

OCT 28 2014

API # 30-015-42052

Customer: Lime Rock Resources	Rig: UDI #33	SHL X: RECEIVED
Lease, Well No.: Windföhr 41 Federal #10	Job No.: 14123	SHL Y:
County or Parrish: Eddy County	Location or Area: Eddy C	Mag. Decl.: 7.67

**CHILDRESS
DIRECTIONAL
DRILLING**

Calculated f/ Targets

KBTVD (@ 0' VS)

Dip Angle (+Dn/-Up)

Sensor	38		
TVD	4700		
N-S	-163.3		
E-W	-28.6		

Tie-In Survey Co.: n/a						Minimum Curvature Calculations			Rates / 100' M.D.			Dist f/ Target Line	
Surveying Company: Childress Directional						Proposed Azimuth: 189.95°			Build or -Drop	R or -L -Turn	Course Length	Above or -Below	Right or -Left
Survey No.	M.D.	INCL.	AZM.	TVD	N / -S	E / -W	V. SECT.	DLS / 100'					

Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1.	358.00	0.40	284.60	358.00	0.31'	-1.21'	-0.10'	0.11°		
2.	451.00	0.40	255.40	450.99'	0.31'	-1.84'	0.01'	0.22°		
3.	510.00	1.70	184.50	509.99'	-0.61'	-2.11'	0.96'	2.74°		
4.	541.00	2.80	170.10	540.96'	-1.81'	-2.01'	2.13'	3.96°		
5.	571.00	4.10	170.30	570.91'	-3.59'	-1.70'	3.83'	4.33°		
6.	603.00	4.20	172.70	602.82'	-5.88'	-1.36'	6.03'	0.63°		
7.	635.00	4.80	183.30	634.72'	-8.38'	-1.29'	8.48'	3.20°		
8.	667.00	5.60	182.00	666.59'	-11.28'	-1.42'	11.36'	2.53°		
9.	699.00	6.20	183.50	698.42'	-14.56'	-1.58'	14.62'	1.94°		
10.	731.00	7.40	185.50	730.20'	-18.34'	-1.89'	18.39'	3.82°		
11.	763.00	8.70	184.70	761.88'	-22.80'	-2.28'	22.85'	4.08°		
12.	795.00	9.90	183.90	793.46'	-27.96'	-2.67'	28.00'	3.77°		
13.	827.00	11.30	183.10	824.91'	-33.84'	-3.02'	33.85'	4.40°		
14.	859.00	12.30	183.00	856.24'	-40.37'	-3.37'	40.35'	3.13°		
15.	892.00	12.70	183.60	888.45'	-47.50'	-3.78'	47.44'	1.27°		
16.	924.00	14.10	184.20	919.58'	-54.90'	-4.29'	54.81'	4.40°		
17.	956.00	14.30	185.90	950.60'	-62.72'	-4.98'	62.63'	1.45°		
18.	987.00	14.80	187.10	980.61'	-70.45'	-5.86'	70.41'	1.88°		
19.	1019.00	14.30	188.60	1,011.58'	-78.42'	-6.96'	78.44'	1.96°		
20.	1051.00	14.10	189.30	1,042.61'	-86.17'	-8.18'	86.29'	0.82°		
21.	1083.00	14.20	188.50	1,073.64'	-93.90'	-9.39'	94.11'	0.69°		
22.	1115.00	13.80	188.90	1,104.68'	-101.55'	-10.56'	101.85'	1.29°		
23.	1147.00	13.50	188.40	1,135.78'	-109.02'	-11.70'	109.40'	1.01°		
24.	1180.00	13.40	189.00	1,167.88'	-116.61'	-12.86'	117.07'	0.52°		
25.	1212.00	13.10	188.50	1,199.02'	-123.86'	-13.98'	124.41'	1.00°		
26.	1244.00	12.70	188.20	1,230.22'	-130.92'	-15.01'	131.55'	1.27°		
27.	1276.00	12.30	188.70	1,261.46'	-137.77'	-16.03'	138.47'	1.29°		
28.	1308.00	11.20	196.20	1,292.79'	-144.13'	-17.41'	144.97'	5.88°		
29.	1340.00	9.80	202.60	1,324.25'	-149.63'	-19.33'	150.72'	5.69°		
30.	1372.00	8.60	206.70	1,355.84'	-154.28'	-21.45'	155.66'	4.27°		
31.	1404.00	7.10	209.40	1,387.54'	-158.14'	-23.49'	159.82'	4.83°		
32.	1436.00	5.50	209.20	1,419.35'	-161.20'	-25.21'	163.13'	5.00°		
33.	1468.00	4.40	215.20	1,451.23'	-163.54'	-26.67'	165.69'	3.79°		
34.	1501.00	3.00	218.40	1,484.16'	-165.25'	-27.94'	167.60'	4.29°		
35.	1532.00	1.70	230.80	1,515.13'	-166.18'	-28.80'	168.66'	4.48°		
36.	1564.00	1.00	241.90	1,547.12'	-166.61'	-29.41'	169.19'	2.33°		
37.	1596.00	0.40	312.00	1,579.12'	-166.67'	-29.74'	169.30'	2.94°		

please provide signature page for this survey

38.	1692.00	0.70	343.70	1,675.11'	-165.88'	-30.15'	168.60'	0.43°
39.	1788.00	0.70	330.10	1,771.11'	-164.81'	-30.61'	167.62'	0.17°
40.	1884.00	0.70	6.70	1,867.10'	-163.72'	-30.83'	166.59'	0.46°
41.	1981.00	0.90	352.20	1,964.09'	-162.38'	-30.87'	165.27'	0.29°
42.	2076.00	1.60	18.70	2,059.07'	-160.38'	-30.54'	163.25'	0.94°
43.	2172.00	1.60	29.30	2,155.03'	-157.94'	-29.46'	160.66'	0.31°
44.	2268.00	1.70	22.10	2,250.99'	-155.46'	-28.27'	158.00'	0.24°
45.	2364.00	0.80	80.40	2,346.97'	-154.02'	-27.07'	156.38'	1.51°
46.	2460.00	0.70	106.00	2,442.96'	-154.07'	-25.85'	156.22'	0.36°
47.	2556.00	0.80	78.60	2,538.96'	-154.10'	-24.62'	156.04'	0.38°
48.	2652.00	0.60	92.90	2,634.95'	-154.00'	-23.47'	155.73'	0.28°
49.	2749.00	0.60	96.40	2,731.94'	-154.08'	-22.45'	155.64'	0.04°
50.	2844.00	0.60	101.40	2,826.94'	-154.23'	-21.47'	155.62'	0.06°
51.	2940.00	0.40	107.80	2,922.93'	-154.43'	-20.66'	155.68'	0.22°
52.	3040.00	0.40	13.40	3,022.93'	-154.20'	-20.25'	155.38'	0.59°
53.	3136.00	0.40	69.20	3,118.93'	-153.76'	-19.86'	154.87'	0.39°
54.	3231.00	0.30	353.80	3,213.93'	-153.39'	-19.57'	154.47'	0.46°
55.	3328.00	0.50	38.60	3,310.93'	-152.81'	-19.34'	153.85'	0.37°
56.	3424.00	0.40	36.10	3,406.92'	-152.21'	-18.88'	153.18'	0.11°
57.	3519.00	0.40	73.60	3,501.92'	-151.85'	-18.36'	152.74'	0.27°
58.	3616.00	0.40	39.00	3,598.92'	-151.49'	-17.83'	152.29'	0.25°
59.	3712.00	0.40	43.00	3,694.92'	-150.98'	-17.39'	151.72'	0.03°
60.	3808.00	0.20	336.90	3,790.92'	-150.58'	-17.22'	151.30'	0.38°
61.	3904.00	0.40	274.30	3,886.91'	-150.41'	-17.62'	151.19'	0.37°
62.	4000.00	0.90	270.50	3,982.91'	-150.37'	-18.71'	151.35'	0.52°
63.	4096.00	1.00	276.30	4,078.90'	-150.28'	-20.30'	151.52'	0.14°
64.	4192.00	0.40	234.30	4,174.89'	-150.38'	-21.40'	151.82'	0.78°
65.	4288.00	0.60	226.50	4,270.88'	-150.92'	-22.04'	152.46'	0.22°
66.	4384.00	0.70	219.80	4,366.88'	-151.72'	-22.78'	153.37'	0.13°
67.	4480.00	0.40	202.30	4,462.87'	-152.48'	-23.28'	154.21'	0.35°
68.	4577.00	0.80	191.00	4,559.87'	-153.46'	-23.54'	155.21'	0.43°
69.	4673.00	1.00	211.80	4,655.86'	-154.83'	-24.11'	156.66'	0.40°
PTB	4717.00	1.00	211.80	4,699.85'	-155.48'	-24.51'	157.38'	0.00°

The above survey data is true and correct, complete and within the limitations of the tool as set forth by Childress Directional Drilling, LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of Lime Rock Resources; that I reviewed these MWD Surveys and find they conform to the principles and procedures as set forth by Childress Directional Drilling.

Regards,



Art Poffenroth
MWD Manager
Childress Directional Drilling, LLC