860</b>	16.0	10/08/2013	ND	400	100	400	7.69	

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	10/07/2013	ND	192	95.8	200	0.902	
DRO >C10-C28	<10.0	10.0	10/07/2013	ND	181	90.4	200	0.0160	

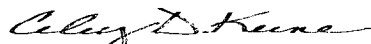
Surrogate: 1-Chlorooctane 92.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.0 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/04/2013  
 Reported: 10/08/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 10/04/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 3 @ SURFACE (H302414-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.148</b>	0.050	10/07/2013	ND	1.66	83.2	2.00	2.37	
<b>Toluene*</b>	<b>0.763</b>	0.050	10/07/2013	ND	1.76	87.8	2.00	1.71	
<b>Ethylbenzene*</b>	<b>0.531</b>	0.050	10/07/2013	ND	1.81	90.7	2.00	3.13	
<b>Total Xylenes*</b>	<b>0.947</b>	0.150	10/07/2013	ND	5.47	91.1	6.00	2.26	
<b>Total BTX</b>	<b>2.39</b>	0.300	10/07/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 123 % 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
<b>Chloride</b>	<b>8260</b>	16.0	10/08/2013	ND	400	100	400	7.69	

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	10/07/2013	ND	192	95.8	200	0.902	
<b>DRO &gt;C10-C28</b>	<b>37.1</b>	10.0	10/07/2013	ND	181	90.4	200	0.0160	

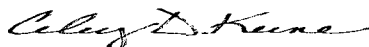
Surrogate: 1-Chlorooctane 96.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.5 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 10/04/2013  
 Reported: 10/08/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/04/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 4 @ SURFACE (H302414-04)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/07/2013	ND	1.66	83.2	2.00	2.37		
Toluene*	0.116	0.050	10/07/2013	ND	1.76	87.8	2.00	1.71		
Ethylbenzene*	0.137	0.050	10/07/2013	ND	1.81	90.7	2.00	3.13		
Total Xylenes*	0.298	0.150	10/07/2013	ND	5.47	91.1	6.00	2.26		
Total BTX	0.550	0.300	10/07/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 121 % 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	6800	16.0	10/08/2013	ND	400	100	400	7.69		

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	10/07/2013	ND	192	95.8	200	0.902		
DRO >C10-C28	<10.0	10.0	10/07/2013	ND	181	90.4	200	0.0160		

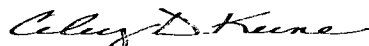
Surrogate: 1-Chlorooctane 86.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 85.0 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

 Received: 10/04/2013  
 Reported: 10/08/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 10/04/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 5 @ SURFACE (H302414-05)**

BTX 8021B			mg/kg							Analyzed By: MS
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/07/2013	ND	1.66	83.2	2.00	2.37		
Toluene*	<0.050	0.050	10/07/2013	ND	1.76	87.8	2.00	1.71		
Ethylbenzene*	0.050	0.050	10/07/2013	ND	1.81	90.7	2.00	3.13		
Total Xylenes*	<0.150	0.150	10/07/2013	ND	5.47	91.1	6.00	2.26		
Total BTX	<0.300	0.300	10/07/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 120 % 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	9330	16.0	10/08/2013	ND	400	100	400	7.69		

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	10/07/2013	ND	192	95.8	200	0.902		
DRO >C10-C28	<10.0	10.0	10/07/2013	ND	181	90.4	200	0.0160		

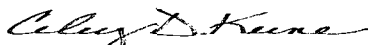
Surrogate: 1-Chlorooctane 95.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.4 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 10/04/2013  
 Reported: 10/08/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 10/04/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 6 @ SURFACE (H302414-06)**

BTX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/07/2013	ND	1.66	83.2	2.00	2.37		
Toluene*	0.055	0.050	10/07/2013	ND	1.76	87.8	2.00	1.71		
Ethylbenzene*	0.052	0.050	10/07/2013	ND	1.81	90.7	2.00	3.13		
Total Xylenes*	<0.150	0.150	10/07/2013	ND	5.47	91.1	6.00	2.26		
Total BTX	<0.300	0.300	10/07/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 119 % 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	9330	16.0	10/08/2013	ND	400	100	400	7.69		

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	10/07/2013	ND	192	95.8	200	0.902		
DRO >C10-C28	<10.0	10.0	10/07/2013	ND	181	90.4	200	0.0160		

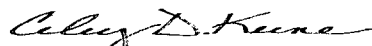
Surrogate: 1-Chlorooctane 98.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.1 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**


S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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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>Brian Wall</u>				P.O. #:															
Address:				Company:															
City:		State:		Zip:		Attn:													
Phone #:		Fax #:		Address:		City:													
Project #:		Project Owner:		State:		Zip:													
Project Name:				Phone #:															
Project Location: <u>Shelly #23</u>				Fax #:															
Sampler Name: <u>Miguel Gomez</u>																			
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	GRAB OR (COMP. # CONTAINERS)	MATRIX	PRESERV	SAMPLING														
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Chloride	TAH	Bolem	BTX		
H302414																			
1	SP1 @ surface	6			/				/	/		10-4-13	11:30	/	/	/	/		
2	SP2 @ surface	6			/				/	/		10-4-13	12:49	/	/	/	/		
3	SP3 @ surface	6			/				/	/		10-4-13	12:52	/	/	/	/		
4	SP4 @ surface	6			/				/	/		10-4-13	12:53	/	/	/	/		
5	SP5 @ surface	6			/				/	/		10-4-13	12:55	/	/	/	/		
6	SP6 @ surface	6			/				/	/		10-4-13	12:57	/	/	/	/		

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Relinquished By: <u>Miguel Gomez</u>	Date: <u>10/4/13</u>	Received By: <u>Jodi Benson</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <u>4:00</u>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:		Bwall@linenergy.com and a diversified.com samples take & brought directly to lab. <u>JA</u>	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<u>JA</u>		



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

---

November 14, 2013

BRIAN WALL

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: SKELLY UNIT #33

Enclosed are the results of analyses for samples received by the laboratory on 11/08/13 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://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  
 BRIAN WALL  
 RR1, BOX 24 B  
 KINGFISHER OK, 73750  
 Fax To: (405) 375-6693

 Received: 11/08/2013  
 Reported: 11/14/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 11/07/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 18' (H302738-01)**

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	11/13/2013	ND	1.66	83.0	2.00	12.6		
Toluene*	<0.050	0.050	11/13/2013	ND	1.68	84.2	2.00	11.8		
Ethylbenzene*	<0.050	0.050	11/13/2013	ND	1.69	84.7	2.00	11.9		
Total Xylenes*	<0.150	0.150	11/13/2013	ND	5.13	85.4	6.00	10.6		
Total BTEX	<0.300	0.300	11/13/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 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	704	16.0	11/11/2013	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54		
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14		

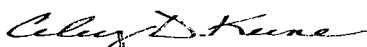
Surrogate: 1-Chlorooctane 99.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 110 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	11/08/2013	Sampling Date:	11/07/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	SKELLY UNIT #33	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 2 @ 13' (H302738-02)**

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	11/13/2013	ND	1.66	83.0	2.00	12.6		
Toluene*	<0.050	0.050	11/13/2013	ND	1.68	84.2	2.00	11.8		
Ethylbenzene*	<0.050	0.050	11/13/2013	ND	1.69	84.7	2.00	11.9		
Total Xylenes*	<0.150	0.150	11/13/2013	ND	5.13	85.4	6.00	10.6		
Total BTEx	<0.300	0.300	11/13/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 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	224	16.0	11/11/2013	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

Surrogate: 1-Chlorooctane 92.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	11/08/2013	Sampling Date:	11/08/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	SKELLY UNIT #33	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 3 @ 12' (H302738-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2013	ND	1.66	83.0	2.00	12.6	
Toluene*	<0.050	0.050	11/13/2013	ND	1.68	84.2	2.00	11.8	
Ethylbenzene*	<0.050	0.050	11/13/2013	ND	1.69	84.7	2.00	11.9	
Total Xylenes*	<0.150	0.150	11/13/2013	ND	5.13	85.4	6.00	10.6	
Total BTX	<0.300	0.300	11/13/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 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	2520	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

Surrogate: 1-Chlorooctane 90.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	11/08/2013	Sampling Date:	11/08/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	SKELLY UNIT #33	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 4 @ 14' (H302738-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/13/2013	ND	1.66	83.0	2.00	12.6	
Toluene*	<0.050	0.050	11/13/2013	ND	1.68	84.2	2.00	11.8	
Ethylbenzene*	<0.050	0.050	11/13/2013	ND	1.69	84.7	2.00	11.9	
Total Xylenes*	<0.150	0.150	11/13/2013	ND	5.13	85.4	6.00	10.6	
Total BTX	<0.300	0.300	11/13/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 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	400	16.0	11/11/2013	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

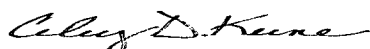
Surrogate: 1-Chlorooctane 76.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	11/08/2013	Sampling Date:	11/08/2013
Reported:	11/14/2013	Sampling Type:	Soil
Project Name:	SKELLY UNIT #33	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SP 5 @ 10' (H302738-05)**

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	11/13/2013	ND	1.66	83.0	2.00	12.6	
Toluene*	<0.050	0.050	11/13/2013	ND	1.68	84.2	2.00	11.8	
Ethylbenzene*	<0.050	0.050	11/13/2013	ND	1.69	84.7	2.00	11.9	
Total Xylenes*	<0.150	0.150	11/13/2013	ND	5.13	85.4	6.00	10.6	
Total BTEX	<0.300	0.300	11/13/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 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	128	16.0	11/13/2013	ND	400	100	400	3.92	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

Surrogate: 1-Chlorooctane 102 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 11/08/2013  
 Reported: 11/14/2013  
 Project Name: SKELLY UNIT #33  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 11/08/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 6 @ 3' (H302738-06)**

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	11/13/2013	ND	1.66	83.0	2.00	12.6		
Toluene*	<0.050	0.050	11/13/2013	ND	1.68	84.2	2.00	11.8		
Ethylbenzene*	<0.050	0.050	11/13/2013	ND	1.69	84.7	2.00	11.9		
Total Xylenes*	<0.150	0.150	11/13/2013	ND	5.13	85.4	6.00	10.6		
Total BTEX	<0.300	0.300	11/13/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/13/2013	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/12/2013	ND	199	99.4	200	7.54	
DRO >C10-C28	<10.0	10.0	11/12/2013	ND	186	92.9	200	7.14	

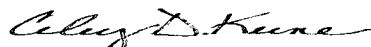
Surrogate: 1-Chlorooctane 97.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

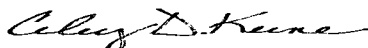
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Linn Energy				BILL TO				ANALYSIS REQUEST																																									
Project Manager: Brian Wall				P.O. #:																																													
Address:				Company:																																													
City:				Attn:																																													
State:				Address:																																													
Zip:				City:																																													
Phone #:				State:																																													
Fax #:				Zip:																																													
Project #:				Phone #:																																													
Project Owner:				Fax #:																																													
Project Name: Skelly #33																																																	
Project Location:																																																	
Sampler Name: Miguel Gomez																																																	
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING																																	
										GROUNDWATER				WASTEWATER		SOIL		OIL		SLUDGE		OTHER		ACID/BASE		ICE / COOL		OTHER		DATE		TIME																	
H302738																																																	
1		SP1 @ 10'				S		1								X								X				11-7-13		11:05		X		X		X													
2		SP2 @ 13'				S		1								X								X				11-7-13		11:54		X		X		X													
3		SP3 @ 16'				S		1								X								X				11-8-13		7:45		X		X		X													
4		SP4 @ 14'				S		1								X								X				11-8-13		9:57		X		X		X													
5		SP5 @ 10'				S		1								X								X				11-8-13		11:30		X		X		X													
6		SP6 @ 3'				S		1								X								X				11-8-13		11:45		X		X		X													

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Relinquished By: Miguel Gomez		Date: 11/8/13		Received By: [Signature]		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Relinquished By:		Time: 4:00		Received By:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Delivered By: (Circle One)		Sample Condition		CHECKED BY: (Initials)		REMARKS: Bwan1@linnenergy.com ARuth@diversified56.com			
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>							
		Yes <input type="checkbox"/> No <input type="checkbox"/>							

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

#34