

API# 30-015-41288

Customer: Lime Rock Energy	Rig: UDI-33	SHL X:
Lease, Well No.: Eagle 33 P Federal#24	Job No.: CD-13045	SHL Y:
County or Parrish: Eddy County	Location or Area: New Mexico	Mag.Decl.: 7.72

**CHILDRESS
DIRECTIONAL
DRILLING**

	Sensor			
Calculated f/ Targets	TVD			
KBTVD (@ 0° VS)	N/-S			
Dip Angle (+Dn/-Up)	E/-W			

Tie-In Survey Co.:						Minimum Curvature Calculations			Rates / 100' M.D.		Dist f/ Target Line		
Surveying Company: Childress Directional						Proposed Azimuth: 180.05°			Build or	R or -L	Course	Above or	Right or
Survey No.	M.D.	INCL.	AZM.	TVD	N / -S	E / -W	V. SECT.	DLS / 100'	-Drop	-Turn	Length	-Below	-Left
Tie-In	0.00	0.00	0.00	0.00'	0.00'	0.00'	0.00'	0.00°					
1.	410.00	0.00	0.00	410.00'	0.00'	0.00'	0.00'	0.00°					
2.	444.00	1.20	131.80	444.00'	-0.24'	0.27'	0.24'	3.53°					
3.	537.00	1.10	151.90	536.98'	-1.67'	1.41'	1.67'	0.44°					
4.	631.00	1.10	173.80	630.96'	-3.37'	1.93'	3.37'	0.44°					
5.	728.00	1.00	208.50	727.95'	-5.04'	1.63'	5.03'	0.65°					
6.	760.00	1.00	209.20	759.94'	-5.53'	1.36'	5.52'	0.04°					
7.	792.00	2.10	200.90	791.93'	-6.32'	1.02'	6.32'	3.50°					
8.	824.00	3.00	193.30	823.90'	-7.68'	0.61'	7.68'	3.00°					
9.	856.00	2.90	193.20	855.86'	-9.28'	0.24'	9.28'	0.31°					
10.	888.00	4.50	189.10	887.79'	-11.31'	-0.15'	11.31'	5.06°					
11.	920.00	5.30	186.80	919.67'	-14.02'	-0.52'	14.02'	2.57°					
12.	952.00	6.00	182.00	951.52'	-17.16'	-0.75'	17.16'	2.64°					
13.	984.00	6.70	186.00	983.32'	-20.68'	-1.01'	20.69'	2.59°					
14.	1016.00	7.70	185.00	1,015.07'	-24.68'	-1.39'	24.68'	3.15°					
15.	1048.00	8.40	185.10	1,046.75'	-29.14'	-1.78'	29.14'	2.19°					
16.	1080.00	9.30	184.90	1,078.37'	-34.04'	-2.21'	34.05'	2.81°					
17.	1112.00	10.80	184.20	1,109.88'	-39.61'	-2.65'	39.61'	4.70°					
18.	1208.00	12.30	177.00	1,203.94'	-58.80'	-2.78'	58.80'	2.16°					
19.	1240.00	13.30	175.80	1,235.14'	-65.87'	-2.33'	65.87'	3.23°					
20.	1273.00	12.20	176.30	1,267.33'	-73.14'	-1.83'	73.14'	3.35°					
21.	1305.00	10.60	178.40	1,298.69'	-79.45'	-1.52'	79.45'	5.16°					
22.	1337.00	9.20	183.50	1,330.22'	-84.95'	-1.60'	84.95'	5.16°					
23.	1370.00	8.00	184.40	1,362.85'	-89.87'	-1.94'	89.87'	3.66°					
24.	1402.00	6.80	184.60	1,394.58'	-93.98'	-2.26'	93.98'	3.75°					
25.	1434.00	5.50	181.40	1,426.39'	-97.40'	-2.45'	97.40'	4.20°					
26.	1466.00	4.50	173.80	1,458.27'	-100.18'	-2.35'	100.18'	3.74°					
27.	1498.00	3.40	166.50	1,490.20'	-102.35'	-1.99'	102.35'	3.77°					
28.	1530.00	2.30	158.50	1,522.16'	-103.87'	-1.54'	103.87'	3.65°					
29.	1562.00	1.10	170.30	1,554.14'	-104.77'	-1.25'	104.77'	3.89°					
30.	1629.00	0.70	217.10	1,621.13'	-105.73'	-1.39'	105.74'	1.20°					
31.	1723.00	0.80	245.60	1,715.13'	-106.46'	-2.33'	106.46'	0.41°					
32.	1851.00	1.10	252.60	1,843.11'	-107.20'	-4.32'	107.20'	0.25°					
33.	1947.00	1.10	252.10	1,939.09'	-107.76'	-6.07'	107.76'	0.01°					
34.	2043.00	1.10	248.40	2,035.07'	-108.38'	-7.81'	108.39'	0.07°					
35.	2171.00	0.20	124.40	2,163.07'	-108.96'	-8.77'	108.97'	0.96°					
36.	2267.00	0.10	138.30	2,259.06'	-109.12'	-8.57'	109.12'	0.11°					
37.	2363.00	0.10	45.50	2,355.06'	-109.12'	-8.46'	109.13'	0.15°					

38.	2459.00	0.10	55.20	2,451.06'	-109.01'	-8.33'	109.02'	0.02°
39.	2555.00	0.20	355.40	2,547.06'	-108.80'	-8.27'	108.81'	0.18°
40.	2599.00	0.10	26.00	2,591.06'	-108.69'	-8.26'	108.70'	0.28°
41.	2651.00	0.80	60.10	2,643.06'	-108.47'	-7.93'	108.47'	1.38°
42.	2779.00	1.10	55.90	2,771.04'	-107.33'	-6.14'	107.34'	0.24°
43.	2876.00	1.30	94.40	2,868.02'	-106.89'	-4.27'	106.90'	0.84°
44.	2972.00	1.40	91.00	2,964.00'	-107.00'	-2.01'	107.00'	0.13°
45.	3068.00	1.80	111.60	3,059.96'	-107.57'	0.57'	107.57'	0.72°
46.	3165.00	1.90	113.00	3,156.91'	-108.76'	3.46'	108.76'	0.11°
47.	3261.00	1.20	120.70	3,252.88'	-109.90'	5.79'	109.89'	0.76°
48.	3357.00	1.70	171.50	3,348.85'	-111.82'	6.87'	111.81'	1.38°
49.	3453.00	1.60	172.30	3,444.81'	-114.56'	7.26'	114.55'	0.11°
50.	3549.00	0.20	244.50	3,540.79'	-115.96'	7.29'	115.95'	1.62°
51.	3645.00	0.30	200.90	3,636.79'	-116.26'	7.04'	116.26'	0.22°
52.	3741.00	0.10	143.20	3,732.79'	-116.57'	7.00'	116.56'	0.27°
53.	3837.00	0.30	118.60	3,828.79'	-116.75'	7.28'	116.75'	0.22°
54.	3933.00	0.10	103.00	3,924.79'	-116.89'	7.58'	116.89'	0.21°
55.	4030.00	0.30	30.70	4,021.79'	-116.69'	7.79'	116.69'	0.29°
56.	4126.00	0.40	70.50	4,117.79'	-116.36'	8.23'	116.36'	0.27°
57.	4255.00	0.80	62.70	4,246.78'	-115.80'	9.46'	115.79'	0.32°
58.	4351.00	1.10	64.00	4,342.77'	-115.09'	10.88'	115.08'	0.31°
59.	4447.00	0.30	263.50	4,438.76'	-114.71'	11.46'	114.70'	1.44°
60.	4544.00	0.30	319.60	4,535.76'	-114.55'	11.04'	114.54'	0.29°
61.	4624.00	0.40	291.30	4,615.76'	-114.29'	10.65'	114.28'	0.25°
Proj.	4670.00	0.40	291.30	4,661.76'	-114.17'	10.35'	114.16'	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

