

API #: 30-015-41441

Customer: Lime Rock	Rig: UDI 33	SHL X:
Lease, Well No.: Eagle 35L Federal #23	Job No.: CD-14012	SHL Y:
County or Parrish: Eddy County	Location or Area: Artesia NM	Mag. Decl.: 7.62

**CHILDRESS
DIRECTIONAL
DRILLING**

Calculated ∇ Targets

KBTVD (@ 0' VS)

Dip Angle (+Dn/-Up)

Sensor

TVD

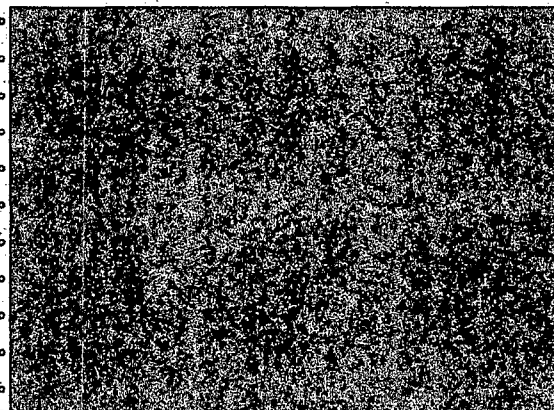
N/S

E/W

Tie-In Survey Co.:						Minimum Curvature Calculations:			Rates / 100' M.D.		Dist ∇ Target Line	
Surveying Company: Childress Directional						Proposed Azimuth: 193.50°			Build or	R or -L	Course	Above or
Survey No.	M.D.	INCL.	AZM.	TVD	N / -S	E / -W	V. SECT.	DLS / 100'	-Drop	-Turn	Length	-Below
Tie-In	0.00	0.00	0.00	0.00'	0.00'	0.00'	0.00'	0.00'				-Left

1	378.00	0.40	137.20	378.00'	-0.97'	0.90'	0.73'	0.11°				
2	474.00	0.40	150.00	473.99'	-1.50'	1.29'	1.16'	0.09°				
3	569.00	4.00	204.60	568.91'	-4.81'	0.08'	4.65'	3.98°				
4	664.00	6.10	210.10	663.54'	-12.19'	-3.83'	12.74'	2.27°				
5	761.00	9.90	200.50	759.58'	-24.46'	-9.34'	25.96'	4.14°				
6	857.00	14.10	182.70	853.49'	-43.89'	-12.78'	45.66'	5.78°				
7	953.00	14.50	175.60	946.53'	-67.55'	-12.41'	68.58'	1.87°				
8	1050.00	12.90	176.20	1,040.76'	-90.46'	-10.76'	90.48'	1.66°				
9	1146.00	11.60	203.00	1,134.65'	-110.06'	-13.83'	110.24'	6.02°				
10	1242.00	8.40	215.50	1,229.19'	-124.66'	-21.67'	126.27'	4.01°				
11	1338.00	7.90	194.70	1,324.24'	-136.75'	-27.42'	139.37'	3.10°				
12	1434.00	4.90	223.80	1,419.66'	-146.09'	-31.93'	149.51'	4.51°				
13	1531.00	2.00	203.60	1,516.47'	-150.64'	-35.48'	154.76'	3.20°				
14	1627.00	0.40	172.20	1,612.45'	-152.50'	-36.11'	156.72'	1.74°				
15	1723.00	0.20	34.70	1,708.45'	-152.70'	-35.96'	156.87'	0.59°				
16	1818.00	0.40	20.10	1,803.45'	-152.25'	-35.76'	156.39'	0.22°				
17	1914.00	1.00	133.90	1,899.44'	-152.52'	-35.04'	156.48'	1.27°				
18	2012.00	2.40	177.70	1,997.40'	-155.16'	-34.34'	158.89'	1.85°				
19	2108.00	1.00	184.30	2,093.36'	-158.00'	-34.32'	161.65'	1.47°				
20	2204.00	1.20	173.60	2,189.34'	-159.84'	-34.27'	163.42'	0.30°				
21	2300.00	1.20	180.30	2,285.32'	-161.84'	-34.17'	165.35'	0.15°				
22	2397.00	1.20	178.00	2,382.30'	-163.87'	-34.14'	167.31'	0.05°				
23	2493.00	0.00	294.60	2,478.29'	-164.88'	-34.10'	168.28'	1.25°				
24	2589.00	0.20	285.80	2,574.29'	-164.83'	-34.26'	168.28'	0.21°				
25	2685.00	0.20	306.80	2,670.29'	-164.69'	-34.56'	168.20'	0.08°				
26	2782.00	0.30	290.50	2,767.29'	-164.50'	-34.93'	168.10'	0.13°				
27	2878.00	0.30	288.80	2,863.29'	-164.33'	-35.40'	168.05'	0.01°				
28	2973.00	0.50	279.60	2,958.28'	-164.18'	-36.05'	168.06'	0.22°				
29	3070.00	0.50	275.20	3,055.28'	-164.07'	-36.89'	168.15'	0.04°				
30	3173.00	0.40	263.90	3,158.28'	-164.07'	-37.69'	168.33'	0.13°				
31	3270.00	0.40	251.30	3,255.27'	-164.21'	-38.35'	168.63'	0.09°				
32	3366.00	0.60	252.80	3,351.27'	-164.47'	-39.15'	169.06'	0.21°				
33	3462.00	0.40	254.80	3,447.27'	-164.70'	-39.95'	169.48'	0.21°				
34	3557.00	0.30	244.70	3,542.27'	-164.90'	-40.49'	169.79'	0.12°				
35	3653.00	0.40	264.60	3,638.26'	-165.03'	-41.06'	170.06'	0.16°				
36	3750.00	0.50	258.20	3,735.26'	-165.15'	-41.81'	170.35'	0.12°				
37	3848.00	0.60	268.90	3,833.26'	-165.25'	-42.74'	170.66'	0.15°				
38	3943.00	0.10	23.90	3,928.25'	-165.18'	-43.20'	170.71'	0.68°				

39.	4041.00	0.20	136.40	4,026.25'	-165.23'	-43.05'	170.71'	0.26°
40.	4137.00	0.20	180.10	4,122.25'	-165.52'	-42.93'	170.97'	0.16°
41.	4233.00	0.40	234.20	4,218.25'	-165.88'	-43.21'	171.39'	0.34°
42.	4330.00	0.20	244.00	4,315.25'	-166.15'	-43.63'	171.75'	0.21°
43.	4426.00	0.40	207.90	4,411.25'	-166.52'	-43.94'	172.18'	0.28°
44.	4522.00	0.90	28.30	4,507.25'	-166.16'	-43.74'	171.78'	1.35°
45.	4618.00	1.00	20.60	4,603.23'	-164.71'	-43.09'	170.22'	0.17°
46.	4715.00	1.10	28.50	4,700.22'	-163.10'	-42.35'	168.48'	0.18°
47.	4810.00	1.10	25.20	4,795.20'	-161.47'	-41.52'	166.70'	0.07°
48.	4873.00	1.10	30.00	4,858.19'	-160.40'	-40.96'	165.53'	0.15°
PTB	4917.00	1.10	30.00	4,902.18'	-159.67'	-40.54'	164.72'	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