

30-025-43309

HOBBS OCD

JAN 19 2018

RECEIVED

MWD
SURVEYS

Customer: Devon Energy
Well: Boomsiang 14-23 Fed #3H
Field/Block: Delaware Basin
Co./Parish: Lea County
State: New Mexico

PGS Job #: LNM5148217
MWD Operator: Malachi Jackson
Directional Driller: Perry Bullard
Date of First Survey: August 23, 2017
Date of Last Survey:



Total Correction: 6.83 East Grid

Vertical Section Plane: 179.56 Nominal Dip Angle: 60.00 Magnetic Field Strength: 48119.2

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure			Vib/Shk		Date	Time	Flow Rate
					+N / -S	+E / -W	Dist.	Angle	DLS	Temp (°F)	Color			
Survey's are tied into: Gyro										Date Received: 08/23/17				
Company: Teledrift														
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
1	120	0.6	71.0	120.00	-0.20	0.20	0.59	0.63	71.00	0.50				
2	226	0.8	20.0	225.99	-1.07	1.08	1.37	1.75	51.77	0.59				
3	313	0.8	28.0	312.98	-2.17	2.19	1.86	2.87	40.45	0.13				
4	405	0.8	7.0	404.97	-3.37	3.39	2.24	4.07	33.49	0.32				
5	499	1.0	358.0	498.96	-4.85	4.86	2.30	5.38	25.27	0.26				
6	594	0.5	357.0	593.95	-6.09	6.11	2.25	6.51	20.19	0.53				
7	689	0.6	354.0	688.95	-7.00	7.01	2.17	7.34	17.20	0.11				
8	789	0.6	336.0	788.94	-8.00	8.01	1.90	8.24	13.37	0.19				
9	878	0.4	324.0	877.94	-8.68	8.69	1.53	8.82	10.00	0.25				
10	972	0.6	297.0	971.94	-9.17	9.18	0.90	9.22	5.60	0.32				
11	1,067	0.8	290.0	1,066.93	-9.63	9.63	-0.17	9.63	359.01	0.23				
12	1,161	0.7	286.0	1,160.92	-10.02	10.01	-1.33	10.10	352.41	0.12				
13	1,193	0.6	282.0	1,192.92	-10.12	10.10	-1.69	10.24	350.52	0.34				
14	1,256	0.3	313.0	1,255.92	-10.30	10.28	-2.13	10.50	348.30	0.60				
15	1,356	0.2	353.0	1,355.92	-10.65	10.64	-2.34	10.89	347.58	0.20				
16	1,444	0.5	304.0	1,443.92	-11.02	11.00	-2.68	11.32	346.31	0.45				
17	1,470	0.8	322.3	1,469.91	-11.23	11.21	-2.88	11.58	345.57	1.39	88 °F	Green	08/23/17	13:17 830 (gpm)
18	1,564	0.9	332.5	1,563.90	-12.41	12.38	-3.63	12.90	343.68	0.19	91 °F	Green	08/23/17	13:43 830 (gpm)
19	1,660	0.9	326.7	1,659.89	-13.72	13.68	-4.39	14.37	342.22	0.09	95 °F	Green	08/23/17	14:38 460 (gpm)
20	1,755	1.0	331.6	1,754.88	-15.08	15.04	-5.19	15.91	340.95	0.14	99 °F	Green	08/23/17	15:45 830 (gpm)
21	1,850	0.9	336.8	1,849.87	-16.50	16.45	-5.88	17.47	340.33	0.14	100 °F	Green	08/23/17	16:01 830 (gpm)
22	1,945	1.0	339.5	1,944.85	-17.96	17.91	-6.47	19.04	340.16	0.12	100 °F	Green	08/23/17	17:14 830 (gpm)
23	2,039	1.0	334.4	2,038.84	-19.48	19.42	-7.11	20.68	339.90	0.09	100 °F	Green	08/23/17	17:37 830 (gpm)
24	2,134	1.1	343.9	2,133.82	-21.10	21.05	-7.72	22.42	339.86	0.21	108 °F	Green	08/23/17	18:01 830 (gpm)
25	2,229	1.1	338.7	2,228.80	-22.83	22.77	-8.30	24.24	339.97	0.11	111 °F	Green	08/23/17	18:30 880 (gpm)

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Co./Parish: Lea County
State: New Mexico

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Directional Driller: Perry Bullard
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Nominal Dip Angle: 60.00

Magnetic Field Strength: 48119.2

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Temp (°F)	Vib/Shk Color	Date	Time	Flow Rate
					+N / -S	+E / -W	Dist.	Angle						
26	2,324	1.0	334.8	2,323.79	-24.44	24.37	-8.99	25.97	339.76	0.13	111 °F	Green	08/23/17	18:49 880 (gpm)
27	2,419	1.0	333.4	2,418.77	-25.94	25.86	-9.71	27.62	339.42	0.03	111 °F	Green	08/23/17	19:14 841 (gpm)
28	2,515	1.0	320.6	2,514.76	-27.34	27.26	-10.62	29.25	338.72	0.23	111 °F	Green	08/23/17	19:28 497 (gpm)
29	2,610	1.1	334.8	2,609.74	-28.81	28.72	-11.53	30.95	338.13	0.29	120 °F	Green	08/23/17	19:42 496 (gpm)
30	2,705	1.0	326.0	2,704.73	-30.33	30.24	-12.38	32.67	337.73	0.20	124 °F	Green	08/23/17	21:00 496 (gpm)
31	2,894	1.1	324.9	2,893.70	-33.20	33.09	-14.35	36.07	336.56	0.05	120 °F	Green	08/23/17	23:04 801 (gpm)
32	2,989	1.1	337.0	2,988.68	-34.79	34.67	-15.23	37.87	336.29	0.24	120 °F	Green	08/23/17	23:15 851 (gpm)
33	3,085	1.2	342.4	3,084.66	-36.60	36.48	-15.89	39.79	336.46	0.15	122 °F	Green	08/23/17	23:42 851 (gpm)
34	3,180	1.2	340.9	3,179.64	-38.49	38.37	-16.52	41.77	336.71	0.03	124 °F	Green	08/24/17	0:19 496 (gpm)
35	3,275	1.0	358.5	3,274.62	-40.27	40.14	-16.87	43.54	337.21	0.41	122 °F	Green	08/24/17	0:55 775 (gpm)
36	3,370	1.4	3	3,369.60	-42.25	42.12	-16.82	45.36	338.23	0.43	122 °F	Green	08/24/17	1:26 801 (gpm)
37	3,465	1.5	2.3	3,464.57	-44.65	44.53	-16.71	47.56	339.43	0.11	124 °F	Green	08/24/17	1:57 800 (gpm)
38	3,560	1.7	6.3	3,559.53	-47.29	47.17	-16.50	49.97	340.72	0.24	124 °F	Green	08/24/17	2:32 801 (gpm)
39	3,655	1.4	12.7	3,654.50	-49.82	49.70	-16.09	52.24	342.06	0.36	126 °F	Green	08/24/17	3:45 801 (gpm)
40	3,749	1.2	5.7	3,748.47	-51.92	51.80	-15.74	54.14	343.10	0.27	127 °F	Green	08/24/17	4:21 818 (gpm)
41	3,844	1.0	11.3	3,843.46	-53.72	53.60	-15.48	55.79	343.89	0.24	129 °F	Green	08/24/17	5:04 819 (gpm)
42	3,939	1.1	1.1	3,938.44	-55.44	55.33	-15.30	57.40	344.54	0.22	133 °F	Green	08/24/17	5:49 818 (gpm)
43	4,034	0.6	21.9	4,033.43	-56.82	56.70	-15.10	58.68	345.09	0.61	133 °F	Green	08/24/17	6:39 820 (gpm)
44	4,129	0.4	358.0	4,128.43	-57.61	57.49	-14.92	59.40	345.45	0.30	135 °F	Green	08/24/17	7:24 820 (gpm)
45	4,224	0.4	329.7	4,223.42	-58.23	58.11	-15.10	60.04	345.43	0.21	136 °F	Green	08/24/17	8:19 820 (gpm)
46	4,319	0.4	7.4	4,318.42	-58.84	58.73	-15.23	60.67	345.47	0.27	136 °F	Green	08/24/17	9:15 812 (gpm)
47	4,414	0.3	56.9	4,413.42	-59.30	59.19	-14.97	61.06	345.80	0.32	136 °F	Green	08/24/17	9:52 812 (gpm)
48	4,509	1.1	102.3	4,508.41	-59.24	59.13	-13.88	60.74	346.79	0.96	136 °F	Green	08/24/17	10:24 812 (gpm)
49	4,604	1.7	107.2	4,603.38	-58.61	58.52	-11.64	59.67	348.75	0.64	138 °F	Green	08/24/17	11:09 812 (gpm)
50	4,699	1.9	115.2	4,698.34	-57.50	57.43	-8.87	58.12	351.22	0.34	138 °F	Green	08/24/17	11:45 812 (gpm)
51	4,794	3.0	120.6	4,793.25	-55.54	55.50	-5.30	55.75	354.54	1.18	138 °F	Green	08/24/17	12:14 812 (gpm)
52	4,890	3.4	119.2	4,889.10	-52.83	52.83	-0.66	52.84	359.29	0.42	138 °F	Green	08/24/17	12:54 812 (gpm)
53	4,985	4.3	119.3	4,983.88	-49.67	49.71	4.91	49.96	5.64	0.95	138 °F	Green	08/24/17	13:39 812 (gpm)

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	Measured					Coordinates		Closure				Vib/Shk				
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS	Temp (°F)					
54	5,080	3.7	117.7	5,078.65	-46.46	46.55	10.73	47.77	12.98	0.64	136 °F	Green	08/24/17	15:05	812 (gpm)	
55	5,175	3.4	120.3	5,173.47	-43.58	43.70	15.88	46.49	19.97	0.36	136 °F	Green	08/24/17	15:59	812 (gpm)	
56	5,243	3.5	116.3	5,241.35	-41.61	41.76	19.48	46.08	25.00	0.38	135 °F	Green	08/24/17	16:35	812 (gpm)	
57	5,317	3.0	117.0	5,315.23	-39.70	39.88	23.23	46.15	30.22	0.68	109 °F	Green	08/26/17	11:36	603 (gpm)	
58	5,412	3.8	92.1	5,410.06	-38.42	38.64	28.59	48.07	36.50	1.75	111 °F	Green	08/26/17	12:29	603 (gpm)	
59	5,507	4.3	82.1	5,504.83	-38.74	39.01	35.26	52.59	42.11	0.91	115 °F	Green	08/26/17	13:23	603 (gpm)	
60	5,603	5.1	68.0	5,600.51	-40.78	41.11	42.78	59.33	46.15	1.46	118 °F	Green	08/26/17	13:49	603 (gpm)	
61	5,698	5.0	68.7	5,695.14	-43.80	44.19	50.56	67.15	48.84	0.12	120 °F	Green	08/26/17	14:17	603 (gpm)	
62	5,793	4.9	49.8	5,789.79	-47.87	48.31	57.51	75.11	49.97	1.71	122 °F	Green	08/26/17	15:05	603 (gpm)	
63	5,888	5.5	33.2	5,884.41	-54.26	54.74	63.11	83.54	49.06	1.70	122 °F	Green	08/26/17	15:44	603 (gpm)	
64	5,983	6.1	21.9	5,978.92	-62.72	63.24	67.48	92.48	46.86	1.35	124 °F	Green	08/26/17	16:08	603 (gpm)	
65	6,078	5.6	21.9	6,073.43	-71.67	72.22	71.09	101.34	44.55	0.53	126 °F	Green	08/26/17	17:00	603 (gpm)	
66	6,173	5.0	20.2	6,168.02	-79.83	80.41	74.25	109.45	42.72	0.65	126 °F	Green	08/26/17	17:31	603 (gpm)	
67	6,268	4.7	19.1	6,262.68	-87.38	87.97	76.95	116.88	41.18	0.33	127 °F	Green	08/26/17	18:00	603 (gpm)	
68	6,363	4.6	18.2	6,357.37	-94.65	95.27	79.42	124.03	39.82	0.13	127 °F	Green	08/26/17	18:32	603 (gpm)	
69	6,459	4.5	18.0	6,453.06	-101.87	102.51	81.78	131.13	38.58	0.11	129 °F	Green	08/26/17	19:04	603 (gpm)	
70	6,554	4.6	17.7	6,547.76	-109.03	109.68	84.09	138.21	37.48	0.11	129 °F	Green	08/26/17	19:25	600 (gpm)	
71	6,649	4.4	16.8	6,642.47	-116.13	116.80	86.30	145.22	36.46	0.22	131 °F	Green	08/26/17	19:48	601 (gpm)	
72	6,744	4.3	15.7	6,737.20	-123.03	123.71	88.32	152.01	35.52	0.14	131 °F	Green	08/26/17	20:13	600 (gpm)	
73	6,839	4.1	16.3	6,831.94	-129.71	130.40	90.24	158.58	34.68	0.22	131 °F	Green	08/26/17	20:39	600 (gpm)	
74	6,934	2.5	8.7	6,926.78	-135.00	135.71	91.51	163.68	33.99	1.74	131 °F	Green	08/26/17	21:36	600 (gpm)	
75	7,029	2.3	5.4	7,021.70	-138.95	139.66	92.00	167.23	33.37	0.26	131 °F	Green	08/26/17	22:05	600 (gpm)	
76	7,124	1.3	351.7	7,116.65	-141.91	142.62	92.02	169.73	32.83	1.14	133 °F	Green	08/26/17	22:53	601 (gpm)	
77	7,219	1.2	340.4	7,211.63	-143.92	144.62	91.53	171.16	32.33	0.28	135 °F	Green	08/26/17	23:21	601 (gpm)	
78	7,314	1.1	348.6	7,306.61	-145.75	146.45	91.02	172.43	31.86	0.20	135 °F	Green	08/26/17	23:58	601 (gpm)	
79	7,409	1.0	333.9	7,401.59	-147.39	148.09	90.47	173.54	31.42	0.30	136 °F	Green	08/27/17	0:30	600 (gpm)	
80	7,504	0.9	336.6	7,496.58	-148.83	149.52	89.81	174.42	30.99	0.12	136 °F	Green	08/27/17	0:58	601 (gpm)	
81	7,599	0.7	323.4	7,591.57	-149.98	150.67	89.17	175.08	30.62	0.28	136 °F	Green	08/27/17	1:30	599 (gpm)	

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					+N / -S	+E / -W	Dist.	Angle							
82	7,695	0.3	338.5	7,687.57	-150.69	151.38	88.73	175.47	30.38	0.44	136 °F	Green	08/27/17	2:02	601 (gpm)
83	7,790	0.1	354.0	7,782.57	-151.01	151.69	88.63	175.69	30.30	0.22	138 °F	Green	08/27/17	2:33	601 (gpm)
84	7,884	0.1	133.1	7,876.57	-151.03	151.72	88.68	175.73	30.31	0.20	138 °F	Green	08/27/17	3:01	601 (gpm)
85	7,980	0.5	126.2	7,972.57	-150.72	151.41	89.08	175.67	30.47	0.42	138 °F	Green	08/27/17	3:36	600 (gpm)
86	8,075	0.9	131.6	8,067.56	-149.98	150.67	89.97	175.49	30.84	0.43	138 °F	Green	08/27/17	4:13	601 (gpm)
87	8,170	1.0	134.6	8,162.55	-148.89	149.59	91.12	175.16	31.35	0.12	138 °F	Green	08/27/17	4:43	601 (gpm)
88	8,265	1.0	130.2	8,257.53	-147.76	148.48	92.34	174.85	31.88	0.08	138 °F	Green	08/27/17	5:13	600 (gpm)
89	8,360	1.1	143.5	8,352.52	-146.49	147.21	93.52	174.40	32.43	0.28	138 °F	Green	08/27/17	5:45	600 (gpm)
90	8,455	1.4	141.1	8,447.49	-144.84	145.57	94.79	173.71	33.07	0.32	140 °F	Green	08/27/17	6:17	601 (gpm)
91	8,550	1.0	148.2	8,542.47	-143.22	143.97	95.96	173.01	33.68	0.45	140 °F	Green	08/27/17	6:51	601 (gpm)
92	8,645	0.7	150.6	8,637.46	-142.01	142.76	96.68	172.41	34.11	0.32	140 °F	Green	08/27/17	7:25	601 (gpm)
93	8,740	0.8	159.8	8,732.45	-140.88	141.63	97.19	171.77	34.46	0.16	140 °F	Green	08/27/17	8:04	601 (gpm)
94	8,835	0.4	193.6	8,827.45	-139.93	140.68	97.34	171.08	34.68	0.55	140 °F	Yellow	08/27/17	8:40	601 (gpm)
95	8,930	0.3	175.3	8,922.45	-139.36	140.11	97.29	170.58	34.77	0.16	140 °F	Green	08/27/17	9:23	601 (gpm)
96	9,025	0.3	127.1	9,017.45	-138.96	139.71	97.50	170.37	34.91	0.26	140 °F	Green	08/27/17	10:01	601 (gpm)
97	9,120	0.6	93.4	9,112.44	-138.78	139.54	98.20	170.63	35.14	0.41	142 °F	Green	08/27/17	10:56	601 (gpm)
98	9,215	0.4	101.4	9,207.44	-138.68	139.44	99.02	171.02	35.38	0.22	142 °F	Green	08/27/17	11:58	601 (gpm)
99	9,310	0.3	36.6	9,302.44	-138.81	139.57	99.49	171.41	35.48	0.40	142 °F	Green	08/27/17	12:44	601 (gpm)
100	9,405	0.6	13.6	9,397.43	-139.49	140.26	99.76	172.12	35.42	0.36	142 °F	Yellow	08/27/17	13:23	601 (gpm)
101	9,501	0.5	33.3	9,493.43	-140.32	141.10	100.11	173.00	35.36	0.22	145 °F	Green	08/27/17	14:08	601 (gpm)
102	9,596	0.9	332.7	9,588.42	-141.33	142.11	99.99	173.76	35.13	0.83	145 °F	Green	08/27/17	14:48	601 (gpm)
103	9,691	0.7	339.5	9,683.41	-142.54	143.31	99.45	174.44	34.76	0.23	145 °F	Green	08/27/17	15:57	601 (gpm)
104	9,786	0.5	3.4	9,778.41	-143.50	144.27	99.27	175.12	34.53	0.33	145 °F	Green	08/27/17	16:57	601 (gpm)
105	9,881	1.0	13.8	9,873.40	-144.72	145.49	99.49	176.25	34.37	0.54	147 °F	Green	08/27/17	18:02	601 (gpm)
106	9,976	0.8	18.5	9,968.39	-146.15	146.92	99.90	177.67	34.21	0.22	149 °F	Green	08/27/17	18:50	601 (gpm)
107	10,071	0.5	4.9	10,063.38	-147.19	147.96	100.14	178.67	34.09	0.35	149 °F	Green	08/27/17	20:03	601 (gpm)
108	10,166	0.9	318.0	10,158.38	-148.16	148.93	99.68	179.21	33.79	0.70	149 °F	Green	08/27/17	21:19	601 (gpm)
109	10,261	0.8	329.4	10,253.37	-149.29	150.06	98.84	179.69	33.37	0.21	149 °F	Green	08/27/17	22:58	601 (gpm)

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Co./Parish: Lea County
State: New Mexico

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Directional Driller: Perry Bullard
Date of First Survey: August 23, 2017
Date of Last Survey:



Total Correction: 6.83 East Grid

Vertical Section Plane: 179.56

Nominal Dip Angle: 60.00

Magnetic Field Strength: 48119.2

Measured					Coordinates			Closure				Vib/Shk				
Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS	Temp (°F)	Color	Date	Time	Flow Rate		
110	10,356	0.7	346.5	10,348.36	-150.43	151.19	98.37	180.38	33.05	0.26	151 °F	Green	08/28/17	0:33	601 (gpm)	
111	10,452	0.8	4.8	10,444.35	-151.67	152.43	98.29	181.37	32.81	0.27	149 °F	Green	08/28/17	1:59	418 (gpm)	
112	10,547	1.2	43.1	10,539.34	-153.05	153.82	99.03	182.94	32.77	0.80	149 °F	Green	08/28/17	3:58	601 (gpm)	
113	10,618	1.0	39.6	10,610.32	-154.07	154.84	99.93	184.28	32.84	0.30	151 °F	Green	08/28/17	5:18	601 (gpm)	
114	10,642	1.0	46.0	10,634.32	-154.37	155.14	100.21	184.70	32.86	0.47	133 °F	Yellow	08/29/17	7:21	568 (gpm)	
115	10,737	7.7	186.9	10,729.06	-148.62	149.39	100.04	179.80	33.81	8.95	133 °F	Yellow	08/29/17	9:11	568 (gpm)	
116	10,832	22.9	189.8	10,820.42	-123.97	124.71	96.11	157.45	37.62	16.02	136 °F	Yellow	08/29/17	10:28	568 (gpm)	
117	10,879	30.1	187.8	10,862.46	-103.28	104.00	92.95	139.48	41.79	15.43	138 °F	Yellow	08/29/17	11:32	568 (gpm)	
118	10,927	33.6	186.0	10,903.23	-78.16	78.86	89.93	119.61	48.75	7.55	138 °F	Yellow	08/29/17	12:13	568 (gpm)	
119	10,974	37.7	183.3	10,941.41	-50.89	51.56	87.74	101.77	59.56	9.34	140 °F	Yellow	08/29/17	12:53	568 (gpm)	
120	11,022	41.5	181.7	10,978.39	-20.34	21.00	86.42	88.94	76.34	8.20	140 °F	Yellow	08/29/17	13:33	568 (gpm)	
121	11,069	46.0	179.5	11,012.34	12.14	-11.48	86.11	86.87	97.60	10.11	142 °F	Yellow	08/29/17	14:08	568 (gpm)	
122	11,117	51.1	177.5	11,044.10	48.10	-47.43	87.07	99.16	118.58	11.07	142 °F	Red	08/29/17	14:51	460 (gpm)	
123	11,164	54.2	175.2	11,072.61	85.39	-84.71	89.47	123.21	133.44	7.66	142 °F	Yellow	08/29/17	15:34	460 (gpm)	
124	11,213	59.2	173.5	11,099.51	126.16	-125.45	93.52	156.47	143.30	10.61	142 °F	Yellow	08/29/17	16:24	560 (gpm)	
125	11,260	66.2	172.5	11,121.05	167.63	-166.87	98.61	193.83	149.42	15.01	144 °F	Yellow	08/29/17	16:58	560 (gpm)	
126	11,308	69.5	173.4	11,139.15	211.78	-210.99	104.06	235.26	153.75	7.09	144 °F	Yellow	08/29/17	17:36	560 (gpm)	
127	11,355	71.4	173.5	11,154.87	255.82	-254.99	109.12	277.36	156.83	4.05	144 °F	Yellow	08/29/17	18:09	560 (gpm)	
128	11,403	75.0	173.9	11,168.75	301.52	-300.66	114.16	321.60	159.21	7.54	144 °F	Yellow	08/29/17	19:03	459 (gpm)	
129	11,450	77.4	176.1	11,179.96	347.02	-346.12	118.13	365.72	161.16	6.84	144 °F	Yellow	08/29/17	19:49	459 (gpm)	
130	11,498	81.6	179.9	11,188.71	394.18	-393.27	119.77	411.10	163.06	11.71	144 °F	Green	08/29/17	20:39	459 (gpm)	
131	11,541	87.2	181.4	11,192.90	436.94	-436.04	119.28	452.06	164.70	13.48	124 °F	Green	08/31/17	6:37	500 (gpm)	
132	11,632	88.2	181.8	11,196.55	527.81	-526.93	116.74	539.71	167.51	1.18	127 °F	Green	08/31/17	7:15	525 (gpm)	
133	11,723	88.3	181.6	11,199.33	618.71	-617.85	114.04	628.28	169.54	0.25	131 °F	Green	08/31/17	7:43	502 (gpm)	
134	11,815	88.7	179.8	11,201.74	710.65	-709.81	112.92	718.73	170.96	2.00	129 °F	Green	08/31/17	8:38	502 (gpm)	
135	11,907	88.9	179.7	11,203.67	802.63	-801.78	113.32	809.75	171.96	0.24	133 °F	Green	08/31/17	9:09	502 (gpm)	
136	11,999	89.6	180.9	11,204.87	894.61	-893.77	112.84	900.87	172.80	1.51	135 °F	Green	08/31/17	9:49	502 (gpm)	
137	12,093	91.0	182.0	11,204.38	988.56	-987.74	110.46	993.90	173.62	1.89	135 °F	Green	08/31/17	10:34	502 (gpm)	

MWD SURVEYS

Customer: Devon Energy
Well: Boomslang 14-23 Fed #3H
Field/Block: Delaware Basin
Co./Parish: Lea County
State: New Mexico

PGS Job #: LNM5148217
MWD Operator: Malachi Jackson
Directional Driller: Perry Bullard
Date of First Survey: August 23, 2017
Date of Last Survey:



Total Correction: 6.83 East Grid

Vertical Section Plane: 179.56 Nominal Dip Angle: 60.00 Magnetic Field Strength: 48119.2

Measured					Coordinates		Closure				Vib/Shk				
Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS	Temp (°F)	Color	Date	Time	Flow Rate	
138	12,188	90.7	180.4	11,202.97	1,083.50	-1,082.70	108.47	1,088.12	174.28	1.71	135 °F	Green	08/31/17	11:39	502 (gpm)
139	12,283	89.3	178.0	11,202.97	1,178.49	-1,177.69	109.80	1,182.79	174.67	2.92	136 °F	Pink	08/31/17	12:35	502 (gpm)
140	12,378	88.6	177.4	11,204.71	1,273.43	-1,272.59	113.61	1,277.65	174.90	0.97	138 °F	Green	08/31/17	13:04	502 (gpm)
141	12,472	88.9	177.9	11,206.76	1,367.35	-1,366.49	117.46	1,371.53	175.09	0.62	140 °F	Green	08/31/17	13:37	502 (gpm)
142	12,567	89.2	178.1	11,208.34	1,462.30	-1,461.42	120.78	1,466.40	175.28	0.38	140 °F	Green	08/31/17	14:15	502 (gpm)
143	12,662	88.6	177.4	11,210.16	1,557.24	-1,556.33	124.50	1,561.30	175.43	0.97	142 °F	Green	08/31/17	14:50	502 (gpm)
144	12,757	89.3	176.9	11,211.90	1,652.14	-1,651.19	129.23	1,656.24	175.52	0.91	140 °F	Green	08/31/17	15:40	502 (gpm)
145	12,851	89.5	176.7	11,212.88	1,746.02	-1,745.04	134.47	1,750.21	175.59	0.30	142 °F	Green	08/31/17	16:29	502 (gpm)
146	12,946	89.4	177.8	11,213.80	1,840.94	-1,839.93	139.03	1,845.17	175.68	1.16	142 °F	Green	08/31/17	17:52	502 (gpm)
147	13,041	90.9	178.3	11,213.55	1,935.90	-1,934.87	142.26	1,940.09	175.79	1.66	142 °F	Green	08/31/17	19:22	502 (gpm)
148	13,136	91.7	178.4	11,211.39	2,030.86	-2,029.80	145.00	2,034.97	175.91	0.85	145 °F	Green	08/31/17	20:15	526 (gpm)
149	13,231	88.8	177.4	11,210.98	2,125.80	-2,124.73	148.48	2,129.91	176.00	3.23	147 °F	Green	08/31/17	21:00	526 (gpm)
150	13,326	90.9	179.6	11,211.23	2,220.78	-2,219.68	150.97	2,224.81	176.11	3.20	145 °F	Green	08/31/17	22:52	547 (gpm)
151	13,421	90.0	179.6	11,210.48	2,315.77	-2,314.68	151.63	2,319.64	176.25	0.95	147 °F	Green	08/31/17	23:33	547 (gpm)
152	13,516	90.8	178.8	11,209.82	2,410.77	-2,409.66	152.96	2,414.51	176.37	1.19	147 °F	Green	09/01/17	0:52	547 (gpm)
153	13,611	90.9	178.7	11,208.41	2,505.75	-2,504.63	155.03	2,509.42	176.46	0.15	149 °F	Green	09/01/17	1:42	526 (gpm)
154	13,706	89.2	178.1	11,208.33	2,600.72	-2,599.59	157.68	2,604.37	176.53	1.90	149 °F	Green	09/01/17	3:03	526 (gpm)
155	13,801	89.9	179.4	11,209.07	2,695.71	-2,694.56	159.75	2,699.29	176.61	1.55	149 °F	Green	09/01/17	5:07	526 (gpm)
156	13,896	90.0	181.2	11,209.15	2,790.70	-2,789.56	159.25	2,794.10	176.73	1.90	149 °F	Green	09/01/17	6:52	526 (gpm)
157	13,992	90.4	181.5	11,208.82	2,886.65	-2,885.53	156.99	2,889.80	176.89	0.52	151 °F	Green	09/01/17	7:54	502 (gpm)
158	14,087	88.8	181.1	11,209.48	2,981.60	-2,980.50	154.84	2,984.52	177.03	1.74	151 °F	Green	09/01/17	8:47	502 (gpm)
159	14,182	87.4	180.9	11,212.63	3,076.51	-3,075.43	153.18	3,079.24	177.15	1.49	153 °F	Green	09/01/17	9:41	502 (gpm)
160	14,277	89.8	180.5	11,214.95	3,171.46	-3,170.39	152.02	3,174.03	177.25	2.56	149 °F	Green	09/01/17	11:31	502 (gpm)
161	14,372	92.6	180.4	11,212.96	3,266.42	-3,265.35	151.27	3,268.86	177.35	2.95	151 °F	Green	09/01/17	13:06	502 (gpm)
162	14,467	92.8	180.4	11,208.49	3,361.30	-3,360.25	150.61	3,363.62	177.43	0.21	153 °F	Green	09/01/17	14:11	502 (gpm)
163	14,562	91.3	179.6	11,205.09	3,456.24	-3,455.18	150.61	3,458.46	177.50	1.79	153 °F	Green	09/01/17	15:14	502 (gpm)
164	14,657	91.2	179.5	11,203.02	3,551.21	-3,550.16	151.36	3,553.38	177.56	0.15	154 °F	Green	09/01/17	16:12	502 (gpm)
165	14,752	90.2	178.2	11,201.86	3,646.20	-3,645.13	153.27	3,648.35	177.59	1.73	151 °F	Pink	09/01/17	18:41	502 (gpm)

MWD SURVEYS

Customer: Devon Energy
Well: Boomslang 14-23 Fed #3H
Field/Block: Delaware Basin
Co./Parish: Lea County
State: New Mexico

PGS Job #: LNM5148217
MWD Operator: Malachi Jackson
Directional Driller: Perry Bullard
Date of First Survey: August 23, 2017
Date of Last Survey:



Total Correction: 6.83 East Grid

Vertical Section Plane: 179.56

Nominal Dip Angle: 60.00

Magnetic Field Strength: 48119.2

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Temp (°F)	Vib/Shk Color	Date	Time	Flow Rate
					+N / -S	+E / -W	Dist.	Angle						
166	14,847	91.3	178.6	11,200.61	3,741.17	-3,740.08	155.92	3,743.33	177.61	1.23	153 °F	Green	09/01/17	19:53 502 (gpm)
167	14,942	90.4	178.1	11,199.20	3,836.13	-3,835.03	158.65	3,838.31	177.63	1.08	154 °F	Green	09/01/17	21:24 502 (gpm)
168	15,037	89.5	178.2	11,199.29	3,931.10	-3,929.98	161.72	3,933.30	177.64	0.95	156 °F	Green	09/01/17	22:33 505 (gpm)
169	15,132	90.6	178.3	11,199.20	4,026.08	-4,024.93	164.62	4,028.30	177.66	1.16	156 °F	Green	09/01/17	23:41 387 (gpm)
170	15,228	91.0	178.2	11,197.86	4,122.04	-4,120.88	167.55	4,124.28	177.67	0.43	156 °F	Green	09/02/17	0:53 505 (gpm)
171	15,323	89.9	179.1	11,197.12	4,217.03	-4,215.85	169.79	4,219.26	177.69	1.50	156 °F	Green	09/02/17	3:18 505 (gpm)
172	15,418	89.2	180.2	11,197.86	4,312.02	-4,310.84	170.37	4,314.20	177.74	1.37	153 °F	Green	09/02/17	6:54 386 (gpm)
173	15,513	89.5	179.9	11,198.94	4,407.01	-4,405.83	170.29	4,409.12	177.79	0.45	154 °F	Green	09/02/17	8:04 386 (gpm)
174	15,608	89.6	179.7	11,199.69	4,502.01	-4,500.83	170.62	4,504.06	177.83	0.24	156 °F	Green	09/02/17	8:50 502 (gpm)
175	15,703	89.9	179.0	11,200.10	4,597.00	-4,595.82	171.70	4,599.03	177.86	0.80	156 °F	Green	09/02/17	9:35 502 (gpm)
176	15,798	89.3	178.1	11,200.77	4,691.99	-4,690.79	174.10	4,694.02	177.87	1.14	156 °F	Green	09/02/17	10:21 502 (gpm)
177	15,893	88.8	178.7	11,202.34	4,786.95	-4,785.74	176.75	4,789.00	177.88	0.82	158 °F	Green	09/02/17	11:03 502 (gpm)
178	15,988	90.5	178.8	11,202.92	4,881.94	-4,880.71	178.83	4,883.98	177.90	1.79	158 °F	Green	09/02/17	11:59 502 (gpm)
179	16,083	89.8	179.6	11,202.67	4,976.93	-4,975.70	180.15	4,978.96	177.93	1.12	156 °F	Green	09/02/17	13:26 502 (gpm)
180	16,179	87.6	179.4	11,204.85	5,072.90	-5,071.66	180.99	5,074.89	177.96	2.30	156 °F	Green	09/02/17	14:59 502 (gpm)
181	16,274	87.3	178.6	11,209.08	5,167.80	-5,166.55	182.65	5,169.78	177.98	0.90	160 °F	Green	09/02/17	16:10 502 (gpm)
182	16,369	88.4	178.3	11,212.64	5,262.72	-5,261.45	185.21	5,264.71	177.98	1.20	158 °F	Green	09/02/17	17:36 502 (gpm)
183	16,464	87.3	179.3	11,216.21	5,357.64	-5,356.36	187.20	5,359.63	178.00	1.56	158 °F	Green	09/02/17	19:18 502 (gpm)
184	16,559	87.5	180.8	11,220.52	5,452.54	-5,451.26	187.12	5,454.47	178.03	1.59	160 °F	Green	09/02/17	21:08 502 (gpm)
185	16,654	87.7	180.8	11,224.49	5,547.43	-5,546.17	185.79	5,549.28	178.08	0.21	162 °F	Green	09/02/17	21:56 505 (gpm)
186	16,749	87.1	180.8	11,228.80	5,642.31	-5,641.06	184.47	5,644.07	178.13	0.63	162 °F	Green	09/02/17	22:49 505 (gpm)
187	16,844	88.2	180.0	11,232.70	5,737.22	-5,735.98	183.81	5,738.92	178.16	1.43	160 °F	Green	09/03/17	1:10 505 (gpm)
188	16,939	89.4	179.1	11,234.69	5,832.19	-5,830.95	184.55	5,833.87	178.19	1.58	162 °F	Green	09/03/17	3:07 505 (gpm)
189	17,034	90.0	178.9	11,235.18	5,927.19	-5,925.93	186.21	5,928.86	178.20	0.67	163 °F	Green	09/03/17	4:14 505 (gpm)
190	17,129	92.0	180.2	11,233.53	6,022.17	-6,020.91	186.96	6,023.81	178.22	2.51	163 °F	Green	09/03/17	5:08 505 (gpm)
191	17,225	91.1	181.6	11,230.93	6,118.10	-6,116.86	185.45	6,119.67	178.26	1.73	162 °F	Green	09/03/17	7:33 528 (gpm)
192	17,320	91.7	181.8	11,228.61	6,213.01	-6,211.79	182.63	6,214.47	178.32	0.67	163 °F	Green	09/03/17	8:30 528 (gpm)
193	17,415	89.0	181.3	11,228.03	6,307.94	-6,306.74	180.06	6,309.31	178.36	2.89	162 °F	Green	09/03/17	10:33 528 (gpm)

MWD SURVEYS

Customer: Devon Energy
Well: Boomslog 14-23 Fed #3H
Field/Block: Delaware Basin
Co./Parish: Lea County
State: New Mexico

PGS Job #: LNM5148217
MWD Operator: Malachi Jackson
Directional Driller: Perry Bullard
Date of First Survey: August 23, 2017
Date of Last Survey:



Total Correction: 6.83 East Grid

Vertical Section Plane: 179.56

Nominal Dip Angle: 60.00

Magnetic Field Strength: 48119.2

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Temp (°F)	Vib/Shk	Color	Date	Time	Flow Rate
					+N / -S	+E / -W	Dist.	Angle							
194	17,510	88.5	180.7	11,230.10	6,402.88	-6,401.70	178.40	6,404.19	178.40	0.82	163 °F	Green	09/03/17	11:24	528 (gpm)
195	17,605	88.2	179.9	11,232.84	6,497.84	-6,496.66	177.91	6,499.10	178.43	0.90	163 °F	Green	09/03/17	12:15	528 (gpm)
196	17,700	89.0	179.9	11,235.16	6,592.81	-6,591.63	178.07	6,594.04	178.45	0.84	165 °F	Yellow	09/03/17	13:15	528 (gpm)
197	17,795	88.4	179.5	11,237.31	6,687.78	-6,686.61	178.57	6,688.99	178.47	0.76	167 °F	Yellow	09/03/17	14:21	528 (gpm)
198	17,890	87.5	179.2	11,240.71	6,782.72	-6,781.54	179.65	6,783.92	178.48	1.00	167 °F	Green	09/03/17	15:21	528 (gpm)
199	17,985	87.9	178.6	11,244.52	6,877.63	-6,876.44	181.47	6,878.84	178.49	0.76	167 °F	Yellow	09/03/17	16:54	554 (gpm)
200	18,080	86.9	177.9	11,248.83	6,972.51	-6,971.30	184.37	6,973.74	178.49	1.28	167 °F	Yellow	09/03/17	18:34	554 (gpm)
201	18,175	88.4	178.1	11,252.73	7,067.39	-7,066.16	187.68	7,068.65	178.48	1.59	167 °F	Yellow	09/03/17	21:24	554 (gpm)
202	18,270	88.6	178.1	11,255.22	7,162.33	-7,161.07	190.83	7,163.62	178.47	0.21	169 °F	Yellow	09/03/17	22:36	554 (gpm)
203	18,365	90.1	180.1	11,256.29	7,257.31	-7,256.05	192.32	7,258.60	178.48	2.63	169 °F	Yellow	09/04/17	1:40	387 (gpm)
204	18,460	90.2	180.3	11,256.04	7,352.31	-7,351.05	191.99	7,353.55	178.50	0.24	171 °F	Yellow	09/04/17	2:56	554 (gpm)
205	18,555	90.2	180.4	11,255.71	7,447.30	-7,446.05	191.41	7,448.51	178.53	0.11	171 °F	Yellow	09/04/17	4:16	554 (gpm)
206	18,650	89.8	178.5	11,255.71	7,542.29	-7,541.04	192.32	7,543.49	178.54	2.04	171 °F	Yellow	09/04/17	5:47	554 (gpm)
207	18,745	90.2	180.3	11,255.71	7,637.29	-7,636.03	193.31	7,638.47	178.55	1.94	172 °F	Yellow	09/04/17	6:55	554 (gpm)
208	18,840	90.8	179.9	11,254.88	7,732.28	-7,731.02	193.15	7,733.44	178.57	0.76	174 °F	Yellow	09/04/17	8:06	554 (gpm)
209	18,935	89.7	179.0	11,254.47	7,827.28	-7,826.02	194.06	7,828.42	178.58	1.50	174 °F	Yellow	09/04/17	9:15	554 (gpm)
210	19,029	89.2	179.0	11,255.37	7,921.27	-7,920.00	195.70	7,922.41	178.58	0.53	174 °F	Yellow	09/04/17	10:25	554 (gpm)
211	19,123	89.7	179.2	11,256.27	8,015.26	-8,013.98	197.18	8,016.41	178.59	0.57	176 °F	Yellow	09/04/17	11:37	554 (gpm)
212	19,218	90.2	179.5	11,256.36	8,110.26	-8,108.97	198.26	8,111.40	178.60	0.61	176 °F	Green	09/04/17	13:01	554 (gpm)
213	19,310	89.1	180.4	11,256.92	8,202.25	-8,200.97	198.34	8,203.37	178.61	1.54	171 °F	Green	09/06/17	14:02	574 (gpm)
214	19,405	90.1	180.4	11,257.58	8,297.24	-8,295.96	197.67	8,298.32	178.64	1.05	172 °F	Green	09/06/17	14:53	549 (gpm)
215	19,500	88.9	180.7	11,258.41	8,392.22	-8,390.95	196.76	8,393.26	178.66	1.30	174 °F	Green	09/06/17	16:41	549 (gpm)
216	19,595	90.4	180.9	11,258.99	8,487.19	-8,485.94	195.43	8,488.19	178.68	1.59	176 °F	Green	09/06/17	17:30	549 (gpm)
217	19,690	89.5	180.7	11,259.07	8,582.17	-8,580.93	194.11	8,583.13	178.70	0.97	176 °F	Green	09/06/17	19:30	549 (gpm)
218	19,785	89.0	180.7	11,260.32	8,677.14	-8,675.91	192.95	8,678.06	178.73	0.53	176 °F	Green	09/06/17	22:52	549 (gpm)
219	19,879	88.1	179.4	11,262.70	8,771.10	-8,769.88	192.87	8,772.00	178.74	1.68	178 °F	Green	09/07/17	1:16	549 (gpm)
220	19,974	88.8	179.2	11,265.27	8,866.07	-8,864.84	194.03	8,866.96	178.75	0.77	180 °F	Green	09/07/17	2:02	549 (gpm)
221	20,069	87.5	180.3	11,268.33	8,961.01	-8,959.78	194.44	8,961.89	178.76	1.79	180 °F	Green	09/07/17	4:11	549 (gpm)

MWD SURVEYS

Customer: Devon Energy
Well: Boomslang 14-23 Fed #3H
Field/Block: Delaware Basin
Co./Parish: Lea County
State: New Mexico

PGS Job #: LNM5148217
MWD Operator: Malachi Jackson
Directional Driller: Perry Bullard
Date of First Survey: August 23, 2017
Date of Last Survey:



Total Correction: 6.83 East Grid

Vertical Section Plane: 179.56

Nominal Dip Angle: 60.00

Magnetic Field Strength: 48119.2

Vertical Section Name: 175.56				Terminal Dip Angle: 95.95		Magnetic Flux Strength: 45115.2									
Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Temp (°F)	Vib/Shk Color	Date	Time	Flow Rate	
					+N / -S	+E / -W	Dist.	Angle							
222	20,164	88.7	181.1	11,271.48	9,055.94	-9,054.72	193.28	9,056.79	178.78	1.52	181 °F	Green	09/07/17	5:04	549 (gpm)
223	20,258	90.8	181.1	11,271.89	9,149.90	-9,148.70	191.48	9,150.70	178.80	2.23	181 °F	Green	09/07/17	5:51	549 (gpm)
224	20,352	91.6	181.1	11,269.92	9,243.84	-9,242.66	189.67	9,244.61	178.82	0.85	181 °F	Green	09/07/17	9:07	549 (gpm)
225	20,447	90.9	181.4	11,267.85	9,338.78	-9,337.61	187.60	9,339.50	178.85	0.80	181 °F	Green	09/07/17	13:11	549 (gpm)
226	20,542	88.0	180.1	11,268.76	9,433.74	-9,432.59	186.36	9,434.43	178.87	3.35	180 °F	Green	09/07/17	17:17	549 (gpm)
227	20,637	85.4	177.7	11,274.23	9,528.56	-9,527.40	188.17	9,529.26	178.87	3.72	181 °F	Green	09/07/17	19:22	549 (gpm)
228	20,731	86.9	177.1	11,280.54	9,622.28	-9,621.09	192.43	9,623.01	178.85	1.72	183 °F	Green	09/07/17	20:14	549 (gpm)
229	20,825	89.3	177.8	11,283.66	9,716.16	-9,714.94	196.61	9,716.93	178.84	2.66	185 °F	Green	09/07/17	21:07	549 (gpm)
230	20,920	88.3	177.8	11,285.65	9,811.09	-9,809.84	200.25	9,811.89	178.83	1.05	183 °F	Red	09/08/17	0:33	549 (gpm)
231	21,015	89.7	178.0	11,287.31	9,906.04	-9,904.76	203.73	9,906.86	178.82	1.49	185 °F	Green	09/08/17	1:38	549 (gpm)
232	21,109	92.3	178.3	11,285.67	9,999.99	-9,998.69	206.77	10,000.83	178.82	2.78	185 °F	Green	09/08/17	2:42	549 (gpm)
233	21,120	92.7	178.1	11,285.19	10,010.97	-10,009.68	207.11	10,011.82	178.81	4.06	185 °F	Green	09/08/17	2:59	549 (gpm)
PTB	21,180	92.7	178.0	11,282.36	10,070.88	-10,069.57	209.15	10,071.75	178.81	0.17					