



Directional Survey Report

Company: **QEP Energy Company**
 Well: **UL 2539 W7 12SB**
 County: **Andrews**
 State: **TX**
 Field: **Spraberry (Trend Area)**
 API: **42-003-48230**
 Rig: **Unit 408**
 Service Co: **Gordon Technologies LLC.**
 Job #: **GT2011048**
 Survey Calc: **Minimum Curvature**

Well Surface Location
 Latitude: **32.383027**
 Longitude: **-102.218773**
 Reference: **NAD 1927**
 Y (Northing): **293326.27**
 X (Easting): **543763.33**
 Field Engr: **Derek Gardner**
Jeremy Schaeffer

Report Date: **Mar 02 2021**
 Time: **14:03**
 Mag Reference: **Grid North**
 Mag Correction: **8.58**
 Vert Sect. Azi: **165.93**
 Perm Datum: **Mean Sea Level**
 Depth Ref: **Rotary Table**
 RKB Height: **21**
 GL Elev: **2947**

Survey	MD	Inc	Azimuth	TVD	VS	Rectangular Offsets		Course		Temp	Closure		Source
						NS	EW	Length	DLS		Distance	Azimuth	
Tie In	0	0	0	0	0	0	0	0	0	0	0	0	
1	105.00	0.46	115.83	105.00	0.27	-0.18	0.38	105.00	0.44	44.00	0.42	115.83	MWD Run 2
2	199.00	0.74	116.59	198.99	0.91	-0.62	1.26	94.00	0.30	44.00	1.41	116.16	MWD Run 2
3	293.00	1.80	78.94	292.97	1.38	-0.61	3.25	94.00	1.38	44.00	3.31	100.59	MWD Run 2
4	387.00	3.56	68.97	386.86	1.10	0.72	7.43	94.00	1.93	44.00	7.46	84.44	MWD Run 2
5	481.00	4.26	62.91	480.65	-0.04	3.36	13.26	94.00	0.86	44.00	13.68	75.78	MWD Run 2
6	575.00	4.19	60.35	574.39	-1.74	6.65	19.35	94.00	0.21	44.00	20.46	71.04	MWD Run 2
7	670.00	3.63	61.78	669.17	-3.41	9.79	25.02	95.00	0.60	51.29	26.86	68.63	MWD Run 2
8	764.00	3.72	47.53	762.98	-5.59	13.25	29.89	94.00	0.97	51.29	32.70	66.09	MWD Run 2
9	858.00	4.33	40.40	856.75	-9.10	18.01	34.44	94.00	0.84	51.29	38.87	62.39	MWD Run 2
10	952.00	4.33	40.07	950.48	-13.24	23.43	39.02	94.00	0.03	0.00	45.52	59.02	MWD Run 2
11	1046.00	4.12	37.90	1044.22	-17.40	28.81	43.38	94.00	0.28	51.29	52.08	56.41	MWD Run 2
12	1140.00	3.98	35.57	1137.99	-21.59	34.13	47.35	94.00	0.23	51.29	58.37	54.22	MWD Run 2
13	1234.00	3.40	34.35	1231.79	-25.56	39.09	50.82	94.00	0.62	51.29	64.12	52.44	MWD Run 2
14	1328.00	2.85	28.68	1325.65	-29.12	43.44	53.52	94.00	0.67	51.29	68.93	50.94	MWD Run 2
15	1421.00	2.94	25.94	1418.53	-32.65	47.61	55.67	93.00	0.18	51.29	73.25	49.46	MWD Run 2
16	1516.00	3.31	29.49	1513.39	-36.50	52.19	58.09	95.00	0.44	51.29	78.09	48.06	MWD Run 2
17	1611.00	2.80	28.42	1608.26	-40.20	56.62	60.54	95.00	0.54	58.57	82.89	46.92	MWD Run 2
18	1706.00	2.61	28.31	1703.15	-43.51	60.56	62.67	95.00	0.20	58.57	87.15	45.98	MWD Run 2
19	1801.00	2.10	26.42	1798.07	-46.43	64.02	64.47	95.00	0.54	58.57	90.86	45.20	MWD Run 2
20	1823.00	2.02	26.27	1820.06	-47.03	64.73	64.82	22.00	0.36	58.57	91.61	45.04	MWD Run 2
21	1887.00	1.68	32.78	1884.02	-48.53	66.53	65.83	64.00	0.62	73.14	93.60	44.70	MWD Run 3
22	1982.00	1.92	42.43	1978.98	-50.36	68.88	67.66	95.00	0.41	73.14	96.55	44.49	MWD Run 3
23	2077.00	1.60	39.38	2073.93	-52.03	71.08	69.57	95.00	0.35	73.14	99.46	44.39	MWD Run 3
24	2172.00	2.13	38.36	2168.88	-53.90	73.49	71.51	95.00	0.56	80.43	102.54	44.22	MWD Run 3
25	2267.00	2.75	37.92	2263.79	-56.38	76.67	74.01	95.00	0.65	80.43	106.56	43.99	MWD Run 3
26	2362.00	3.23	44.22	2358.66	-59.19	80.39	77.27	95.00	0.61	80.43	111.50	43.87	MWD Run 3
27	2457.00	3.60	49.34	2453.50	-61.93	84.25	81.40	95.00	0.50	87.71	117.15	44.02	MWD Run 3
28	2552.00	3.62	41.44	2548.31	-64.96	88.44	85.65	95.00	0.52	87.71	123.12	44.08	MWD Run 3
29	2647.00	3.22	43.98	2643.14	-68.07	92.61	89.49	95.00	0.45	87.71	128.78	44.02	MWD Run 3
30	2742.00	4.02	49.32	2737.95	-70.98	96.70	93.87	95.00	0.91	87.71	134.76	44.15	MWD Run 3
31	2837.00	4.71	50.22	2832.67	-74.16	101.36	99.39	95.00	0.73	87.71	141.96	44.44	MWD Run 3
32	3027.00	4.23	52.06	3022.09	-80.38	110.66	110.91	190.00	0.26	95.00	156.68	45.06	MWD Run 3
33	3122.00	3.81	51.68	3116.86	-83.10	114.78	116.15	95.00	0.44	95.00	163.29	45.34	MWD Run 3
34	3217.00	4.28	43.14	3211.62	-86.31	119.32	121.05	95.00	0.80	95.00	169.97	45.41	MWD Run 3
35	3312.00	3.88	44.82	3306.38	-89.89	124.19	125.74	95.00	0.44	95.00	176.73	45.36	MWD Run 3
36	3407.00	3.95	47.87	3401.16	-93.09	128.66	130.43	95.00	0.23	102.29	183.21	45.39	MWD Run 3
37	3502.00	4.19	48.02	3495.92	-96.26	133.18	135.44	95.00	0.25	102.29	189.95	45.48	MWD Run 3
38	3597.00	3.98	50.86	3590.68	-99.28	137.58	140.57	95.00	0.31	102.29	196.70	45.62	MWD Run 3
39	3692.00	3.80	39.72	3685.46	-102.53	142.08	145.14	95.00	0.82	109.57	203.11	45.61	MWD Run 3
40	3787.00	4.21	34.88	3780.23	-106.68	147.36	149.15	95.00	0.56	109.57	209.67	45.35	MWD Run 3
41	3882.00	4.11	43.73	3874.98	-110.79	152.68	153.50	95.00	0.68	109.57	216.50	45.15	MWD Run 3
42	3977.00	4.07	41.28	3969.74	-114.52	157.68	158.07	95.00	0.19	116.86	223.27	45.07	MWD Run 3
43	4072.00	3.64	44.06	4064.52	-118.03	162.38	162.40	95.00	0.49	116.86	229.65	45.00	MWD Run 3
44	4167.00	3.81	29.25	4159.33	-121.92	167.30	166.04	95.00	1.03	124.14	235.71	44.78	MWD Run 3
45	4261.00	3.76	28.51	4253.12	-126.46	172.73	169.03	94.00	0.07	124.14	241.68	44.38	MWD Run 3
46	4357.00	3.86	29.33	4348.91	-131.12	178.32	172.12	96.00	0.12	124.14	247.83	43.99	MWD Run 3
47	4452.00	3.89	33.15	4443.69	-135.64	183.80	175.45	95.00	0.27	124.14	254.10	43.67	MWD Run 3
48	4547.00	3.72	35.16	4538.48	-139.84	189.02	178.98	95.00	0.23	131.43	260.31	43.44	MWD Run 3

49	4642.00	3.51	33.21	4633.29	-143.82	193.97	182.35	95.00	0.26	131.43	266.23	43.23	MWD Run 3
50	4737.00	2.80	40.17	4728.15	-147.15	198.18	185.44	95.00	0.85	131.43	271.41	43.10	MWD Run 3
51	4832.00	2.59	42.42	4823.04	-149.69	201.54	188.38	95.00	0.25	131.43	275.87	43.07	MWD Run 3
52	4927.00	2.29	41.91	4917.96	-151.94	204.53	191.10	95.00	0.32	138.71	279.92	43.06	MWD Run 3
53	5022.00	2.49	43.32	5012.88	-154.11	207.45	193.78	95.00	0.22	138.71	283.88	43.05	MWD Run 3
54	5117.00	2.60	37.08	5107.78	-156.58	210.67	196.50	95.00	0.31	138.71	288.08	43.01	MWD Run 3
55	5212.00	2.60	41.14	5202.68	-159.16	214.01	199.22	95.00	0.19	138.71	292.38	42.95	MWD Run 3
56	5307.00	2.88	44.04	5297.58	-161.65	217.35	202.29	95.00	0.33	138.71	296.92	42.95	MWD Run 3
57	5402.00	3.19	57.25	5392.44	-163.76	220.49	206.17	95.00	0.80	138.71	301.87	43.08	MWD Run 3
58	5497.00	3.54	54.93	5487.28	-165.65	223.61	210.80	95.00	0.40	138.71	307.30	43.31	MWD Run 3
59	5592.00	3.82	49.12	5582.08	-168.13	227.36	215.59	95.00	0.49	138.71	313.33	43.48	MWD Run 3
60	5687.00	3.13	47.42	5676.91	-170.80	231.19	219.89	95.00	0.73	138.71	319.06	43.57	MWD Run 3
61	5782.00	2.88	45.66	5771.78	-173.24	234.61	223.51	95.00	0.28	138.71	324.04	43.61	MWD Run 3
62	5791.00	2.62	45.36	5780.77	-173.46	234.92	223.82	9.00	2.89	138.71	324.47	43.61	MWD Run 3
63	5916.00	2.49	40.46	5905.64	-176.48	238.99	227.61	125.00	0.20	102.29	330.04	43.60	MWD Run 4
64	6011.00	3.33	37.96	6000.52	-179.38	242.73	230.65	95.00	0.89	102.29	334.84	43.54	MWD Run 4
65	6106.00	3.32	38.56	6095.36	-182.75	247.06	234.06	95.00	0.04	102.29	340.33	43.45	MWD Run 4
66	6201.00	4.92	47.66	6190.11	-186.35	251.96	238.79	95.00	1.81	102.29	347.13	43.46	MWD Run 4
67	6296.00	4.74	48.38	6284.78	-190.09	257.31	244.73	95.00	0.20	102.29	355.11	43.57	MWD Run 4
68	6391.00	4.56	47.44	6379.46	-193.71	262.47	250.45	95.00	0.21	102.29	362.79	43.66	MWD Run 4
69	6486.00	4.32	47.33	6474.18	-197.22	267.45	255.86	95.00	0.25	102.29	370.13	43.73	MWD Run 4
70	6581.00	4.10	45.37	6568.92	-200.66	272.26	260.91	95.00	0.28	102.29	377.09	43.78	MWD Run 4
71	6676.00	3.67	41.20	6663.70	-204.12	276.93	265.33	95.00	0.54	102.29	383.52	43.77	MWD Run 4
72	6771.00	3.40	41.19	6758.52	-207.46	281.34	269.19	95.00	0.28	102.29	389.38	43.74	MWD Run 4
73	6866.00	3.03	39.51	6853.37	-210.55	285.40	272.64	95.00	0.40	102.29	394.69	43.69	MWD Run 4
74	6961.00	2.81	39.34	6948.25	-213.43	289.14	275.71	95.00	0.23	102.29	399.52	43.64	MWD Run 4
75	7056.00	1.72	42.09	7043.17	-215.62	291.99	278.14	95.00	1.15	102.29	403.27	43.61	MWD Run 4
76	7151.00	1.14	26.81	7138.14	-217.12	293.90	279.53	95.00	0.73	102.29	405.60	43.56	MWD Run 4
77	7246.00	0.95	15.83	7233.13	-218.52	295.50	280.17	95.00	0.29	109.57	407.20	43.47	MWD Run 4
78	7341.00	0.74	11.11	7328.12	-219.76	296.86	280.50	95.00	0.23	109.57	408.42	43.38	MWD Run 4
79	7436.00	0.67	23.73	7423.11	-220.75	297.97	280.84	95.00	0.18	109.57	409.46	43.31	MWD Run 4
80	7531.00	0.29	99.30	7518.11	-221.10	298.44	281.30	95.00	0.70	109.57	410.12	43.31	MWD Run 4
81	7626.00	0.24	84.40	7613.11	-220.97	298.42	281.74	95.00	0.09	109.57	410.40	43.35	MWD Run 4
82	7721.00	0.11	85.60	7708.11	-220.93	298.44	282.03	95.00	0.14	109.57	410.62	43.38	MWD Run 4
83	7816.00	0.23	86.45	7803.11	-220.88	298.46	282.31	95.00	0.13	109.57	410.83	43.41	MWD Run 4
84	7911.00	0.52	13.22	7898.10	-221.23	298.89	282.60	95.00	0.53	109.57	411.34	43.39	MWD Run 4
85	8006.00	1.42	9.06	7993.09	-222.69	300.48	282.88	95.00	0.95	109.57	412.68	43.27	MWD Run 4
86	8101.00	0.40	315.14	8088.08	-224.06	301.87	282.83	95.00	1.29	109.57	413.67	43.13	MWD Run 4
87	8196.00	0.47	307.71	8183.07	-224.65	302.35	282.29	95.00	0.09	116.86	413.64	43.04	MWD Run 4
88	8291.00	0.76	322.85	8278.07	-225.54	303.09	281.60	95.00	0.35	116.86	413.72	42.90	MWD Run 4
89	8386.00	0.54	331.20	8373.06	-226.55	303.98	281.01	95.00	0.25	116.86	413.97	42.75	MWD Run 4
90	8481.00	0.96	155.54	8468.06	-226.20	303.65	281.12	95.00	1.58	116.86	413.80	42.79	MWD Run 4
91	8576.00	1.42	148.24	8563.04	-224.29	301.92	282.07	95.00	0.51	116.86	413.18	43.05	MWD Run 4
92	8671.00	1.57	141.13	8658.01	-221.99	299.91	283.51	95.00	0.25	116.86	412.70	43.39	MWD Run 4
93	8766.00	1.74	136.50	8752.97	-219.55	297.85	285.32	95.00	0.23	116.86	412.46	43.77	MWD Run 4
94	8861.00	2.43	152.67	8847.90	-216.34	295.02	287.23	95.00	0.95	109.57	411.75	44.23	MWD Run 4
95	8956.00	12.94	182.66	8941.94	-204.15	282.56	287.66	95.00	11.48	116.86	403.23	45.51	MWD Run 4
96	9051.00	24.52	182.86	9031.75	-175.01	252.15	286.18	95.00	12.19	116.86	381.42	48.62	MWD Run 4
97	9098.00	29.90	179.17	9073.54	-154.26	230.68	285.87	47.00	11.99	116.86	367.33	51.10	MWD Run 4
98	9146.00	33.03	177.69	9114.48	-129.80	205.63	286.57	48.00	6.72	116.86	352.71	54.34	MWD Run 4
99	9193.00	37.74	174.25	9152.79	-103.01	178.51	288.52	47.00	10.88	124.14	339.28	58.26	MWD Run 4
100	9241.00	41.70	167.20	9189.72	-72.48	148.29	293.54	48.00	12.49	124.14	328.87	63.20	MWD Run 4
101	9288.00	46.62	164.10	9223.43	-39.76	116.60	301.69	47.00	11.43	124.14	323.44	68.87	MWD Run 4
102	9336.00	49.34	163.04	9255.56	-4.13	82.40	311.78	48.00	5.90	124.14	322.48	75.20	MWD Run 4
103	9383.00	53.13	165.86	9284.99	32.49	47.10	321.58	47.00	9.32	124.14	325.01	81.67	MWD Run 4
104	9430.00	57.84	169.21	9311.62	71.18	9.30	329.90	47.00	11.61	124.14	330.03	88.38	MWD Run 4
105	9477.00	62.11	169.50	9335.13	111.79	-30.68	337.41	47.00	9.10	124.14	338.80	95.20	MWD Run 4
106	9525.00	64.96	168.82	9356.52	154.69	-72.88	345.50	48.00	6.07	124.14	353.10	101.91	MWD Run 4
107	9572.00	69.33	167.97	9374.77	197.95	-115.29	354.21	47.00	9.45	124.14	372.50	108.03	MWD Run 4
108	9620.00	73.90	166.80	9389.90	243.47	-159.73	364.16	48.00	9.80	124.14	397.65	113.68	MWD Run 4
109	9667.00	75.93	167.26	9402.14	288.84	-203.95	374.35	47.00	4.42	124.14	426.30	118.58	MWD Run 4
110	9715.00	80.46	167.98	9411.95	335.79	-249.83	384.41	48.00	9.55	124.14	458.46	123.02	MWD Run 4
111	9809.00	89.94	168.43	9419.81	429.28	-341.42	403.54	94.00	10.10	131.43	528.59	130.23	MWD Run 4
112	9904.00	89.89	165.98	9419.95	524.25	-434.05	424.57	95.00	2.58	131.43	607.18	135.63	MWD Run 4
113	9999.00	88.09	164.19	9421.63	619.21	-525.83	449.02	95.00	2.67	131.43	691.46	139.51	MWD Run 4
114	10094.00	89.02	165.99	9424.02	714.17	-617.60	473.45	95.00	2.13	131.43	778.19	142.53	MWD Run 4
115	10189.00	88.79	165.78	9425.84	809.15	-709.71	496.62	95.00	0.33	131.43	866.21	145.02	MWD Run 4
116	10284.00	87.79	165.23	9428.67	904.11	-801.65	520.38	95.00	1.20	138.71	955.74	147.01	MWD Run 4

117	10379.00	90.11	166.37	9430.41	999.08	-893.72	543.68	95.00	2.72	138.71	1046.10	148.69	MWD Run 4
118	10474.00	90.81	165.55	9429.65	1094.08	-985.88	566.73	95.00	1.13	138.71	1137.16	150.11	MWD Run 4
119	10569.00	90.39	164.85	9428.66	1189.06	-1077.72	590.99	95.00	0.86	138.71	1229.13	151.26	MWD Run 4
120	10664.00	90.28	164.13	9428.10	1284.03	-1169.26	616.40	95.00	0.77	138.71	1321.78	152.20	MWD Run 4
121	10759.00	91.29	166.79	9426.80	1379.01	-1261.20	640.24	95.00	2.99	138.71	1414.40	153.09	MWD Run 4
122	10854.00	92.30	166.28	9423.82	1473.96	-1353.54	662.35	95.00	1.19	138.71	1506.91	153.93	MWD Run 4
123	10949.00	91.01	166.49	9421.08	1568.91	-1445.83	684.71	95.00	1.38	138.71	1599.76	154.66	MWD Run 4
124	11044.00	91.06	167.02	9419.36	1663.88	-1538.29	706.47	95.00	0.56	138.71	1692.76	155.33	MWD Run 4
125	11139.00	86.78	166.13	9421.15	1758.84	-1630.65	728.51	95.00	4.60	138.71	1785.99	155.93	MWD Run 4
126	11234.00	89.86	166.58	9423.94	1853.78	-1722.92	750.91	95.00	3.28	138.71	1879.45	156.45	MWD Run 4
127	11329.00	89.92	165.47	9424.12	1948.78	-1815.11	773.85	95.00	1.17	138.71	1973.19	156.91	MWD Run 4
128	11372.00	88.82	165.26	9424.59	1991.78	-1856.71	784.72	43.00	2.60	160.57	2015.73	157.09	MWD Run 5
129	11467.00	88.04	163.88	9427.20	2086.71	-1948.25	809.98	95.00	1.67	153.29	2109.91	157.42	MWD Run 5
130	11562.00	88.82	166.35	9429.80	2181.66	-2040.02	834.38	95.00	2.73	153.29	2204.05	157.76	MWD Run 5
131	11658.00	88.88	166.46	9431.73	2277.64	-2133.31	856.94	96.00	0.13	153.29	2298.99	158.11	MWD Run 5
132	11753.00	89.83	166.50	9432.80	2372.62	-2225.67	879.14	95.00	1.00	153.29	2393.01	158.45	MWD Run 5
133	11848.00	90.53	166.19	9432.50	2467.62	-2317.98	901.57	95.00	0.81	153.29	2487.14	158.75	MWD Run 5
134	11943.00	90.34	167.07	9431.78	2562.61	-2410.40	923.54	95.00	0.95	153.29	2581.27	159.04	MWD Run 5
135	12039.00	89.80	165.57	9431.66	2658.60	-2503.68	946.24	96.00	1.66	153.29	2676.52	159.30	MWD Run 5
136	12134.00	90.08	167.00	9431.76	2753.60	-2595.97	968.76	95.00	1.53	153.29	2770.84	159.54	MWD Run 5
137	12229.00	90.67	169.65	9431.14	2848.51	-2688.99	987.99	95.00	2.86	153.29	2864.75	159.83	MWD Run 5
138	12324.00	90.98	169.29	9429.77	2943.31	-2782.38	1005.35	95.00	0.50	153.29	2958.44	160.13	MWD Run 5
139	12419.00	90.98	169.38	9428.14	3038.13	-2875.73	1022.92	95.00	0.09	153.29	3052.24	160.42	MWD Run 5
140	12514.00	90.36	169.24	9427.03	3132.96	-2969.07	1040.55	95.00	0.67	153.29	3146.13	160.69	MWD Run 5
141	12610.00	90.20	169.46	9426.56	3228.79	-3063.42	1058.29	96.00	0.28	160.57	3241.06	160.94	MWD Run 5
142	12705.00	91.35	169.11	9425.28	3323.61	-3156.75	1075.95	95.00	1.27	160.57	3335.08	161.18	MWD Run 5
143	12800.00	88.94	168.66	9425.04	3418.48	-3249.96	1094.26	95.00	2.58	160.57	3429.23	161.39	MWD Run 5
144	12895.00	88.43	168.91	9427.22	3513.34	-3343.12	1112.73	95.00	0.60	160.57	3523.44	161.59	MWD Run 5
145	12990.00	88.99	169.31	9429.36	3608.17	-3436.39	1130.68	95.00	0.72	160.57	3617.62	161.79	MWD Run 5
146	13085.00	89.13	169.17	9430.92	3703.00	-3529.70	1148.41	95.00	0.21	160.57	3711.82	161.98	MWD Run 5
147	13181.00	89.61	169.10	9431.97	3798.84	-3623.98	1166.50	96.00	0.51	160.57	3807.09	162.16	MWD Run 5
148	13276.00	90.14	169.15	9432.18	3893.69	-3717.27	1184.43	95.00	0.56	160.57	3901.40	162.33	MWD Run 5
149	13371.00	90.64	169.21	9431.53	3988.54	-3810.58	1202.26	95.00	0.53	160.57	3995.74	162.49	MWD Run 5
150	13466.00	90.92	168.94	9430.24	4083.38	-3903.85	1220.26	95.00	0.41	160.57	4090.12	162.64	MWD Run 5
151	13561.00	88.96	169.99	9430.34	4178.20	-3997.24	1237.63	95.00	2.34	160.57	4184.45	162.80	MWD Run 5
152	13656.00	89.10	170.13	9431.95	4272.94	-4090.80	1254.03	95.00	0.21	160.57	4278.69	162.96	MWD Run 5
153	13752.00	89.83	170.75	9432.84	4368.63	-4185.46	1269.97	96.00	1.00	160.57	4373.89	163.12	MWD Run 5
154	13847.00	88.49	170.38	9434.23	4463.31	-4279.16	1285.54	95.00	1.46	160.57	4468.09	163.28	MWD Run 5
155	13941.00	88.88	170.27	9436.39	4557.01	-4371.80	1301.33	94.00	0.43	167.86	4561.37	163.42	MWD Run 5
156	14035.00	88.24	168.59	9438.75	4650.80	-4464.17	1318.57	94.00	1.91	160.57	4654.83	163.54	MWD Run 5
157	14129.00	87.65	168.65	9442.13	4744.64	-4556.27	1337.11	94.00	0.63	167.86	4748.41	163.64	MWD Run 5
158	14223.00	87.06	166.87	9446.46	4838.48	-4648.03	1357.01	94.00	1.99	160.57	4842.07	163.72	MWD Run 5
159	14317.00	86.94	165.56	9451.38	4932.35	-4739.19	1379.38	94.00	1.40	160.57	4935.85	163.77	MWD Run 5
160	14412.00	88.71	164.38	9454.99	5027.26	-4830.87	1404.00	95.00	2.24	167.86	5030.76	163.79	MWD Run 5
161	14505.00	87.90	164.33	9457.74	5120.19	-4920.39	1429.07	93.00	0.87	167.86	5123.71	163.80	MWD Run 5
162	14600.00	90.25	163.82	9459.27	5215.12	-5011.72	1455.13	95.00	2.53	167.86	5218.69	163.81	MWD Run 5
163	14694.00	89.80	162.36	9459.23	5309.00	-5101.66	1482.47	94.00	1.63	167.86	5312.68	163.80	MWD Run 5
164	14788.00	91.26	164.52	9458.36	5402.90	-5191.74	1509.26	94.00	2.77	167.86	5406.67	163.79	MWD Run 5
165	14882.00	91.85	165.57	9455.81	5496.85	-5282.53	1533.50	94.00	1.28	167.86	5500.61	163.81	MWD Run 5
166	14976.00	92.19	165.18	9452.50	5590.79	-5373.42	1557.22	94.00	0.55	167.86	5594.52	163.84	MWD Run 5
167	15070.00	92.41	165.01	9448.73	5684.70	-5464.19	1581.38	94.00	0.30	167.86	5688.42	163.86	MWD Run 5
168	15163.00	90.28	166.73	9446.54	5777.67	-5554.34	1604.08	93.00	2.94	167.86	5781.33	163.89	MWD Run 5
169	15258.00	90.06	166.88	9446.26	5872.66	-5646.83	1625.76	95.00	0.28	167.86	5876.21	163.94	MWD Run 5
170	15354.00	90.28	166.97	9445.98	5968.64	-5740.34	1647.48	96.00	0.25	167.86	5972.08	163.99	MWD Run 5
171	15449.00	88.80	167.57	9446.74	6063.61	-5833.00	1668.41	95.00	1.68	167.86	6066.92	164.04	MWD Run 5
172	15544.00	89.10	168.14	9448.48	6158.54	-5925.86	1688.40	95.00	0.68	175.14	6161.69	164.10	MWD Run 5
173	15639.00	88.35	167.88	9450.59	6253.45	-6018.76	1708.13	95.00	0.84	175.14	6256.45	164.16	MWD Run 5
174	15734.00	88.68	167.97	9453.06	6348.36	-6111.63	1727.99	95.00	0.36	175.14	6351.22	164.21	MWD Run 5
175	15830.00	88.60	167.98	9455.33	6444.28	-6205.50	1747.99	96.00	0.08	175.14	6446.99	164.27	MWD Run 5
176	15925.00	88.46	167.45	9457.77	6539.20	-6298.29	1768.19	95.00	0.58	175.14	6541.79	164.32	MWD Run 5
177	16020.00	88.99	167.71	9459.88	6634.13	-6391.04	1788.62	95.00	0.62	175.14	6636.61	164.36	MWD Run 5
178	16115.00	88.85	167.49	9461.68	6729.08	-6483.81	1809.02	95.00	0.27	175.14	6731.44	164.41	MWD Run 5
179	16210.00	90.50	167.38	9462.21	6824.04	-6576.53	1829.68	95.00	1.74	175.14	6826.31	164.45	MWD Run 5
180	16305.00	90.22	166.43	9461.62	6919.02	-6669.06	1851.21	95.00	1.04	175.14	6921.22	164.49	MWD Run 5
181	16401.00	91.60	166.89	9460.09	7015.00	-6762.45	1873.35	96.00	1.52	175.14	7017.14	164.52	MWD Run 5
182	16496.00	91.15	165.00	9457.81	7109.97	-6854.58	1896.42	95.00	2.04	175.14	7112.08	164.54	MWD Run 5
183	16591.00	91.01	165.01	9456.02	7204.94	-6946.33	1920.99	95.00	0.15	175.14	7207.06	164.54	MWD Run 5
184	16686.00	90.53	164.92	9454.75	7299.92	-7038.07	1945.63	95.00	0.51	175.14	7302.04	164.55	MWD Run 5

185	16781.00	91.09	165.04	9453.40	7394.89	-7129.81	1970.25	95.00	0.60	175.14	7397.03	164.55	MWD Run 5
186	16876.00	90.87	165.22	9451.78	7489.87	-7221.62	1994.63	95.00	0.30	175.14	7492.01	164.56	MWD Run 5
187	16971.00	90.76	168.05	9450.43	7584.84	-7314.02	2016.58	95.00	2.98	175.14	7586.93	164.59	MWD Run 5
188	17066.00	91.37	169.00	9448.66	7679.73	-7407.11	2035.48	95.00	1.19	175.14	7681.69	164.63	MWD Run 5
189	17161.00	91.99	169.05	9445.88	7774.55	-7500.33	2053.56	95.00	0.65	182.43	7776.38	164.69	MWD Run 5
190	17256.00	90.17	169.05	9444.08	7869.39	-7593.58	2071.60	95.00	1.92	175.14	7871.08	164.74	MWD Run 5
191	17351.00	89.47	168.66	9444.38	7964.26	-7686.79	2089.96	95.00	0.84	182.43	7965.84	164.79	MWD Run 5
192	17446.00	88.74	167.93	9445.87	8059.17	-7779.80	2109.23	95.00	1.09	182.43	8060.65	164.83	MWD Run 5
193	17540.00	89.52	168.28	9447.29	8153.09	-7871.77	2128.60	94.00	0.91	182.43	8154.49	164.87	MWD Run 5
194	17635.00	89.22	167.47	9448.34	8248.03	-7964.64	2148.56	95.00	0.91	182.43	8249.35	164.90	MWD Run 5
195	17730.00	89.13	167.67	9449.71	8342.98	-8057.41	2169.00	95.00	0.23	182.43	8344.24	164.93	MWD Run 5
196	17825.00	90.78	168.98	9449.78	8437.89	-8150.44	2188.23	95.00	2.22	182.43	8439.07	164.97	MWD Run 5
197	17919.00	90.98	169.34	9448.34	8531.73	-8242.75	2205.90	94.00	0.44	182.43	8532.81	165.02	MWD Run 5
198	18014.00	91.62	169.75	9446.18	8626.52	-8336.14	2223.14	95.00	0.80	182.43	8627.49	165.07	MWD Run 5
199	18109.00	91.85	170.23	9443.31	8721.23	-8429.66	2239.64	95.00	0.56	182.43	8722.10	165.12	MWD Run 5
200	18203.00	90.11	169.28	9441.70	8815.01	-8522.14	2256.36	94.00	2.11	182.43	8815.78	165.17	MWD Run 5
201	18298.00	90.00	168.93	9441.61	8909.86	-8615.43	2274.31	95.00	0.39	182.43	8910.56	165.21	MWD Run 5
202	18393.00	89.97	169.23	9441.63	9004.72	-8708.71	2292.31	95.00	0.32	182.43	9005.34	165.25	MWD Run 5
203	18488.00	91.82	169.63	9440.15	9099.52	-8802.08	2309.73	95.00	1.99	182.43	9100.08	165.30	MWD Run 5
204	18582.00	91.32	169.10	9437.57	9193.32	-8894.43	2327.07	94.00	0.77	182.43	9193.81	165.34	MWD Run 5
205	18677.00	90.92	168.65	9435.72	9288.17	-8987.62	2345.40	95.00	0.63	182.43	9288.61	165.37	MWD Run 5
206	18772.00	90.50	168.33	9434.54	9383.07	-9080.71	2364.36	95.00	0.56	182.43	9383.46	165.41	MWD Run 5
207	18867.00	91.57	168.49	9432.82	9477.97	-9173.75	2383.44	95.00	1.14	189.71	9478.32	165.44	MWD Run 5
208	18961.00	91.34	168.65	9430.44	9571.84	-9265.86	2402.06	94.00	0.30	189.71	9572.15	165.47	MWD Run 5
209	19056.00	91.15	168.26	9428.37	9666.72	-9358.91	2421.07	95.00	0.46	189.71	9667.00	165.50	MWD Run 5
210	19151.00	90.00	167.86	9427.42	9761.65	-9451.85	2440.72	95.00	1.28	189.71	9761.90	165.52	MWD Run 5
211	19245.00	89.66	167.79	9427.70	9855.60	-9543.74	2460.55	94.00	0.37	189.71	9855.82	165.54	MWD Run 5
212	19340.00	91.32	168.38	9426.88	9950.52	-9636.68	2480.16	95.00	1.85	189.71	9950.72	165.57	MWD Run 5
213	19434.00	92.72	168.78	9423.57	10044.36	-9728.76	2498.76	94.00	1.55	189.71	10044.53	165.60	MWD Run 5
214	19529.00	90.56	167.52	9420.85	10139.24	-9821.69	2518.26	95.00	2.63	189.71	10139.39	165.62	MWD Run 5
215	19624.00	89.75	167.49	9420.60	10234.21	-9914.44	2538.81	95.00	0.85	189.71	10234.34	165.64	MWD Run 5
216	19719.00	90.36	167.09	9420.50	10329.18	-10007.11	2559.71	95.00	0.77	189.71	10329.30	165.65	MWD Run 5
217	19813.00	91.40	166.58	9419.06	10423.15	-10098.63	2581.12	94.00	1.23	189.71	10423.27	165.66	MWD Run 5
218	19907.00	91.65	166.70	9416.56	10517.11	-10190.05	2602.83	94.00	0.29	189.71	10517.22	165.67	MWD Run 5
219	20002.00	92.21	167.37	9413.36	10612.04	-10282.58	2624.13	95.00	0.92	189.71	10612.14	165.68	MWD Run 5
220	20096.00	88.71	168.51	9412.61	10705.96	-10374.49	2643.77	94.00	3.92	189.71	10706.05	165.70	MWD Run 5
221	20191.00	88.21	168.80	9415.16	10800.82	-10467.60	2662.45	95.00	0.61	189.71	10800.89	165.73	MWD Run 5
222	20286.00	89.47	168.04	9417.08	10895.71	-10560.64	2681.52	95.00	1.55	189.71	10895.76	165.75	MWD Run 5
223	20380.00	89.83	167.81	9417.66	10989.65	-10652.56	2701.18	94.00	0.45	189.71	10989.69	165.77	MWD Run 5
224	20475.00	90.76	168.15	9417.17	11084.59	-10745.47	2720.96	95.00	1.04	189.71	11084.62	165.79	MWD Run 5
225	20569.00	89.97	167.66	9416.57	11178.53	-10837.38	2740.66	94.00	0.99	189.71	11178.56	165.81	MWD Run 5
226	20664.00	89.61	167.87	9416.92	11273.48	-10930.23	2760.79	95.00	0.44	189.71	11273.50	165.82	MWD Run 5
227	20758.00	89.89	168.37	9417.33	11367.41	-11022.21	2780.14	94.00	0.61	189.71	11367.42	165.84	MWD Run 5
228	20853.00	90.06	168.35	9417.37	11462.32	-11115.26	2799.31	95.00	0.18	189.71	11462.33	165.86	MWD Run 5
229	20948.00	90.81	166.85	9416.65	11557.28	-11208.03	2819.71	95.00	1.77	189.71	11557.28	165.88	MWD Run 5
230	21042.00	90.45	166.49	9415.61	11651.26	-11299.50	2841.38	94.00	0.54	189.71	11651.27	165.89	MWD Run 5
231	21137.00	90.78	166.75	9414.59	11746.25	-11391.91	2863.36	95.00	0.44	189.71	11746.25	165.89	MWD Run 5
232	21231.00	90.11	166.47	9413.86	11840.24	-11483.35	2885.13	94.00	0.77	189.71	11840.24	165.90	MWD Run 5
233	21327.00	90.34	166.18	9413.49	11936.24	-11576.63	2907.82	96.00	0.39	189.71	11936.24	165.90	MWD Run 5
234	21421.00	89.72	165.49	9413.44	12030.24	-11667.77	2930.83	94.00	0.99	197.00	12030.24	165.90	MWD Run 5
235	21515.00	89.92	165.65	9413.73	12124.24	-11758.81	2954.25	94.00	0.27	189.71	12124.24	165.90	MWD Run 5
236	21610.00	90.36	165.82	9413.50	12219.23	-11850.88	2977.66	95.00	0.50	197.00	12219.24	165.90	MWD Run 5
237	21704.00	90.17	165.63	9413.07	12313.23	-11941.97	3000.84	94.00	0.29	197.00	12313.23	165.89	MWD Run 5
238	21799.00	90.31	165.74	9412.67	12408.23	-12034.02	3024.33	95.00	0.19	197.00	12408.23	165.89	MWD Run 5
239	21893.00	90.81	165.73	9411.75	12502.23	-12125.12	3047.49	94.00	0.53	197.00	12502.23	165.89	MWD Run 5
240	21988.00	90.42	165.60	9410.73	12597.22	-12217.16	3071.01	95.00	0.43	197.00	12597.22	165.89	MWD Run 5
241	22082.00	89.86	165.36	9410.50	12691.21	-12308.15	3094.58	94.00	0.65	197.00	12691.22	165.89	MWD Run 5
242	22177.00	88.38	165.26	9411.96	12786.20	-12400.03	3118.66	95.00	1.56	197.00	12786.20	165.88	MWD Run 5
243	22271.00	89.10	166.19	9414.03	12880.17	-12491.11	3141.83	94.00	1.25	197.00	12880.18	165.88	MWD Run 5
244	22328.00	89.24	166.30	9414.85	12937.16	-12546.47	3155.39	57.00	0.31	197.00	12937.17	165.88	MWD Run 5
PTB	22385.00	89.24	166.30	9415.61	12994.16	-12601.84	3168.89	57.00	0.00	197.00	12994.16	165.88	MWD Run 5



MWD SURVEY CERTIFICATION
Gordon Technologies, LLC

State Of TEXAS

County Of ANDREWS

I, David Parish certify that; I am employed by Gordon Technologies, LLC.;
that I did on the day(s) of December 4, 2020 through March 1, 2021 conduct
or supervise the taking of a MWD survey from a depth of 105 feet to a depth of
22,385 feet; that the data is true, correct, complete and within the limitations of the
tool set forth by Gordon Technologies, LLC.; that I am authorized and qualified to make this report;
that this survey was conducted at the request of QEP Eneregy Company for the
UL 2539 W7 12SB Well, A.P.I. No. 42-003-48230 in
SPRABERRY (TREND AREA) Field and that I have reviewed this report and find that
it conforms to the principles and procedures set forth by Gordon Technologies, LLC.



Surveyor's Signature

MWD Coordinator
Title

