



Company: Chisholm Energy Operating, LLC
 Well: Buffalo West 2 State Com 2BS 5H
 Location: Lea County, NM
 Rig: Latshaw 17
 Job Date: 7/25/2017

Job Number: WT-170820
 Mag Decl.: 6.63
 Dir Driller: J. Percy / T. Percy
 MWD Eng: J. Bult / J. Broussard

Calculation Method #VALUE!
 Proposed Azimuth 179.21
 Depth Reference KBB
 Tie Into: Assumed Vertical

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							+N/-S (ft)	+E/-W (ft)	Distance (ft)	Direction (deg)			
Tie In	0.00	0	0	0	0	0	0.00	0.00					
1	269	0.26	192.08	269	269.00	0.60	-0.60	-0.13	0.61	192.08	0.10	0.10	71.41
2	447	0.26	258.17	178	447.00	1.07	-1.07	-0.61	1.23	209.48	0.16	0.00	37.13
3	656	0.18	35.99	209	656.00	0.89	-0.91	-0.88	1.26	224.12	0.20	-0.04	-106.31
4	899	1.14	127.74	243	898.98	2.09	-2.08	1.26	2.43	148.81	0.48	0.40	37.76
5	1174	0.79	157.10	275	1173.94	5.55	-5.50	4.16	6.89	142.90	0.22	-0.13	10.68
6	1454	2.37	242.88	280	1453.85	9.91	-9.92	-0.24	9.92	181.41	0.87	0.56	30.64
6	1651	1.67	358.72	197	1650.79	8.85	-8.90	-3.93	9.73	203.85	1.75	-0.36	58.80
7	1744	1.23	18.93	93	1743.76	6.55	-6.60	-3.64	7.54	208.87	0.72	-0.47	-365.37
8	1838	0.62	53.92	94	1837.74	5.31	-5.35	-2.90	6.09	208.49	0.86	-0.65	37.22
9	1932	0.26	72.55	94	1931.74	4.95	-4.99	-2.29	5.49	204.65	0.41	-0.38	19.82
10	2026	0.88	55.32	94	2025.74	4.49	-4.51	-1.49	4.75	198.29	0.68	0.66	-18.33
11	2120	1.58	28.95	94	2119.71	2.96	-2.97	-0.27	2.98	185.21	0.94	0.74	-28.05
12	2213	0.79	40.73	93	2212.69	1.37	-1.36	0.77	1.56	150.51	0.88	-0.85	12.67
13	2308	0.88	70.61	95	2307.68	0.65	-0.62	1.88	1.98	108.22	0.46	0.09	31.45
14	2400	0.53	144.09	92	2399.68	0.77	-0.73	2.80	2.89	104.62	0.97	-0.38	79.87
15	2494	1.93	32.82	94	2493.66	-0.19	0.25	3.91	3.92	86.38	2.32	1.49	-118.37
16	2588	1.14	44.77	94	2587.63	-2.17	2.24	5.43	5.87	67.56	0.90	-0.84	12.71
17	2682	1.76	33.88	94	2681.60	-4.01	4.10	6.89	8.02	59.23	0.72	0.66	-11.59
18	2777	2.73	32.47	95	2776.52	-7.10	7.22	8.92	11.48	51.00	1.02	1.02	-1.48
19	2870	1.06	31.94	93	2869.47	-9.68	9.82	10.56	14.43	47.08	1.80	-1.80	-0.57
20	2964	0.53	8.04	94	2963.46	-10.84	10.99	11.09	15.61	45.25	0.65	-0.56	-25.43
21	3060	0.70	50.93	96	3059.45	-11.64	11.80	11.60	16.55	44.52	0.50	0.18	44.68
22	3154	0.97	49.34	94	3153.44	-12.51	12.68	12.65	17.91	44.94	0.29	0.29	-1.69
23	3247	0.97	16.47	93	3246.43	-13.76	13.95	13.47	19.39	44.01	0.59	0.00	-35.34
24	3340	1.06	32.65	93	3339.42	-15.23	15.43	14.16	20.94	42.55	0.32	0.10	17.40
25	3434	1.06	24.38	94	3433.40	-16.74	16.95	14.99	22.63	41.48	0.16	0.00	-8.80
26	3528	0.35	87.14	94	3527.39	-17.54	17.76	15.63	23.66	41.36	1.01	-0.76	66.77
27	3622	0.44	16.83	94	3621.39	-17.90	18.12	16.03	24.19	41.49	0.49	0.10	-74.80
28	3716	0.44	77.29	94	3715.39	-18.31	18.54	16.48	24.81	41.63	0.47	0.00	64.32
29	3810	0.53	46.88	94	3809.39	-18.68	18.92	17.15	25.54	42.19	0.29	0.10	-32.35
30	3905	0.62	265.38	95	3904.38	-18.94	19.18	16.96	25.60	41.49	1.14	0.09	230.00
31	3999	0.97	28.43	94	3998.38	-19.60	19.84	16.83	26.02	40.31	1.50	0.37	-252.07



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32	4092	0.70	21.40	93	4091.37	-20.82	21.06	17.41	27.33	39.59	0.31	-0.29	-7.56
33	4186	0.79	20.87	94	4185.36	-21.95	22.20	17.85	28.49	38.81	0.10	0.10	-0.56



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34	4280	1.93	328.31	94	4279.34	-23.91	24.15	17.25	29.68	35.54	1.68	1.21	327.06
35	4375	1.76	34.40	95	4374.30	-26.48	26.72	17.24	31.79	32.83	2.12	-0.18	-309.38
36	4469	0.62	300.18	94	4468.28	-27.92	28.16	17.61	33.22	32.02	2.03	-1.21	282.74
37	4563	0.35	74.48	94	4562.28	-28.25	28.50	17.45	33.41	31.48	0.96	-0.29	-240.11
38	4656	0.26	65.34	93	4655.28	-28.41	28.66	17.92	33.80	32.01	0.11	-0.10	-9.83
39	4749	0.26	178.19	93	4748.28	-28.28	28.54	18.11	33.80	32.41	0.47	0.00	121.34
40	4843	0.70	146.20	94	4842.27	-27.59	27.85	18.44	33.40	33.51	0.53	0.47	-34.03
41	4936	0.97	109.11	93	4935.27	-26.85	27.12	19.50	33.40	35.72	0.63	0.29	-39.88
42	5030	0.44	120.54	94	5029.26	-26.39	26.67	20.56	33.68	37.63	0.58	-0.56	12.16
43	5125	0.26	25.26	95	5124.26	-26.39	26.68	20.97	33.94	38.16	0.56	-0.19	-100.29
44	5219	0.44	82.22	94	5218.25	-26.63	26.92	21.42	34.40	38.50	0.39	0.19	60.60
45	5277	0.18	153.76	58	5276.25	-26.57	26.87	21.68	34.53	38.89	0.72	-0.45	123.34
46	5447	0.35	37.92	170	5446.25	-26.74	27.04	22.12	34.93	39.28	0.27	0.10	-68.14
47	5541	0.35	40.38	94	5540.25	-27.18	27.49	22.48	35.51	39.27	0.02	0.00	2.62
48	5635	0.18	0.13	94	5634.25	-27.54	27.85	22.66	35.91	39.13	0.26	-0.18	-42.82
49	5729	0.44	328.13	94	5728.25	-28.00	28.31	22.47	36.14	38.45	0.32	0.28	348.94
50	5823	0.53	319.87	94	5822.25	-28.64	28.95	22.00	36.36	37.24	0.12	0.10	-8.79
51	5917	0.35	301.77	94	5916.24	-29.13	29.43	21.48	36.43	36.12	0.24	-0.19	-19.26
52	6011	0.53	326.55	94	6010.24	-29.65	29.94	20.99	36.57	35.04	0.27	0.19	26.36
53	6105	0.18	302.12	94	6104.24	-30.10	30.39	20.63	36.73	34.17	0.40	-0.37	-25.99
54	6199	0.26	354.15	94	6198.24	-30.39	30.68	20.48	36.89	33.73	0.22	0.09	55.35
55	6293	0.18	237.08	94	6292.24	-30.53	30.81	20.34	36.92	33.43	0.40	-0.09	-124.54
56	6388	0.08	35.99	95	6387.24	-30.50	30.78	20.25	36.85	33.34	0.27	-0.11	-211.67
57	6481	0.18	173.62	93	6480.24	-30.41	30.69	20.31	36.80	33.49	0.26	0.11	147.99
58	6573	0.09	179.07	92	6572.24	-30.19	30.47	20.32	36.63	33.70	0.10	-0.10	5.92
59	6666	0.18	152.70	93	6665.24	-29.99	30.27	20.39	36.50	33.97	0.12	0.10	-28.35
60	6760	0.18	128.62	94	6759.24	-29.76	30.05	20.57	36.42	34.40	0.08	0.00	-25.62
61	6854	0.70	113.15	94	6853.23	-29.43	29.73	21.22	36.52	35.52	0.56	0.55	-16.46
62	6949	0.53	102.61	95	6948.23	-29.10	29.40	22.18	36.83	37.03	0.21	-0.18	-11.09
63	7042	0.62	129.33	93	7041.22	-28.67	28.99	22.99	37.00	38.41	0.30	0.10	28.73
64	7136	0.79	137.06	94	7135.21	-27.86	28.19	23.82	36.91	40.20	0.21	0.18	8.22
65	7229	0.62	138.11	93	7228.21	-27.01	27.35	24.60	36.78	41.96	0.18	-0.18	1.13
66	7324	0.88	116.49	95	7323.20	-26.29	26.64	25.59	36.94	43.85	0.40	0.27	-22.76
67	7418	0.88	107.88	94	7417.19	-25.73	26.10	26.93	37.50	45.89	0.14	0.00	-9.16



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68	7512	0.97	108.93	94	7511.18	-25.23	25.62	28.37	38.22	47.91	0.10	0.10	1.12
69	7605	0.79	104.19	93	7604.17	-24.79	25.21	29.73	38.98	49.71	0.21	-0.19	-5.10
70	7698	0.88	102.43	93	7697.16	-24.47	24.90	31.05	39.80	51.28	0.10	0.10	-1.89
71	7791	0.53	61.30	93	7790.15	-24.50	24.95	32.13	40.68	52.17	0.64	-0.38	-44.23
72	7885	0.53	77.12	94	7884.14	-24.80	25.25	32.93	41.50	52.52	0.16	0.00	16.83
73	7979	0.70	47.06	94	7978.14	-25.27	25.74	33.77	42.47	52.69	0.38	0.18	-31.98
74	8073	0.26	60.07	94	8072.14	-25.76	26.24	34.38	43.25	52.65	0.48	-0.47	13.84
75	8167	0.35	136.53	94	8166.14	-25.66	26.14	34.76	43.49	53.06	0.41	0.10	81.34
76	8260	1.49	197.70	93	8259.12	-24.30	24.78	34.59	42.55	54.38	1.46	1.23	65.77
77	8353	2.55	212.12	93	8352.06	-21.42	21.88	33.12	39.69	56.56	1.26	1.14	15.51
78	8447	1.67	221.61	94	8446.00	-18.65	19.08	31.10	36.49	58.47	1.00	-0.94	10.10
79	8541	0.79	266.96	94	8539.98	-17.61	18.02	29.54	34.61	58.62	1.33	-0.94	48.24
80	8635	0.88	278.56	94	8633.97	-17.71	18.10	28.18	33.49	57.30	0.20	0.10	12.34
81	8729	0.53	300.36	94	8727.96	-18.05	18.42	27.09	32.76	55.79	0.46	-0.37	23.19
82	8754	0.73	327.17	25	8752.96	-18.24	18.61	26.91	32.72	55.32	1.40	0.80	107.24
83	8786	2.59	272.94	32	8784.95	-18.46	18.82	26.08	32.16	54.18	7.01	5.81	-169.47
84	8817	6.48	276.37	31	8815.84	-18.73	19.05	23.64	30.36	51.13	12.57	12.55	11.06
85	8848	10.28	275.22	31	8846.51	-19.23	19.50	19.14	27.32	44.47	12.27	12.26	-3.71
86	8879	14.35	275.31	31	8876.79	-19.93	20.11	12.56	23.71	31.99	13.13	13.13	0.29
87	8910	18.11	276.28	31	8906.55	-20.93	20.99	3.94	21.36	10.64	12.16	12.13	3.13
88	8941	21.78	274.26	31	8935.68	-22.03	21.94	-6.59	22.91	343.29	12.04	11.84	-6.52
89	8978	25.56	273.20	37	8969.56	-23.19	22.90	-21.41	31.35	316.93	10.28	10.22	-2.86
90	9009	28.74	269.07	31	8997.15	-23.64	23.15	-35.54	42.42	303.08	11.92	10.26	-13.32
91	9041	31.56	263.62	32	9024.82	-22.81	22.10	-51.56	56.10	293.20	12.27	8.81	-17.03
92	9072	34.98	260.72	31	9050.74	-20.70	19.76	-68.40	71.20	286.11	12.16	11.03	-9.35
93	9104	37.71	256.50	32	9076.51	-17.19	16.00	-86.97	88.43	280.42	11.57	8.53	-13.19
94	9135	41.36	254.57	31	9100.42	-12.52	11.06	-106.07	106.65	275.95	12.42	11.77	-6.23
95	9166	44.35	251.67	31	9123.14	-6.66	4.92	-126.24	126.33	272.23	11.55	9.65	-9.35
96	9198	46.54	246.75	32	9145.60	1.15	-3.18	-147.54	147.57	268.76	12.91	6.84	-15.38
97	9229	49.20	242.62	31	9166.40	10.70	-13.03	-168.30	168.80	265.57	13.08	8.58	-13.32
98	9260	52.17	238.40	31	9186.04	22.23	-24.84	-189.16	190.78	262.52	14.23	9.58	-13.61
99	9291	53.91	233.74	31	9204.69	35.78	-38.67	-209.69	213.23	259.55	13.26	5.61	-15.03
100	9322	55.25	229.17	31	9222.66	51.24	-54.41	-229.44	235.80	256.66	12.77	4.32	-14.74
101	9353	56.98	223.98	31	9239.95	68.67	-72.10	-248.11	258.37	253.80	14.97	5.58	-16.74



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102	9384	58.50	218.62	31	9256.51	88.12	-91.79	-265.39	280.82	250.92	15.42	4.90	-17.29
103	9415	59.62	213.09	31	9272.45	109.45	-113.33	-280.95	302.95	248.03	15.72	3.61	-17.84
104	9446	60.83	207.37	31	9287.86	132.50	-136.57	-294.48	324.61	245.12	16.48	3.90	-18.45
105	9476	61.31	201.92	30	9302.38	156.20	-160.42	-305.42	344.99	242.29	15.98	1.60	-18.17
106	9507	61.64	196.47	31	9317.19	181.78	-186.13	-314.37	365.34	239.37	15.48	1.06	-17.58
107	9538	62.23	193.49	31	9331.78	208.10	-212.55	-321.44	385.36	236.53	8.69	1.90	-9.61
108	9570	62.72	190.50	32	9346.57	235.77	-240.31	-327.33	406.07	233.72	8.43	1.53	-9.34
109	9601	63.07	186.45	31	9360.70	263.00	-267.59	-331.40	425.95	231.08	11.68	1.13	-13.06
110	9632	62.94	182.41	31	9374.77	290.50	-295.12	-333.53	445.35	228.50	11.62	-0.42	-13.03
111	9663	63.00	177.05	31	9388.87	318.10	-322.72	-333.40	464.01	225.93	15.40	0.19	-17.29
112	9695	62.81	174.59	32	9403.45	346.53	-351.13	-331.32	482.77	223.34	6.87	-0.59	-7.69
113	9726	62.74	174.06	31	9417.63	374.00	-378.56	-328.60	501.29	220.96	1.54	-0.21	-1.71
114	9757	63.95	174.15	31	9431.53	401.59	-406.12	-325.75	520.63	218.73	3.90	3.89	0.29
115	9788	66.15	174.68	31	9444.61	429.60	-434.09	-323.02	541.09	216.65	7.26	7.10	1.71
116	9820	68.76	176.35	32	9456.88	459.09	-463.55	-320.71	563.68	214.68	9.47	8.16	5.22
117	9850	71.86	176.96	30	9466.98	487.30	-491.75	-319.07	586.19	212.98	10.51	10.33	2.03
118	9882	74.91	177.23	32	9476.13	517.94	-522.37	-317.51	611.30	211.29	9.57	9.53	0.84
119	9907	75.60	177.66	25	9482.50	542.11	-546.52	-316.44	631.52	210.07	3.22	2.76	1.72
120	9938	77.29	178.10	31	9489.76	572.23	-576.64	-315.32	657.22	208.67	5.62	5.45	1.42
121	9970	79.35	178.28	32	9496.24	603.57	-607.96	-314.33	684.41	207.34	6.46	6.44	0.56
122	10001	81.68	178.19	31	9501.35	634.13	-638.52	-313.39	711.28	206.14	7.52	7.52	-0.29
123	10032	83.46	177.84	31	9505.36	664.87	-669.24	-312.32	738.53	205.02	5.85	5.74	-1.13
124	10064	84.30	177.66	32	9508.77	696.67	-701.03	-311.08	766.95	203.93	2.68	2.63	-0.56
125	10095	84.43	177.49	31	9511.81	727.51	-731.85	-309.77	794.71	202.94	0.69	0.42	-0.55
126	10126	84.69	177.23	31	9514.75	758.36	-762.68	-308.35	822.65	202.01	1.18	0.84	-0.84
127	10157	84.91	177.05	31	9517.56	789.21	-793.51	-306.81	850.76	201.14	0.92	0.71	-0.58
128	10188	85.26	177.23	31	9520.22	820.07	-824.36	-305.27	879.07	200.32	1.27	1.13	0.58
129	10280	88.63	176.96	92	9525.12	911.87	-916.10	-300.61	964.16	198.17	3.67	3.66	-0.29
130	10310	88.93	176.35	30	9525.76	941.83	-946.04	-298.86	992.12	197.53	2.27	1.00	-2.03
131	10371	89.53	176.61	61	9526.58	1002.75	-1006.92	-295.12	1049.28	196.34	1.07	0.98	0.43
132	10433	87.33	176.08	62	9528.28	1064.65	-1068.77	-291.17	1107.72	195.24	3.65	-3.55	-0.85
133	10464	87.53	175.47	31	9529.67	1095.56	-1099.65	-288.88	1136.96	194.72	2.07	0.65	-1.97
134	10557	88.56	175.47	93	9532.84	1188.31	-1192.31	-281.54	1225.10	193.29	1.11	1.11	0.00
135	10651	87.44	174.94	94	9536.12	1282.02	-1285.92	-273.69	1314.72	192.02	1.32	-1.19	-0.56



Company: Chisholm Energy Operating, LLC

Job Number: WT-170820

Calculation Method

#VALUE!

Well: Buffalo West 2 State Com 2BS 5H

Mag Decl.: 6.63

Proposed Azimuth 179.21

Location: Lea County, NM

Dir Driller: J. Pearcy / T. Pearcy

Depth Reference KBB

Rig: Latshaw 17

MWD Eng: J. Bult / J. Broussard

Tie Into: Assumed Vertical

Job Date: 7/25/2017

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates +N/-S (ft)	+E/-W (ft)	Closure Distance (ft)	Direction (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
136	10743	87.13	175.73	92	9540.48	1373.71	-1377.51	-266.22	1403.00	190.94	0.92	-0.34	0.86
137	10836	87.04	177.66	93	9545.21	1466.49	-1470.23	-260.86	1493.19	190.06	2.07	-0.10	2.08
138	10930	88.47	179.34	94	9548.89	1560.41	-1564.12	-258.40	1585.32	189.38	2.35	1.52	1.79
139	11023	89.66	180.04	93	9550.41	1653.39	-1657.10	-257.90	1677.05	188.85	1.48	1.28	0.75
140	11117	90.30	179.86	94	9550.44	1747.38	-1751.10	-257.82	1769.98	188.38	0.71	0.68	-0.19
141	11210	90.87	179.60	93	9549.49	1840.37	-1844.10	-257.38	1861.97	187.95	0.67	0.61	-0.28
142	11303	90.58	180.04	93	9548.31	1933.36	-1937.09	-257.09	1954.07	187.56	0.57	-0.31	0.47
143	11395	90.74	180.04	92	9547.25	2025.34	-2029.08	-257.15	2045.31	187.22	0.17	0.17	0.00
144	11488	90.16	180.83	93	9546.52	2118.32	-2122.08	-257.86	2137.68	186.93	1.05	-0.62	0.85
145	11581	90.63	180.92	93	9545.88	2211.28	-2215.06	-259.28	2230.19	186.68	0.51	0.51	0.10
146	11674	90.36	181.53	93	9545.08	2304.21	-2308.04	-261.27	2322.78	186.46	0.72	-0.29	0.66
147	11767	88.25	181.36	93	9546.21	2397.13	-2400.99	-263.61	2415.42	186.27	2.28	-2.27	-0.18
148	11859	87.73	181.18	92	9549.43	2489.02	-2492.92	-265.65	2507.03	186.08	0.60	-0.57	-0.20
149	11952	88.06	181.27	93	9552.85	2581.90	-2585.83	-267.64	2599.64	185.91	0.37	0.35	0.10
150	12046	89.07	181.18	94	9555.20	2675.81	-2679.78	-269.65	2693.31	185.75	1.08	1.07	-0.10
151	12139	90.52	180.74	93	9555.54	2768.76	-2772.76	-271.20	2785.99	185.59	1.63	1.56	-0.47
152	12232	90.65	180.13	93	9554.59	2861.73	-2865.75	-271.91	2878.63	185.42	0.67	0.14	-0.66
153	12326	89.75	180.30	94	9554.26	2955.72	-2959.75	-272.26	2972.25	185.26	0.97	-0.96	0.18
154	12418	90.45	180.30	92	9554.10	3047.70	-3051.75	-272.75	3063.91	185.11	0.76	0.76	0.00
155	12510	88.54	181.36	92	9554.91	3139.65	-3143.73	-274.08	3155.66	184.98	2.37	-2.08	1.15
156	12604	87.86	181.18	94	9557.86	3233.55	-3237.66	-276.16	3249.42	184.88	0.75	-0.72	-0.19
157	12698	88.71	181.09	94	9560.68	3327.45	-3331.60	-278.02	3343.18	184.77	0.91	0.90	-0.10
159	12792	87.00	180.30	94	9564.19	3421.35	-3425.52	-279.16	3436.88	184.66	2.00	-1.82	-0.84
159	12887	87.13	180.30	95	9569.06	3516.21	-3520.40	-279.66	3531.49	184.54	0.14	0.14	0.00
160	12981	87.53	180.13	94	9573.44	3610.09	-3614.29	-280.01	3625.12	184.43	0.46	0.43	-0.18
161	13075	88.23	179.77	94	9576.91	3704.02	-3708.23	-279.93	3718.78	184.32	0.84	0.74	-0.38
162	13168	89.33	179.25	93	9578.89	3796.99	-3801.20	-279.13	3811.44	184.20	1.31	1.18	-0.56
163	13263	87.46	179.51	95	9581.55	3891.95	-3896.16	-278.11	3906.07	184.08	1.99	-1.97	0.27
164	13356	88.30	178.90	93	9584.99	3984.89	-3989.08	-276.82	3998.68	183.97	1.12	0.90	-0.66
165	13450	85.99	180.39	94	9589.68	4078.76	-4082.95	-276.23	4092.29	183.87	2.92	-2.46	1.59
166	13544	87.75	181.09	94	9594.81	4172.58	-4176.80	-277.45	4186.01	183.80	2.01	1.87	0.74
167	13637	89.48	181.71	93	9597.06	4265.48	-4269.74	-279.72	4278.90	183.75	1.98	1.86	0.67
168	13732	90.43	181.09	95	9597.13	4360.41	-4364.71	-282.04	4373.82	183.70	1.19	1.00	-0.65
169	13826	91.79	180.65	94	9595.31	4454.35	-4458.68	-283.46	4467.68	183.64	1.52	1.45	-0.47



Company: Chisholm Energy Operating, LLC

Job Number: WT-170820

Well: Buffalo West 2 State Com 2BS 5H

Mag Decl.: 6.63

Location: Lea County, NM

Dir Driller: J. Percy / T. Percy

Rig: Latshaw 17

MWD Eng: J. Bult / J. Broussard

Calculation Method #VALUE!

Proposed Azimuth 179.21

Depth Reference KBB

Tie Into: Assumed Vertical

Job Date: 7/25/2017

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							+N/-S (ft)	+E/-W (ft)	Distance (ft)	Direction (deg)			
170	13920	90.69	181.36	94	9593.28	4548.28	-4552.64	-285.11	4561.56	183.58	1.39	-1.17	0.76
171	14013	89.81	181.88	93	9592.87	4641.20	-4645.60	-287.74	4654.51	183.54	1.10	-0.95	0.56
172	14108	88.80	182.41	95	9594.02	4736.06	-4740.53	-291.30	4749.47	183.52	1.20	-1.06	0.56
173	14202	88.36	182.50	94	9596.35	4829.88	-4834.41	-295.32	4843.43	183.50	0.48	-0.47	0.10
174	14256	87.90	182.76	54	9598.11	4883.76	-4888.33	-297.80	4897.39	183.49	0.98	-0.85	0.48
	14340	87.90	182.76	84	9601.19	4967.54	-4972.17	-301.84	4981.33	183.47	0.00	0.00	0.00