



Directional Survey Report

Company: QEP Energy Company	Well Surface Location	Report Date: Mar 09 2020
Well: UL 2539 W14 09LM	Latitude: 32.383848	Time: 20:03
County: Martin	Longitude: -102.215179	Mag Reference: Grid North
State: Texas	Reference: NAD 1927	Mag Correction: 8.67
Field: Spraberry (Trend Area)	Y (Northing): 293,574.65	Vert Sect. Azi: 165.74
API: 42-003-48237	X (Easting): 544,885.17	Perm Datum: Mean Sea Level
Rig: Savanna 688	Field Engr: Matt O'Leary	Depth Ref: Rotary Table
Service Co: Gordon Technologies, LLC	Andrew Gomez	RKB Height: 19.5
Job #: GT2010328		GL Elev: 2938
Survey Calc: Minimum Curvature		

Survey	MD	Inc	Azimuth	TVD	VS	Rectangular Offsets		Course		Closure			Source
Tie In	0	0	0	0	0	NS	EW	Length	DLS	Temp	Distance	Azimuth	
1	145.00	0.53	323.51	145.00	-0.62	0.54	-0.40	145.00	0.37	58.57	0.67	323.51	MWD Run 1
2	208.00	0.40	339.32	208.00	-1.11	0.98	-0.65	63.00	0.29	58.57	1.18	326.43	MWD Run 1
3	269.00	0.54	310.70	268.99	-1.56	1.37	-0.94	61.00	0.44	58.57	1.66	325.38	MWD Run 1
4	331.00	0.34	253.24	330.99	-1.79	1.50	-1.34	62.00	0.74	58.57	2.01	318.28	MWD Run 1
5	392.00	0.22	209.69	391.99	-1.69	1.35	-1.57	61.00	0.39	58.57	2.07	310.65	MWD Run 1
6	454.00	0.42	237.58	453.99	-1.54	1.12	-1.82	62.00	0.40	58.57	2.14	301.67	MWD Run 1
7	515.00	0.25	210.05	514.99	-1.37	0.89	-2.08	61.00	0.38	58.57	2.26	293.16	MWD Run 1
8	577.00	0.82	56.03	576.99	-1.43	1.02	-1.78	62.00	1.69	58.57	2.05	299.84	MWD Run 1
9	639.00	1.88	62.13	638.97	-1.82	1.74	-0.51	62.00	1.72	58.57	1.82	343.67	MWD Run 1
10	701.00	2.51	66.60	700.92	-2.27	2.76	1.63	62.00	1.05	58.57	3.21	30.65	MWD Run 1
11	763.00	3.67	56.75	762.83	-3.13	4.39	4.54	62.00	2.05	58.57	6.31	45.99	MWD Run 1
12	825.00	3.93	55.77	824.70	-4.50	6.67	7.96	62.00	0.43	58.57	10.38	50.03	MWD Run 1
13	886.00	4.09	53.11	885.55	-6.05	9.15	11.42	61.00	0.40	58.57	14.64	51.31	MWD Run 1
14	948.00	3.79	54.75	947.40	-7.64	11.66	14.87	62.00	0.52	58.57	18.89	51.89	MWD Run 1
15	1010.00	3.82	50.11	1009.26	-9.27	14.17	18.12	62.00	0.50	58.57	23.00	51.99	MWD Run 1
16	1072.00	3.96	47.55	1071.12	-11.17	16.94	21.29	62.00	0.36	58.57	27.20	51.49	MWD Run 1
17	1135.00	4.07	46.43	1133.97	-13.29	19.95	24.51	63.00	0.21	58.57	31.60	50.87	MWD Run 1
18	1197.00	3.39	48.27	1195.84	-15.22	22.68	27.48	62.00	1.11	58.57	35.63	50.46	MWD Run 1

19	1260.00	3.31	45.07	1258.73	-17.00	25.21	30.15	63.00	0.32	58.57	39.30	50.11	MWD Run 1
20	1322.00	3.38	47.72	1320.62	-18.77	27.70	32.77	62.00	0.27	65.86	42.91	49.79	MWD Run 1
21	1385.00	3.58	45.71	1383.51	-20.63	30.32	35.55	63.00	0.37	65.86	46.73	49.54	MWD Run 1
22	1448.00	3.57	46.24	1446.38	-22.58	33.05	38.38	63.00	0.05	65.86	50.65	49.26	MWD Run 1
23	1510.00	3.35	46.85	1508.27	-24.41	35.63	41.09	62.00	0.36	65.86	54.39	49.08	MWD Run 1
24	1573.00	3.03	47.92	1571.17	-26.07	38.00	43.67	63.00	0.52	65.86	57.89	48.97	MWD Run 1
25	1636.00	3.06	52.38	1634.08	-27.52	40.14	46.24	63.00	0.38	65.86	61.24	49.04	MWD Run 1
26	1699.00	2.95	48.65	1697.00	-28.92	42.24	48.79	63.00	0.36	73.14	64.54	49.11	MWD Run 1
27	1789.00	2.58	51.59	1786.89	-30.81	45.03	52.12	90.00	0.44	80.43	68.88	49.17	MWD Run 1
28	1948.00	2.25	49.11	1945.75	-33.67	49.30	57.28	159.00	0.22	73.14	75.57	49.28	MWD Run 2
29	2011.00	2.02	47.71	2008.71	-34.74	50.85	59.04	63.00	0.37	73.14	77.92	49.26	MWD Run 2
30	2073.00	2.01	40.94	2070.67	-35.88	52.41	60.56	62.00	0.38	80.43	80.09	49.12	MWD Run 2
31	2136.00	2.62	38.43	2133.62	-37.38	54.37	62.18	63.00	0.98	73.14	82.60	48.83	MWD Run 2
32	2199.00	3.36	42.19	2196.53	-39.28	56.87	64.31	63.00	1.21	80.43	85.85	48.51	MWD Run 2
33	2262.00	3.81	43.68	2259.41	-41.41	59.75	67.00	63.00	0.73	80.43	89.77	48.27	MWD Run 2
34	2325.00	4.00	46.37	2322.26	-43.60	62.78	70.03	63.00	0.42	80.43	94.05	48.13	MWD Run 2
35	2387.00	4.18	48.40	2384.10	-45.69	65.77	73.29	62.00	0.37	80.43	98.47	48.09	MWD Run 2
36	2450.00	4.26	50.31	2446.93	-47.75	68.79	76.80	63.00	0.26	80.43	103.11	48.15	MWD Run 2
37	2513.00	4.38	51.29	2509.75	-49.75	71.79	80.48	63.00	0.22	80.43	107.85	48.27	MWD Run 2
38	2576.00	4.34	51.06	2572.57	-51.74	74.79	84.21	63.00	0.07	80.43	112.63	48.39	MWD Run 2
39	2639.00	4.42	53.53	2635.39	-53.66	77.73	88.02	63.00	0.33	80.43	117.43	48.55	MWD Run 2
40	2702.00	4.46	47.91	2698.20	-55.72	80.82	91.79	63.00	0.69	80.43	122.30	48.64	MWD Run 2
41	2764.00	4.48	44.70	2760.01	-58.09	84.16	95.28	62.00	0.40	80.43	127.13	48.55	MWD Run 2
42	2827.00	4.75	44.84	2822.81	-60.70	87.75	98.85	63.00	0.43	80.43	132.18	48.40	MWD Run 2
43	2890.00	5.01	44.48	2885.58	-63.47	91.57	102.62	63.00	0.42	80.43	137.53	48.26	MWD Run 2
44	2953.00	4.80	39.68	2948.35	-66.45	95.56	106.23	63.00	0.73	80.43	142.88	48.03	MWD Run 2
45	3016.00	4.58	32.19	3011.14	-69.73	99.72	109.25	63.00	1.03	80.43	147.92	47.61	MWD Run 2
46	3079.00	4.59	31.77	3073.94	-73.21	103.99	111.92	63.00	0.06	80.43	152.77	47.10	MWD Run 2
47	3142.00	4.04	34.46	3136.76	-76.43	107.96	114.50	63.00	0.93	80.43	157.37	46.68	MWD Run 2
48	3204.00	3.05	30.08	3198.64	-79.05	111.19	116.57	62.00	1.65	80.43	161.09	46.35	MWD Run 2
49	3266.00	2.91	29.07	3260.55	-81.37	113.99	118.16	62.00	0.24	80.43	164.18	46.03	MWD Run 2
50	3329.00	2.95	29.59	3323.47	-83.71	116.80	119.73	63.00	0.08	80.43	167.27	45.71	MWD Run 2
51	3392.00	3.35	29.07	3386.38	-86.21	119.82	121.43	63.00	0.64	80.43	170.59	45.38	MWD Run 2
52	3454.00	3.56	29.05	3448.26	-88.93	123.08	123.24	62.00	0.34	80.43	174.18	45.04	MWD Run 2
53	3517.00	3.90	31.55	3511.13	-91.85	126.62	125.31	63.00	0.60	87.71	178.15	44.70	MWD Run 2
54	3579.00	4.00	32.56	3572.98	-94.80	130.24	127.58	62.00	0.20	87.71	182.32	44.41	MWD Run 2
55	3642.00	4.23	32.91	3635.82	-97.88	134.04	130.03	63.00	0.37	87.71	186.75	44.13	MWD Run 2
56	3705.00	4.35	33.99	3698.64	-101.05	137.97	132.62	63.00	0.23	95.00	191.38	43.87	MWD Run 2

57	3767.00	4.43	35.88	3760.46	-104.15	141.86	135.34	62.00	0.27	95.00	196.07	43.65	MWD Run 2
58	3830.00	4.61	37.55	3823.27	-107.28	145.84	138.31	63.00	0.35	95.00	201.00	43.48	MWD Run 2
59	3893.00	4.83	37.74	3886.05	-110.48	149.95	141.48	63.00	0.35	102.29	206.15	43.34	MWD Run 2
60	3956.00	5.04	35.58	3948.82	-113.89	154.29	144.71	63.00	0.45	102.29	211.54	43.16	MWD Run 2
61	4018.00	5.35	36.87	4010.56	-117.46	158.82	148.03	62.00	0.53	102.29	217.11	42.99	MWD Run 2
62	4081.00	5.19	35.00	4073.30	-121.17	163.50	151.43	63.00	0.37	109.57	222.85	42.80	MWD Run 2
63	4144.00	5.22	33.43	4136.04	-124.96	168.23	154.64	63.00	0.23	109.57	228.51	42.59	MWD Run 2
64	4206.00	4.50	32.62	4197.81	-128.52	172.63	157.50	62.00	1.17	109.57	233.69	42.38	MWD Run 2
65	4269.00	3.49	31.80	4260.66	-131.54	176.34	159.85	63.00	1.61	109.57	238.01	42.19	MWD Run 2
66	4332.00	3.56	32.15	4323.54	-134.22	179.63	161.90	63.00	0.12	109.57	241.82	42.03	MWD Run 2
67	4394.00	3.65	34.73	4385.42	-136.84	182.88	164.05	62.00	0.30	116.86	245.68	41.89	MWD Run 2
68	4457.00	3.36	35.83	4448.30	-139.34	186.03	166.27	63.00	0.47	116.86	249.50	41.79	MWD Run 2
69	4520.00	2.82	36.67	4511.21	-141.50	188.77	168.28	63.00	0.86	116.86	252.88	41.72	MWD Run 2
70	4582.00	2.71	35.86	4573.14	-143.40	191.18	170.05	62.00	0.19	116.86	255.86	41.65	MWD Run 2
71	4645.00	2.60	30.16	4636.07	-145.38	193.62	171.64	63.00	0.45	116.86	258.74	41.56	MWD Run 2
72	4708.00	2.72	25.50	4699.00	-147.55	196.20	173.00	63.00	0.39	116.86	261.58	41.40	MWD Run 2
73	4771.00	2.65	24.80	4761.93	-149.83	198.88	174.25	63.00	0.12	124.14	264.42	41.22	MWD Run 2
74	4834.00	2.69	47.49	4824.87	-151.66	201.20	175.95	63.00	1.67	116.86	267.28	41.17	MWD Run 2
75	4897.00	3.12	57.21	4887.78	-152.90	203.12	178.48	63.00	1.04	124.14	270.40	41.31	MWD Run 2
76	4960.00	3.57	65.17	4950.68	-153.81	204.88	181.71	63.00	1.02	124.14	273.85	41.57	MWD Run 2
77	5023.00	3.69	63.53	5013.55	-154.59	206.60	185.30	63.00	0.25	124.14	277.53	41.89	MWD Run 2
78	5086.00	3.82	64.89	5076.42	-155.42	208.40	189.02	63.00	0.25	124.14	281.35	42.21	MWD Run 2
79	5149.00	3.78	64.94	5139.28	-156.20	210.17	192.80	63.00	0.06	131.43	285.20	42.53	MWD Run 2
80	5212.00	3.79	64.20	5202.14	-157.01	211.95	196.55	63.00	0.08	131.43	289.06	42.84	MWD Run 2
81	5274.00	3.68	65.14	5264.01	-157.78	213.68	200.20	62.00	0.20	131.43	292.82	43.13	MWD Run 2
82	5337.00	3.39	64.67	5326.89	-158.51	215.33	203.72	63.00	0.46	131.43	296.43	43.41	MWD Run 2
83	5400.00	3.09	63.54	5389.79	-159.23	216.88	206.93	63.00	0.49	124.14	299.76	43.65	MWD Run 2
84	5462.00	3.99	57.48	5451.67	-160.26	218.79	210.24	62.00	1.57	131.43	303.43	43.86	MWD Run 2
85	5525.00	4.31	55.26	5514.50	-161.77	221.31	214.03	63.00	0.57	131.43	307.88	44.04	MWD Run 2
86	5588.00	4.52	53.62	5577.32	-163.54	224.14	217.98	63.00	0.39	131.43	312.65	44.20	MWD Run 2
87	5650.00	4.23	52.32	5639.14	-165.37	226.98	221.75	62.00	0.49	131.43	317.33	44.33	MWD Run 2
88	5713.00	4.15	52.66	5701.97	-167.18	229.79	225.41	63.00	0.13	131.43	321.88	44.45	MWD Run 2
89	5772.00	3.88	51.90	5760.82	-168.83	232.31	228.67	59.00	0.47	131.43	325.98	44.55	MWD Run 2



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 March 6, 2020 through March 9, 2020 conduct
or supervise the taking of a MWD survey from a depth of 145 feet to a depth of
5,772 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 Energy Company for the
UL 2539 W14 09LM Well, A.P.I. No. 42-003-48237 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



Directional Survey Report

Company Name: QEP

Well Name: UL 2539 W14 09LM

Field: University Lands

Rig ID: Unit 408

State/Prov: Texas

County: Martin

Location: Andrews

API/UWI: 42-003-48257

Survey Company: NATIVE NAVIGATION

Job Number: 20092472

Latitude: 32.383848

Longitude: -102.215179

Proposed Azimuth: 165.74

Declination: 8.6

North Reference: Grid

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	Northing	Easting	Build	Turn	A/B	L/R	Temp
Tiein	5,773.50	3.88	51.90	5,762.32	232.32	228.67	-168.84	0	0	232.32	228.67	0	0			0
1	5858	3.53	47.57	5,846.64	235.84	232.84	-171.22	0.53	84.50	235.84	232.84	-0.41	-5.12	EM		0
2	5922	3.13	46.07	5,910.54	238.38	235.55	-173.01	0.64	64	238.38	235.55	-0.63	-2.34	EM		106.30
3	6017	3.08	43.91	6,005.40	242.02	239.19	-175.64	0.13	95	242.02	239.19	-0.05	-2.27	EM		106.30
4	6111	2.91	43.84	6,099.27	245.56	242.59	-178.24	0.18	94	245.56	242.59	-0.18	-0.07	EM		113.40
5	6206	2.95	43.01	6,194.14	249.09	245.93	-180.83	0.06	95	249.09	245.93	0.04	-0.87	EM		113.40
6	6301	2.87	44.44	6,289.02	252.57	249.26	-183.39	0.11	95	252.57	249.26	-0.08	1.51	EM		113.40
7	6396	5.22	48.23	6,383.78	257.15	254.15	-186.62	2.49	95	257.15	254.15	2.47	3.99	EM		113.40
8	6491	4.86	46.80	6,478.41	262.78	260.31	-190.57	0.40	95	262.78	260.31	-0.38	-1.51	EM		113.40
9	6586	4.48	46.96	6,573.09	268.07	265.96	-194.30	0.40	95	268.07	265.96	-0.40	0.17	EM		113.40
10	6680	3.99	46.38	6,666.84	272.83	271.01	-197.67	0.52	94	272.83	271.01	-0.52	-0.62	MP		113.40
11	6775	3.65	44.75	6,761.63	277.26	275.53	-200.85	0.38	95	277.26	275.53	-0.36	-1.72	MP		113.40
12	6870	3.24	46.36	6,856.45	281.26	279.60	-203.72	0.44	95	281.26	279.60	-0.43	1.69	MP		120.60
13	6965	1.35	12.31	6,951.38	284.21	281.78	-206.04	2.37	95	284.21	281.78	-1.99	-35.84	MP		120.60
14	7060	1.12	16.01	7,046.36	286.19	282.28	-207.84	0.26	95	286.19	282.28	-0.24	3.89	EM		120.60
15	7154	1.08	13.38	7,140.34	287.94	282.73	-209.42	0.07	94	287.94	282.73	-0.04	-2.80	EM		120.60
16	7250	1	19.43	7,236.32	289.61	283.22	-210.92	0.14	96	289.61	283.22	-0.08	6.30	EM		120.60
17	7345	0.95	7.96	7,331.31	291.17	283.61	-212.34	0.21	95	291.17	283.61	-0.05	-12.07	EM		120.60
18	7439	0.87	351.85	7,425.30	292.65	283.61	-213.77	0.28	94	292.65	283.61	-0.09	174.35	EM		120.60
19	7534	0.89	343.55	7,520.29	294.07	283.30	-215.22	0.14	95	294.07	283.30	0.02	-8.74	EM		120.60
20	7630	0.77	113.41	7,616.28	294.53	283.68	-215.57	1.57	96	294.53	283.68	-0.13	-52.23	EM		120.60
21	7725	0.56	95.27	7,711.27	294.23	284.73	-215.03	0.31	95	294.23	284.73	-0.22	-19.09	EM		120.60
22	7820	0.41	86.83	7,806.27	294.21	285.53	-214.81	0.17	95	294.21	285.53	-0.16	-8.88	MP		127.70
23	7915	0.37	165.69	7,901.27	293.93	285.95	-214.44	0.52	95	293.93	285.95	-0.04	83.01	MP		127.70
24	8010	0.42	93.59	7,996.27	293.61	286.37	-214.02	0.49	95	293.61	286.37	0.05	-75.89	MP		127.70
25	8104	1.11	82.02	8,090.26	293.71	287.62	-213.82	0.75	94	293.71	287.62	0.73	-12.31	EM		127.70
26	8199	0.34	115.72	8,185.25	293.72	288.78	-213.54	0.89	95	293.72	288.78	-0.81	35.47	EM		127.70
27	8294	0.31	138.46	8,280.25	293.41	289.21	-213.13	0.14	95	293.41	289.21	-0.03	23.94	EM		127.70
28	8389	0.31	85.58	8,375.25	293.23	289.63	-212.85	0.29	95	293.23	289.63	0	-55.66	EM		127.70
29	8484	0.33	74.77	8,470.25	293.32	290.15	-212.81	0.07	95	293.32	290.15	0.02	-11.38	MP		127.70
30	8578	9.57	164.85	8,563.81	285.84	292.46	-204.99	10.19	94	285.84	292.46	9.83	95.83	EM		127.70
31	8673	19.98	164.98	8,655.54	262.47	298.75	-180.80	10.96	95	262.47	298.75	10.96	0.14	MP		127.70
32	8768	28.43	162.52	8,742.11	225.16	309.77	-141.92	8.96	95	225.16	309.77	8.89	-2.59	MP		127.70
33	8862	35.27	160.19	8,821.92	178.23	325.71	-92.50	7.39	94	178.23	325.71	7.28	-2.48	MP		127.70

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	Northing	Easting	Build	Turn	A/B	L/R	Temp
34	8957	45.12	160.02	8,894.39	120.65	346.56	-31.56	10.37	95	120.65	346.56	10.37	-0.18	MP		127.70
35	9051	55.18	159.83	8,954.55	52.96	371.30	40.14	10.70	94	52.96	371.30	10.70	-0.20	MP		127.70
36	9146	61.76	163.52	9,004.21	-23.88	396.65	120.85	7.68	95	-23.88	396.65	6.93	3.88	MP		134.90
37	9241	69.18	166.76	9,043.64	-107.36	418.73	207.19	8.40	95	-107.36	418.73	7.81	3.41	MP		134.90
38	9335	77.49	164.93	9,070.57	-194.59	440.76	297.16	9.03	94	-194.59	440.76	8.84	-1.95	MP		134.90
39	9430	83.08	162.13	9,086.60	-284.33	467.31	390.68	6.56	95	-284.33	467.31	5.88	-2.95	MP		134.90
40	9525	92.55	164.98	9,090.22	-375.27	494.15	485.43	10.41	95	-375.27	494.15	9.97	3	MP		134.90
41	9619	89.77	164.92	9,088.32	-466.02	518.55	579.39	2.96	94	-466.02	518.55	-2.96	-0.06	EM		134.90
42	9714	89.50	167.16	9,088.92	-558.21	541.46	674.38	2.37	95	-558.21	541.46	-0.28	2.36	EM		142
43	9809	89.18	166.92	9,090.02	-650.78	562.77	769.35	0.42	95	-650.78	562.77	-0.34	-0.25	EM		142
44	9904	90.21	168.71	9,090.52	-743.63	582.82	864.28	2.17	95	-743.63	582.82	1.08	1.88	EM		142
45	9998	89.10	167.16	9,091.09	-835.55	602.47	958.21	2.03	94	-835.55	602.47	-1.18	-1.65	EM		142
46	10093	90.26	169.50	9,091.62	-928.58	621.68	1,053.10	2.75	95	-928.58	621.68	1.22	2.46	EM		142
47	10188	90.02	170.66	9,091.39	-1,022.15	638.04	1,147.82	1.25	95	-1,022.15	638.04	-0.25	1.22	EM		142
48	10283	90.67	170.91	9,090.81	-1,115.93	653.26	1,242.45	0.73	95	-1,115.93	653.26	0.68	0.26	EM		142
49	10378	90.18	168.85	9,090.11	-1,209.44	669.95	1,337.20	2.23	95	-1,209.44	669.95	-0.52	-2.17	EM		149.10
50	10473	89.65	168.21	9,090.25	-1,302.54	688.84	1,432.08	0.87	95	-1,302.54	688.84	-0.56	-0.67	EM		149.10
51	10567	88.19	167.30	9,092.02	-1,394.38	708.77	1,526.01	1.83	94	-1,394.38	708.77	-1.55	-0.97	EM		149.10
52	10662	88.12	167.66	9,095.08	-1,487.08	729.36	1,620.91	0.39	95	-1,487.08	729.36	-0.07	0.38	EM		149.10
53	10757	87.19	167.11	9,098.97	-1,579.70	750.09	1,715.79	1.14	95	-1,579.70	750.09	-0.98	-0.58	EM		149.10
54	10804	88.93	166.27	9,100.56	-1,625.41	760.90	1,762.76	4.11	47	-1,625.41	760.90	3.70	-1.79	EM		149.10
55	10899	89.29	166.31	9,102.03	-1,717.70	783.41	1,857.74	0.38	95	-1,717.70	783.41	0.38	0.04	EM		149.10
56	10993	90.83	166.27	9,101.94	-1,809.01	805.69	1,951.73	1.64	94	-1,809.01	805.69	1.64	-0.04	EM		149.10
57	11088	89.74	166.77	9,101.46	-1,901.39	827.83	2,046.72	1.26	95	-1,901.39	827.83	-1.15	0.53	EM		149.10
58	11183	90.76	167.38	9,101.05	-1,993.98	849.08	2,141.69	1.25	95	-1,993.98	849.08	1.07	0.64	EM		149.10
59	11277	89.42	168.51	9,100.90	-2,085.91	868.71	2,235.62	1.86	94	-2,085.91	868.71	-1.43	1.20	EM		156.30
60	11372	90.44	168.89	9,101.02	-2,179.07	887.33	2,330.49	1.15	95	-2,179.07	887.33	1.07	0.40	EM		156.30
61	11467	88.38	167.83	9,101.99	-2,272.10	906.49	2,425.38	2.44	95	-2,272.10	906.49	-2.17	-1.12	EM		156.30
62	11562	89.33	168.20	9,103.89	-2,365.01	926.22	2,520.29	1.07	95	-2,365.01	926.22	1	0.39	EM		156.30
63	11656	90.21	168.17	9,104.27	-2,457.02	945.46	2,614.20	0.94	94	-2,457.02	945.46	0.94	-0.03	EM		156.30
64	11751	90.92	167.81	9,103.33	-2,549.93	965.23	2,709.12	0.84	95	-2,549.93	965.23	0.75	-0.38	EM		156.30
65	11846	89.91	167.34	9,102.65	-2,642.70	985.67	2,804.07	1.17	95	-2,642.70	985.67	-1.06	-0.49	EM		156.30
66	11940	90.68	166.84	9,102.16	-2,734.32	1,006.67	2,898.04	0.98	94	-2,734.32	1,006.67	0.82	-0.53	EM		156.30
67	12035	89.71	166.48	9,101.84	-2,826.76	1,028.59	2,993.03	1.09	95	-2,826.76	1,028.59	-1.02	-0.38	EM		163.40
68	12130	89.12	166.35	9,102.81	-2,919.10	1,050.90	3,088.01	0.64	95	-2,919.10	1,050.90	-0.62	-0.14	EM		163.40
69	12225	89.21	166.35	9,104.19	-3,011.40	1,073.32	3,183.00	0.09	95	-3,011.40	1,073.32	0.09	0	EM		163.40
70	12320	89.65	165.95	9,105.14	-3,103.64	1,096.06	3,277.99	0.63	95	-3,103.64	1,096.06	0.46	-0.42	EM		163.40
71	12414	88.42	165.57	9,106.72	-3,194.73	1,119.18	3,371.98	1.37	94	-3,194.73	1,119.18	-1.31	-0.40	EM		163.40
72	12509	87.91	165.84	9,109.76	-3,286.74	1,142.62	3,466.93	0.61	95	-3,286.74	1,142.62	-0.54	0.28	EM		163.40
73	12603	87.54	165.62	9,113.49	-3,377.77	1,165.77	3,560.85	0.46	94	-3,377.77	1,165.77	-0.39	-0.23	EM		170.60
74	12698	89.94	166.38	9,115.58	-3,469.92	1,188.75	3,655.82	2.65	95	-3,469.92	1,188.75	2.53	0.80	EM		163.40
75	12793	89.80	165.91	9,115.80	-3,562.16	1,211.50	3,750.82	0.52	95	-3,562.16	1,211.50	-0.15	-0.49	EM		163.40
76	12888	90.40	165.65	9,115.63	-3,654.24	1,234.83	3,845.82	0.69	95	-3,654.24	1,234.83	0.63	-0.27	EM		170.60
77	12983	91.44	165.69	9,114.11	-3,746.28	1,258.34	3,940.80	1.10	95	-3,746.28	1,258.34	1.09	0.04	EM		170.60
78	13077	90.56	167.11	9,112.47	-3,837.62	1,280.44	4,034.78	1.78	94	-3,837.62	1,280.44	-0.94	1.51	EM		170.60

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	Northing	Easting	Build	Turn	A/B	L/R	Temp
79	13172	89.67	167.62	9,112.28	-3,930.32	1,301.22	4,129.74	1.08	95	-3,930.32	1,301.22	-0.94	0.54	EM		170.60
80	13266	88.55	166.93	9,113.74	-4,022.00	1,321.93	4,223.69	1.40	94	-4,022.00	1,321.93	-1.19	-0.73	EM		170.60
81	13362	87.65	168.71	9,116.92	-4,115.78	1,342.17	4,319.57	2.08	96	-4,115.78	1,342.17	-0.94	1.85	EM		170.60
82	13457	87.81	169.60	9,120.68	-4,209.01	1,360.03	4,414.33	0.95	95	-4,209.01	1,360.03	0.17	0.94	EM		177.70
83	13551	87.63	171.09	9,124.42	-4,301.60	1,375.78	4,507.95	1.60	94	-4,301.60	1,375.78	-0.19	1.59	EM		177.70
84	13646	90.59	171.93	9,125.90	-4,395.54	1,389.80	4,602.44	3.24	95	-4,395.54	1,389.80	3.12	0.88	EM		177.70
85	13741	89.80	169.08	9,125.57	-4,489.23	1,405.47	4,697.10	3.11	95	-4,489.23	1,405.47	-0.83	-3	EM		170.60
86	13836	89.59	169.50	9,126.08	-4,582.57	1,423.13	4,791.92	0.49	95	-4,582.57	1,423.13	-0.22	0.44	EM		170.60
87	13931	89.64	169.57	9,126.72	-4,675.99	1,440.38	4,886.71	0.09	95	-4,675.99	1,440.38	0.05	0.07	EM		170.60
88	14025	89.99	167.80	9,127.02	-4,768.16	1,458.82	4,980.58	1.92	94	-4,768.16	1,458.82	0.37	-1.88	EM		120.60
89	14119	90.84	167.55	9,126.34	-4,859.99	1,478.89	5,074.52	0.94	94	-4,859.99	1,478.89	0.90	-0.27	EM		177.70
90	14213	91.12	167.34	9,124.73	-4,951.73	1,499.32	5,168.47	0.37	94	-4,951.73	1,499.32	0.30	-0.22	EM		177.70
91	14307	91.10	167.13	9,122.91	-5,043.38	1,520.08	5,262.42	0.22	94	-5,043.38	1,520.08	-0.02	-0.22	EM		177.70
92	14401	87.29	166.90	9,124.23	-5,134.96	1,541.20	5,356.37	4.06	94	-5,134.96	1,541.20	-4.05	-0.24	EM		177.70
93	14495	90.18	167.50	9,126.31	-5,226.59	1,562.02	5,450.30	3.14	94	-5,226.59	1,562.02	3.07	0.64	EM		177.70
94	14589	89.42	167.38	9,126.64	-5,318.34	1,582.46	5,544.26	0.82	94	-5,318.34	1,582.46	-0.81	-0.13	EM		177.70
95	14683	89.88	167.36	9,127.21	-5,410.06	1,603.01	5,638.22	0.49	94	-5,410.06	1,603.01	0.49	-0.02	EM		177.70
96	14778	90.84	167.35	9,126.61	-5,502.75	1,623.81	5,733.18	1.01	95	-5,502.75	1,623.81	1.01	-0.01	EM		177.70
97	14871	89.63	167.90	9,126.23	-5,593.59	1,643.74	5,826.13	1.43	93	-5,593.59	1,643.74	-1.30	0.59	EM		184.90
98	14965	89.25	167.92	9,127.15	-5,685.50	1,663.42	5,920.06	0.40	94	-5,685.50	1,663.42	-0.40	0.02	EM		184.90
99	15059	90.43	168.08	9,127.41	-5,777.44	1,682.97	6,013.98	1.27	94	-5,777.44	1,682.97	1.26	0.17	EM		177.70
100	15153	92.15	168.43	9,125.30	-5,869.45	1,702.10	6,107.86	1.87	94	-5,869.45	1,702.10	1.83	0.37	EM		184.90
101	15247	89.54	168.08	9,123.91	-5,961.46	1,721.23	6,201.75	2.80	94	-5,961.46	1,721.23	-2.78	-0.37	EM		184.90
102	15342	91.71	168.94	9,122.87	-6,054.55	1,740.15	6,296.63	2.46	95	-6,054.55	1,740.15	2.28	0.91	EM		184.90
103	15437	87.84	167.38	9,123.25	-6,147.50	1,759.64	6,391.52	4.39	95	-6,147.50	1,759.64	-4.07	-1.64	EM		184.90
104	15532	87.97	167.42	9,126.72	-6,240.15	1,780.35	6,486.42	0.14	95	-6,240.15	1,780.35	0.14	0.04	EM		184.90
105	15628	88	167.07	9,130.10	-6,333.73	1,801.53	6,582.33	0.37	96	-6,333.73	1,801.53	0.03	-0.36	EM		84.90
106	15723	89.01	167.02	9,132.57	-6,426.28	1,822.82	6,677.27	1.06	95	-6,426.28	1,822.82	1.06	-0.05	EM		184.90
107	15818	89.82	167.37	9,133.54	-6,518.91	1,843.87	6,772.23	0.93	95	-6,518.91	1,843.87	0.85	0.37	EM		184.90
108	15913	89.54	167.16	9,134.07	-6,611.57	1,864.81	6,867.20	0.37	95	-6,611.57	1,864.81	-0.29	-0.22	EM		184.90
109	16008	89.91	166.94	9,134.53	-6,704.15	1,886.10	6,962.17	0.45	95	-6,704.15	1,886.10	0.39	-0.23	EM		184.90
110	16102	90.42	168.33	9,134.26	-6,795.97	1,906.23	7,056.12	1.58	94	-6,795.97	1,906.23	0.54	1.48	EM		184.90
111	16197	91.08	169.91	9,133.02	-6,889.25	1,924.16	7,150.94	1.80	95	-6,889.25	1,924.16	0.69	1.66	EM		184.90
112	16292	92.95	169.84	9,129.68	-6,982.71	1,940.85	7,245.63	1.97	95	-6,982.71	1,940.85	1.97	-0.07	EM		184.90
113	16387	91.15	168.81	9,126.28	-7,076.00	1,958.44	7,340.38	2.18	95	-7,076.00	1,958.44	-1.89	-1.08	EM		184.90
114	16483	89.78	167.17	9,125.50	-7,169.89	1,978.41	7,436.30	2.23	96	-7,169.89	1,978.41	-1.43	-1.71	MP		189.70
115	16578	89.42	167.13	9,126.16	-7,262.51	1,999.54	7,531.27	0.38	95	-7,262.51	1,999.54	-0.38	-0.04	EM		189.70
116	16673	89.32	167.09	9,127.21	-7,355.11	2,020.73	7,626.23	0.11	95	-7,355.11	2,020.73	-0.11	-0.04	EM		189.70
117	16768	88.62	166.92	9,128.91	-7,447.66	2,042.09	7,721.19	0.76	95	-7,447.66	2,042.09	-0.74	-0.18	EM		189.70
118	16863	89.42	167.32	9,130.54	-7,540.25	2,063.26	7,816.15	0.94	95	-7,540.25	2,063.26	0.84	0.42	EM		182.40
119	16958	91.13	167.86	9,130.08	-7,633.03	2,083.68	7,911.10	1.89	95	-7,633.03	2,083.68	1.80	0.57	EM		189.70
120	17053	92.28	167.57	9,127.26	-7,725.81	2,103.88	8,006.00	1.25	95	-7,725.81	2,103.88	1.21	-0.31	EM		197
121	17147	91.97	167.21	9,123.77	-7,817.48	2,124.39	8,099.89	0.51	94	-7,817.48	2,124.39	-0.33	-0.38	EM		197
122	17242	90.84	166.12	9,121.44	-7,909.89	2,146.29	8,194.85	1.65	95	-7,909.89	2,146.29	-1.19	-1.15	EM		197
123	17338	91.11	166.69	9,119.81	-8,003.18	2,168.85	8,290.83	0.66	96	-8,003.18	2,168.85	0.28	0.59	EM		197

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	Northing	Easting	Build	Turn	A/B	L/R	Temp
124	17433	91.90	166.52	9,117.31	-8,095.57	2,190.85	8,385.78	0.85	95	-8,095.57	2,190.85	0.83	-0.18	EM		197
125	17528	90.67	166.68	9,115.18	-8,187.96	2,212.86	8,480.75	1.31	95	-8,187.96	2,212.86	-1.29	0.17	MP		197
126	17623	90.48	167.01	9,114.23	-8,280.46	2,234.48	8,575.72	0.40	95	-8,280.46	2,234.48	-0.20	0.35	EM		197
127	17718	92.27	169.14	9,111.95	-8,373.37	2,254.11	8,670.61	2.93	95	-8,373.37	2,254.11	1.88	2.24	EM		197
128	17813	91.54	167.76	9,108.79	-8,466.39	2,273.12	8,765.45	1.64	95	-8,466.39	2,273.12	-0.77	-1.45	EM		197
129	17908	89.74	166.63	9,107.73	-8,559.02	2,294.17	8,860.40	2.24	95	-8,559.02	2,294.17	-1.89	-1.19	EM		197
130	18003	89.48	166.55	9,108.38	-8,651.43	2,316.20	8,955.39	0.29	95	-8,651.43	2,316.20	-0.27	-0.08	EM		197
131	18098	89.08	166.94	9,109.57	-8,743.89	2,337.98	9,050.37	0.59	95	-8,743.89	2,337.98	-0.42	0.41	EM		197
132	18193	89.27	167.08	9,110.94	-8,836.45	2,359.33	9,145.34	0.25	95	-8,836.45	2,359.33	0.20	0.15	EM		197
133	18288	90.65	166.83	9,111.00	-8,928.99	2,380.78	9,240.31	1.48	95	-8,928.99	2,380.78	1.45	-0.26	EM		197
134	18383	90.95	166.40	9,109.68	-9,021.41	2,402.77	9,335.29	0.55	95	-9,021.41	2,402.77	0.32	-0.45	EM		197
135	18478	89.62	166.83	9,109.21	-9,113.82	2,424.76	9,430.28	1.47	95	-9,113.82	2,424.76	-1.40	0.45	EM		197
136	18573	90.22	166.97	9,109.34	-9,206.35	2,446.29	9,525.26	0.65	95	-9,206.35	2,446.29	0.63	0.15	MP		197
137	18668	91.30	167.02	9,108.08	-9,298.90	2,467.66	9,620.22	1.14	95	-9,298.90	2,467.66	1.14	0.05	EM		197
138	18763	89.58	166.67	9,107.35	-9,391.40	2,489.28	9,715.20	1.85	95	-9,391.40	2,489.28	-1.81	-0.37	EM		197
139	18858	88.89	166.73	9,108.62	-9,483.85	2,511.14	9,810.18	0.73	95	-9,483.85	2,511.14	-0.73	0.06	EM		197
140	18953	90.02	166.86	9,109.52	-9,576.33	2,532.84	9,905.16	1.20	95	-9,576.33	2,532.84	1.19	0.14	EM		197
141	19048	90.21	167.08	9,109.33	-9,668.88	2,554.26	10,000.13	0.31	95	-9,668.88	2,554.26	0.20	0.23	EM		197
142	19143	89.81	166.70	9,109.31	-9,761.41	2,575.80	10,095.11	0.58	95	-9,761.41	2,575.80	-0.42	-0.40	EM		204.30
143	19238	90.53	166.54	9,109.03	-9,853.83	2,597.79	10,190.10	0.78	95	-9,853.83	2,597.79	0.76	-0.17	MP		204.30
144	19333	91.74	166.35	9,107.15	-9,946.16	2,620.05	10,285.07	1.29	95	-9,946.16	2,620.05	1.27	-0.20	EM		204.30
145	19428	91.65	166.44	9,104.34	-10,038.45	2,642.38	10,380.03	0.13	95	-10,038.45	2,642.38	-0.09	0.09	EM		204.30
146	19523	89.78	166.16	9,103.15	-10,130.74	2,664.88	10,475.01	1.99	95	-10,130.74	2,664.88	-1.97	-0.29	EM		204.30
147	19618	91.57	166.32	9,102.04	-10,223.00	2,687.48	10,570.00	1.89	95	-10,223.00	2,687.48	1.88	0.17	EM		204.30
148	19713	92.28	166.58	9,098.84	-10,315.31	2,709.72	10,664.93	0.80	95	-10,315.31	2,709.72	0.75	0.27	EM		204.30
149	19808	93.05	165.87	9,094.43	-10,407.47	2,732.32	10,759.83	1.10	95	-10,407.47	2,732.32	0.81	-0.75	MP		204.30
150	19903	93	166.92	9,089.41	-10,499.68	2,754.63	10,854.69	1.10	95	-10,499.68	2,754.63	-0.05	1.11	MP		204.30
151	19998	91.56	166.61	9,085.63	-10,592.08	2,776.36	10,949.59	1.55	95	-10,592.08	2,776.36	-1.52	-0.33	EM		204.30
152	20094	90.31	168.05	9,084.07	-10,685.72	2,797.42	11,045.54	1.99	96	-10,685.72	2,797.42	-1.30	1.50	EM		197
153	20189	90.89	167.84	9,083.07	-10,778.62	2,817.26	11,140.46	0.65	95	-10,778.62	2,817.26	0.61	-0.22	EM		182.40
154	20284	88.69	167.74	9,083.42	-10,871.47	2,837.35	11,235.40	2.32	95	-10,871.47	2,837.35	-2.32	-0.11	MP		189.70
155	20379	88.55	167.90	9,085.71	-10,964.30	2,857.38	11,330.31	0.22	95	-10,964.30	2,857.38	-0.15	0.17	MP		189.70
156	20474	88.12	167.83	9,088.47	-11,057.14	2,877.35	11,425.20	0.46	95	-11,057.14	2,877.35	-0.45	-0.07	MP		197
157	20569	89.35	169.08	9,090.57	-11,150.19	2,896.35	11,520.07	1.85	95	-11,150.19	2,896.35	1.29	1.32	EM		197
158	20664	89.17	169.66	9,091.79	-11,243.55	2,913.88	11,614.87	0.64	95	-11,243.55	2,913.88	-0.19	0.61	EM		197
159	20759	89.50	169.95	9,092.90	-11,337.05	2,930.69	11,709.62	0.46	95	-11,337.05	2,930.69	0.35	0.31	EM		197
160	20854	90.02	170.17	9,093.29	-11,430.62	2,947.09	11,804.35	0.59	95	-11,430.62	2,947.09	0.55	0.23	EM		197
161	20949	90.09	169.92	9,093.20	-11,524.19	2,963.51	11,899.08	0.27	95	-11,524.19	2,963.51	0.07	-0.26	EM		197
162	21044	90.28	169.80	9,092.90	-11,617.70	2,980.24	11,993.84	0.24	95	-11,617.70	2,980.24	0.20	-0.13	MP		197
163	21139	90.78	170.57	9,092.02	-11,711.31	2,996.43	12,088.55	0.97	95	-11,711.31	2,996.43	0.53	0.81	EM		197
164	21234	90.33	171.70	9,091.10	-11,805.17	3,011.07	12,183.12	1.28	95	-11,805.17	3,011.07	-0.47	1.19	MP		197
165	21329	89.13	170.11	9,091.54	-11,898.97	3,026.08	12,277.73	2.10	95	-11,898.97	3,026.08	-1.26	-1.67	MP		197
166	21424	90.20	167.83	9,092.10	-11,992.20	3,044.26	12,372.57	2.65	95	-11,992.20	3,044.26	1.13	-2.40	EM		197
167	21519	91.29	167.65	9,090.87	-12,085.03	3,064.43	12,467.50	1.16	95	-12,085.03	3,064.43	1.15	-0.19	MP		197
168	21614	91.56	167.59	9,088.50	-12,177.79	3,084.79	12,562.42	0.29	95	-12,177.79	3,084.79	0.28	-0.06	EM		197

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	Northing	Easting	Build	Turn	A/B	L/R	Temp
169	21709	90.81	167.66	9,086.54	-12,270.56	3,105.15	12,657.35	0.79	95	-12,270.56	3,105.15	-0.79	0.07	EM		197
170	21804	90.65	168.26	9,085.33	-12,363.46	3,124.96	12,752.27	0.65	95	-12,363.46	3,124.96	-0.17	0.63	EM		197
171	21899	90.93	169.10	9,084.02	-12,456.61	3,143.61	12,847.13	0.93	95	-12,456.61	3,143.61	0.29	0.88	EM		204.30
172	21991	90.28	168.89	9,083.05	-12,546.91	3,161.17	12,938.98	0.74	92	-12,546.91	3,161.17	-0.71	-0.23	EM		204.30
PTB	22041	90.28	168.89	9,082.80	-12,595.97	3,170.80	12,988.90	0	50	-12,595.97	3,170.80	0	0			0



Directional Survey Certification

Survey Company:	Native Navigation	Survey Company Job	20092472				
Well Name	UL 2539 W14 09LM	A.P.I.#	42-003-48257	Operator:	QEP Energy Services		
Latitude:	32.383848	Longitude:	-102.215179	County, State:	Martin County, Texas		
Legal Description (S,TS,R):	UL Block 7 Section 25						
Final Report	10/28/2020	Date of First Survey:	9/25/2020	Date of Last Survey:	10/3/2020		
Datum:	NAD 83	Survey MD From:	5858.00	To:	21991 FT.	Tool Type:	MWD + HRGM
Bit to Sensor:	50 FT.	Rig (Company & Number):	Unit 408		RKB Height:	21.00	
Ground Elevation:	2938.00	Northings:	293574.650	Eastings:	544885.170		
Surveyor	Jeremy Schaeffer / Rey		Depth of Final Projection:	22041 FT.			

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Native Navigation. I am authorized and qualified to review the data, calculations and this report, and that the report represents a true and correct Directional Survey of this well, based on the original data corrected to Grid North and obtained at the well site. Wellbore coordinates are calculated using the minimum curvature method.


Signature

Well Planner
Title

Native Navigation
Company

10/28/20
Date

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	293574.650	2938.01	544885.170	32.383848	-102.215179	

REFERENCE INFORMATION

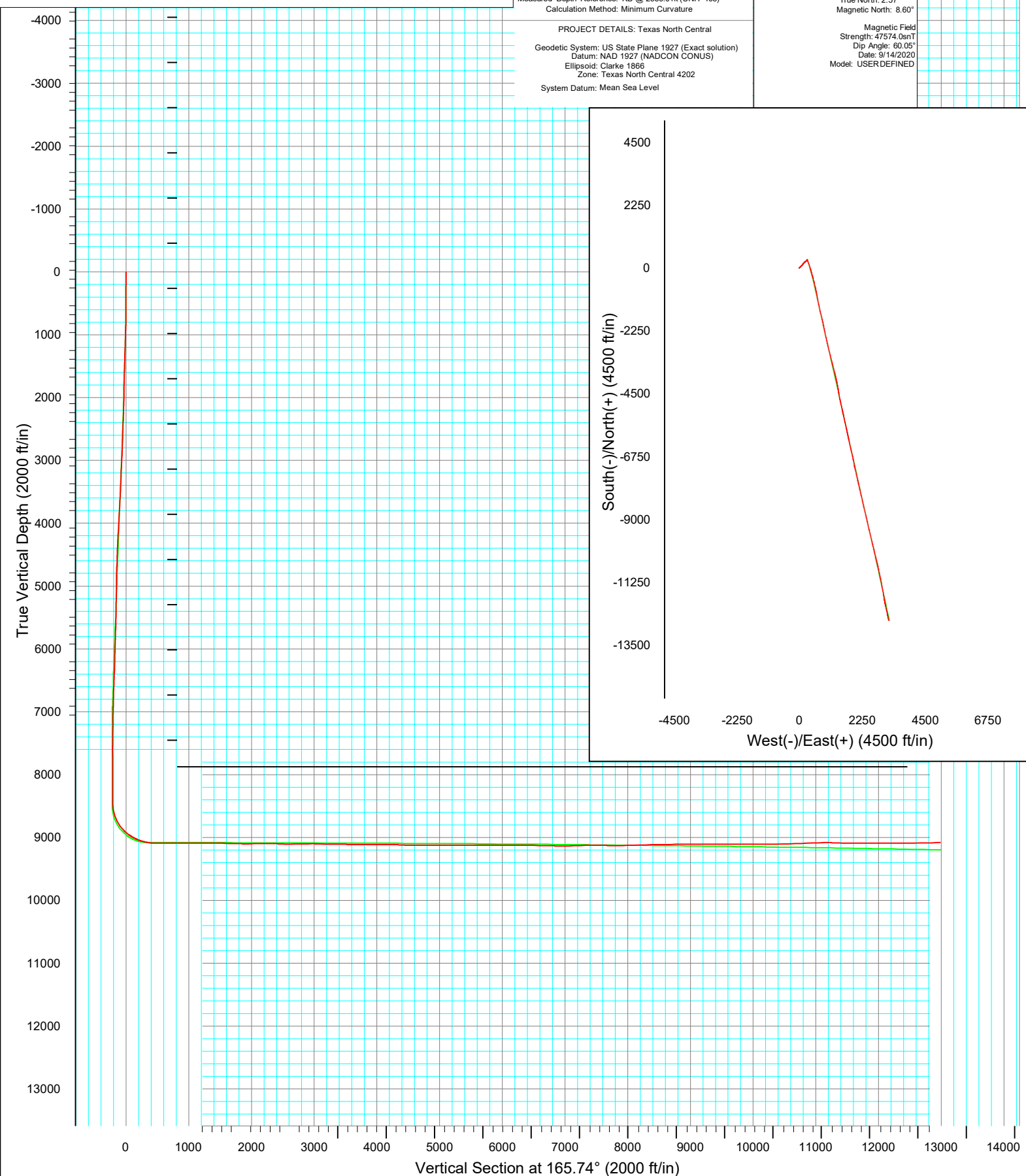
Co-ordinate (N/E) Reference: Well UL 2539 W14 09LM, Grid North
Vertical (TVD) Reference: KB @ 2959.01ft (UNIT 408)
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: KB @ 2959.01ft (UNIT 408)
Calculation Method: Minimum Curvature

PROJECT DETAILS: Texas North Central

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Texas North Central 4202
System Datum: Mean Sea Level

Azimuths to Grid North
* True North: 2.57°
Magnetic North: 8.60°

Magnetic Field
Strength: 47574.0nT
Dip Angle: 60.05°
Date: 9/14/2020
Model: USER DEFINED





QEP ENERGY (TX)

**Texas North Central
Martin County
UL 2539 W14 09LM**

Original Hole

Design: As Drilled

Standard Survey Report

28 October, 2020



Company:	QEP ENERGY (TX)	Local Co-ordinate Reference:	Well UL 2539 W14 09LM
Project:	Texas North Central	TVD Reference:	KB @ 2959.01ft (UNIT 408)
Site:	Martin County	MD Reference:	KB @ 2959.01ft (UNIT 408)
Well:	UL 2539 W14 09LM	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	NN

Project	Texas North Central		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas North Central 4202		

Site		Martin County			
Site Position:		Northing:	263,112.750 usft	Latitude:	32.301342
From:	Map	Easting:	554,202.580 usft	Longitude:	-102.180632
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-2.55 °

Well		UL 2539 W14 09LM				
Well Position	+N/-S	0.00 ft	Northing:	293,574.650 usft	Latitude:	32.383848
	+E/-W	0.00 ft	Easting:	544,885.170 usft	Longitude:	-102.215179
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	2,938.01 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	9/14/2020	6.03	60.05	47,574

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	165.74	

Survey Program	Date 10/28/2020			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
146.50	22,041.00	MWD Corrected (Original Hole)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,858.00	3.53	47.57	5,846.69	235.36	232.24	-170.90	0.53	-0.41	-5.12	
5,922.00	3.13	46.07	5,910.58	237.90	234.96	-172.70	0.64	-0.63	-2.34	
6,017.00	3.08	43.91	6,005.44	241.54	238.59	-175.33	0.13	-0.05	-2.27	
6,111.00	2.91	43.84	6,099.31	245.08	242.00	-177.92	0.18	-0.18	-0.07	
6,206.00	2.95	43.01	6,194.19	248.61	245.34	-180.52	0.06	0.04	-0.87	
6,301.00	2.87	44.44	6,289.07	252.09	248.67	-183.07	0.11	-0.08	1.51	
6,396.00	5.22	48.23	6,383.82	256.67	253.56	-186.31	2.49	2.47	3.99	
6,491.00	4.86	46.80	6,478.46	262.30	259.71	-190.25	0.40	-0.38	-1.51	
6,586.00	4.48	46.96	6,573.14	267.59	265.36	-193.98	0.40	-0.40	0.17	
6,680.00	3.99	46.38	6,666.88	272.35	270.41	-197.35	0.52	-0.52	-0.62	

Company:	QEP ENERGY (TX)	Local Co-ordinate Reference:	Well UL 2539 W14 09LM
Project:	Texas North Central	TVD Reference:	KB @ 2959.01ft (UNIT 408)
Site:	Martin County	MD Reference:	KB @ 2959.01ft (UNIT 408)
Well:	UL 2539 W14 09LM	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	NN

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
6,775.00	3.65	44.75	6,761.67	276.78	274.93	-200.53	0.38	-0.36	-1.72	
6,870.00	3.24	46.36	6,856.50	280.78	279.00	-203.41	0.44	-0.43	1.69	
6,965.00	1.35	12.31	6,951.42	283.73	281.19	-205.72	2.37	-1.99	-35.84	
7,060.00	1.12	16.01	7,046.40	285.71	281.68	-207.53	0.26	-0.24	3.89	
7,154.00	1.08	13.38	7,140.38	287.46	282.14	-209.10	0.07	-0.04	-2.80	
7,250.00	1.00	19.43	7,236.37	289.13	282.63	-210.60	0.14	-0.08	6.30	
7,345.00	0.95	7.96	7,331.35	290.69	283.01	-212.02	0.21	-0.05	-12.07	
7,439.00	0.87	351.85	7,425.34	292.17	283.02	-213.45	0.28	-0.09	-17.14	
7,534.00	0.89	343.55	7,520.33	293.59	282.71	-214.91	0.14	0.02	-8.74	
7,630.00	0.77	113.41	7,616.33	294.05	283.09	-215.26	1.57	-0.13	135.27	
7,725.00	0.56	95.27	7,711.32	293.75	284.14	-214.71	0.31	-0.22	-19.09	
7,820.00	0.41	86.83	7,806.32	293.73	284.94	-214.49	0.17	-0.16	-8.88	
7,915.00	0.37	165.69	7,901.32	293.45	285.35	-214.12	0.52	-0.04	83.01	
8,010.00	0.42	93.59	7,996.31	293.13	285.78	-213.71	0.49	0.05	-75.89	
8,104.00	1.11	82.02	8,090.31	293.23	287.02	-213.50	0.75	0.73	-12.31	
8,199.00	0.34	115.72	8,185.30	293.24	288.19	-213.22	0.89	-0.81	35.47	
8,294.00	0.31	138.46	8,280.30	292.93	288.61	-212.81	0.14	-0.03	23.94	
8,389.00	0.31	85.58	8,375.29	292.75	289.04	-212.54	0.29	0.00	-55.66	
8,484.00	0.33	74.77	8,470.29	292.84	289.56	-212.50	0.07	0.02	-11.38	
8,578.00	9.57	164.85	8,563.86	285.36	291.87	-204.67	10.19	9.83	95.83	
8,673.00	19.98	164.98	8,655.59	261.99	298.15	-180.48	10.96	10.96	0.14	
8,768.00	28.43	162.52	8,742.16	224.68	309.17	-141.60	8.96	8.89	-2.59	
8,862.00	35.27	160.19	8,821.96	177.75	325.11	-92.19	7.39	7.28	-2.48	
8,957.00	45.12	160.02	8,894.44	120.17	345.96	-31.25	10.37	10.37	-0.18	
9,051.00	55.18	159.83	8,954.60	52.48	370.71	40.45	10.70	10.70	-0.20	
9,146.00	61.76	163.52	9,004.26	-24.36	396.06	121.16	7.68	6.93	3.88	
9,241.00	69.18	166.76	9,043.68	-107.84	418.13	207.51	8.40	7.81	3.41	
9,335.00	77.49	164.93	9,070.62	-195.07	440.16	297.48	9.03	8.84	-1.95	
9,430.00	83.08	162.13	9,086.65	-284.81	466.72	391.00	6.56	5.88	-2.95	
9,525.00	92.55	164.98	9,090.26	-375.75	493.55	485.74	10.41	9.97	3.00	
9,619.00	89.77	164.92	9,088.36	-466.50	517.95	579.71	2.96	-2.96	-0.06	
9,714.00	89.50	167.16	9,088.97	-558.69	540.87	674.70	2.37	-0.28	2.36	
9,809.00	89.18	166.92	9,090.06	-651.26	562.17	769.67	0.42	-0.34	-0.25	
9,904.00	90.21	168.71	9,090.57	-744.11	582.22	864.60	2.17	1.08	1.88	
9,998.00	89.10	167.16	9,091.13	-836.03	601.87	958.52	2.03	-1.18	-1.65	
10,093.00	90.26	169.50	9,091.66	-929.06	621.08	1,053.42	2.75	1.22	2.46	
10,188.00	90.02	170.66	9,091.43	-1,022.63	637.45	1,148.14	1.25	-0.25	1.22	
10,283.00	90.67	170.91	9,090.86	-1,116.41	652.66	1,242.77	0.73	0.68	0.26	
10,378.00	90.18	168.85	9,090.15	-1,209.92	669.35	1,337.51	2.23	-0.52	-2.17	
10,473.00	89.65	168.21	9,090.30	-1,303.02	688.24	1,432.40	0.87	-0.56	-0.67	
10,567.00	88.19	167.30	9,092.07	-1,394.86	708.18	1,526.32	1.83	-1.55	-0.97	
10,662.00	88.12	167.66	9,095.13	-1,487.56	728.76	1,621.23	0.39	-0.07	0.38	
10,757.00	87.19	167.11	9,099.01	-1,580.18	749.49	1,716.11	1.14	-0.98	-0.58	
10,804.00	88.93	166.27	9,100.60	-1,625.89	760.30	1,763.07	4.11	3.70	-1.79	

Company:	QEP ENERGY (TX)	Local Co-ordinate Reference:	Well UL 2539 W14 09LM
Project:	Texas North Central	TVD Reference:	KB @ 2959.01ft (UNIT 408)
Site:	Martin County	MD Reference:	KB @ 2959.01ft (UNIT 408)
Well:	UL 2539 W14 09LM	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	NN

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,899.00	89.29	166.31	9,102.08	-1,718.18	782.82	1,858.06	0.38	0.38	0.04
10,993.00	90.83	166.27	9,101.98	-1,809.49	805.09	1,952.05	1.64	1.64	-0.04
11,088.00	89.74	166.77	9,101.51	-1,901.87	827.24	2,047.04	1.26	-1.15	0.53
11,183.00	90.76	167.38	9,101.09	-1,994.46	848.49	2,142.01	1.25	1.07	0.64
11,277.00	89.42	168.51	9,100.95	-2,086.39	868.12	2,235.94	1.86	-1.43	1.20
11,372.00	90.44	168.89	9,101.06	-2,179.55	886.73	2,330.81	1.15	1.07	0.40
11,467.00	88.38	167.83	9,102.04	-2,272.58	905.90	2,425.70	2.44	-2.17	-1.12
11,562.00	89.33	168.20	9,103.94	-2,365.49	925.62	2,520.60	1.07	1.00	0.39
11,656.00	90.21	168.17	9,104.32	-2,457.50	944.87	2,614.52	0.94	0.94	-0.03
11,751.00	90.92	167.81	9,103.38	-2,550.41	964.63	2,709.44	0.84	0.75	-0.38
11,846.00	89.91	167.34	9,102.69	-2,643.18	985.07	2,804.38	1.17	-1.06	-0.49
11,940.00	90.68	166.84	9,102.21	-2,734.80	1,006.07	2,898.36	0.98	0.82	-0.53
12,035.00	89.71	166.48	9,101.88	-2,827.24	1,027.99	2,993.34	1.09	-1.02	-0.38
12,130.00	89.12	166.35	9,102.85	-2,919.58	1,050.31	3,088.33	0.64	-0.62	-0.14
12,225.00	89.21	166.35	9,104.24	-3,011.88	1,072.72	3,183.31	0.09	0.09	0.00
12,320.00	89.65	165.95	9,105.18	-3,104.12	1,095.46	3,278.31	0.63	0.46	-0.42
12,414.00	88.42	165.57	9,106.77	-3,195.21	1,118.58	3,372.29	1.37	-1.31	-0.40
12,509.00	87.91	165.84	9,109.81	-3,287.22	1,142.03	3,467.24	0.61	-0.54	0.28
12,603.00	87.54	165.62	9,113.54	-3,378.25	1,165.18	3,561.17	0.46	-0.39	-0.23
12,698.00	89.94	166.38	9,115.63	-3,470.40	1,188.15	3,656.14	2.65	2.53	0.80
12,793.00	89.80	165.91	9,115.84	-3,562.64	1,210.90	3,751.13	0.52	-0.15	-0.49
12,888.00	90.40	165.65	9,115.68	-3,654.72	1,234.24	3,846.13	0.69	0.63	-0.27
12,983.00	91.44	165.69	9,114.15	-3,746.76	1,257.75	3,941.12	1.10	1.09	0.04
13,077.00	90.56	167.11	9,112.51	-3,838.10	1,279.85	4,035.10	1.78	-0.94	1.51
13,172.00	89.67	167.62	9,112.32	-3,930.80	1,300.63	4,130.06	1.08	-0.94	0.54
13,266.00	88.55	166.93	9,113.78	-4,022.48	1,321.33	4,224.01	1.40	-1.19	-0.73
13,362.00	87.65	168.71	9,116.97	-4,116.26	1,341.57	4,319.89	2.08	-0.94	1.85
13,457.00	87.81	169.60	9,120.73	-4,209.49	1,359.43	4,414.64	0.95	0.17	0.94
13,551.00	87.63	171.09	9,124.47	-4,302.08	1,375.18	4,508.26	1.60	-0.19	1.59
13,646.00	90.59	171.93	9,125.94	-4,396.02	1,389.21	4,602.76	3.24	3.12	0.88
13,741.00	89.80	169.08	9,125.62	-4,489.71	1,404.88	4,697.42	3.11	-0.83	-3.00
13,836.00	89.59	169.50	9,126.13	-4,583.05	1,422.53	4,792.24	0.49	-0.22	0.44
13,931.00	89.64	169.57	9,126.76	-4,676.47	1,439.79	4,887.03	0.09	0.05	0.07
14,025.00	89.99	167.80	9,127.07	-4,768.64	1,458.23	4,980.90	1.92	0.37	-1.88
14,119.00	90.84	167.55	9,126.39	-4,860.47	1,478.29	5,074.84	0.94	0.90	-0.27
14,213.00	91.12	167.34	9,124.78	-4,952.21	1,498.72	5,168.79	0.37	0.30	-0.22
14,307.00	91.10	167.13	9,122.96	-5,043.87	1,519.49	5,262.74	0.22	-0.02	-0.22
14,401.00	87.29	166.90	9,124.28	-5,135.44	1,540.60	5,356.69	4.06	-4.05	-0.24
14,495.00	90.18	167.50	9,126.35	-5,227.07	1,561.42	5,450.62	3.14	3.07	0.64
14,589.00	89.42	167.38	9,126.68	-5,318.82	1,581.86	5,544.58	0.82	-0.81	-0.13
14,683.00	89.88	167.36	9,127.26	-5,410.54	1,602.42	5,638.54	0.49	0.49	-0.02
14,778.00	90.84	167.35	9,126.66	-5,503.23	1,623.21	5,733.50	1.01	1.01	-0.01
14,871.00	89.63	167.90	9,126.28	-5,594.07	1,643.14	5,826.45	1.43	-1.30	0.59

Company:	QEP ENERGY (TX)	Local Co-ordinate Reference:	Well UL 2539 W14 09LM
Project:	Texas North Central	TVD Reference:	KB @ 2959.01ft (UNIT 408)
Site:	Martin County	MD Reference:	KB @ 2959.01ft (UNIT 408)
Well:	UL 2539 W14 09LM	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	NN

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,965.00	89.25	167.92	9,127.20	-5,685.98	1,662.83	5,920.37	0.40	-0.40	0.02
15,059.00	90.43	168.08	9,127.46	-5,777.92	1,682.37	6,014.30	1.27	1.26	0.17
15,153.00	92.15	168.43	9,125.34	-5,869.93	1,701.50	6,108.18	1.87	1.83	0.37
15,247.00	89.54	168.08	9,123.96	-5,961.94	1,720.63	6,202.07	2.80	-2.78	-0.37
15,342.00	91.71	168.94	9,122.92	-6,055.03	1,739.55	6,296.95	2.46	2.28	0.91
15,437.00	87.84	167.38	9,123.29	-6,147.98	1,759.04	6,391.84	4.39	-4.07	-1.64
15,532.00	87.97	167.42	9,126.77	-6,240.63	1,779.75	6,486.74	0.14	0.14	0.04
15,628.00	88.00	167.07	9,130.14	-6,334.21	1,800.93	6,582.65	0.37	0.03	-0.36
15,723.00	89.01	167.02	9,132.62	-6,426.76	1,822.22	6,677.59	1.06	1.06	-0.05
15,818.00	89.82	167.37	9,133.59	-6,519.39	1,843.28	6,772.55	0.93	0.85	0.37
15,913.00	89.54	167.16	9,134.12	-6,612.05	1,864.22	6,867.52	0.37	-0.29	-0.22
16,008.00	89.91	166.94	9,134.58	-6,704.63	1,885.51	6,962.49	0.45	0.39	-0.23
16,102.00	90.42	168.33	9,134.31	-6,796.45	1,905.63	7,056.44	1.58	0.54	1.48
16,197.00	91.08	169.91	9,133.06	-6,889.73	1,923.56	7,151.26	1.80	0.69	1.66
16,292.00	92.95	169.84	9,129.72	-6,983.19	1,940.25	7,245.95	1.97	1.97	-0.07
16,387.00	91.15	168.81	9,126.32	-7,076.48	1,957.84	7,340.70	2.18	-1.89	-1.08
16,483.00	89.78	167.17	9,125.54	-7,170.37	1,977.81	7,436.61	2.23	-1.43	-1.71
16,578.00	89.42	167.13	9,126.21	-7,262.99	1,998.94	7,531.58	0.38	-0.38	-0.04
16,673.00	89.32	167.09	9,127.25	-7,355.59	2,020.13	7,626.55	0.11	-0.11	-0.04
16,768.00	88.62	166.92	9,128.96	-7,448.14	2,041.49	7,721.51	0.76	-0.74	-0.18
16,863.00	89.42	167.32	9,130.59	-7,540.73	2,062.66	7,816.47	0.94	0.84	0.42
16,958.00	91.13	167.86	9,130.13	-7,633.51	2,083.08	7,911.41	1.89	1.80	0.57
17,053.00	92.28	167.57	9,127.30	-7,726.29	2,103.28	8,006.31	1.25	1.21	-0.31
17,147.00	91.97	167.21	9,123.82	-7,817.96	2,123.79	8,100.21	0.51	-0.33	-0.38
17,242.00	90.84	166.12	9,121.49	-7,910.37	2,145.70	8,195.17	1.65	-1.19	-1.15
17,338.00	91.11	166.69	9,119.85	-8,003.67	2,168.26	8,291.15	0.66	0.28	0.59
17,433.00	91.90	166.52	9,117.36	-8,096.05	2,190.26	8,386.10	0.85	0.83	-0.18
17,528.00	90.67	166.68	9,115.23	-8,188.44	2,212.27	8,481.06	1.31	-1.29	0.17
17,623.00	90.48	167.01	9,114.28	-8,280.94	2,233.89	8,576.04	0.40	-0.20	0.35
17,718.00	92.27	169.14	9,112.00	-8,373.85	2,253.51	8,670.93	2.93	1.88	2.24
17,813.00	91.54	167.76	9,108.84	-8,466.87	2,272.52	8,765.76	1.64	-0.77	-1.45
17,908.00	89.74	166.63	9,107.78	-8,559.50	2,293.57	8,860.72	2.24	-1.89	-1.19
18,003.00	89.48	166.55	9,108.42	-8,651.91	2,315.60	8,955.71	0.29	-0.27	-0.08
18,098.00	89.08	166.94	9,109.62	-8,744.37	2,337.39	9,050.69	0.59	-0.42	0.41
18,193.00	89.27	167.08	9,110.98	-8,836.93	2,358.74	9,145.65	0.25	0.20	0.15
18,288.00	90.65	166.83	9,111.05	-8,929.48	2,380.18	9,240.63	1.48	1.45	-0.26
18,383.00	90.95	166.40	9,109.72	-9,021.89	2,402.17	9,335.61	0.55	0.32	-0.45
18,478.00	89.62	166.83	9,109.25	-9,114.30	2,424.16	9,430.60	1.47	-1.40	0.45
18,573.00	90.22	166.97	9,109.38	-9,206.83	2,445.69	9,525.58	0.65	0.63	0.15
18,668.00	91.30	167.02	9,108.12	-9,299.38	2,467.07	9,620.54	1.14	1.14	0.05
18,763.00	89.58	166.67	9,107.39	-9,391.88	2,488.69	9,715.52	1.85	-1.81	-0.37
18,858.00	88.89	166.73	9,108.66	-9,484.33	2,510.54	9,810.50	0.73	-0.73	0.06
18,953.00	90.02	166.86	9,109.57	-9,576.81	2,532.24	9,905.47	1.20	1.19	0.14

Company:	QEP ENERGY (TX)	Local Co-ordinate Reference:	Well UL 2539 W14 09LM
Project:	Texas North Central	TVD Reference:	KB @ 2959.01ft (UNIT 408)
Site:	Martin County	MD Reference:	KB @ 2959.01ft (UNIT 408)
Well:	UL 2539 W14 09LM	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	NN

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,048.00	90.21	167.08	9,109.38	-9,669.36	2,553.66	10,000.45	0.31	0.20	0.23
19,143.00	89.81	166.70	9,109.36	-9,761.89	2,575.21	10,095.43	0.58	-0.42	-0.40
19,238.00	90.53	166.54	9,109.08	-9,854.31	2,597.19	10,190.42	0.78	0.76	-0.17
19,333.00	91.74	166.35	9,107.20	-9,946.64	2,619.45	10,285.39	1.29	1.27	-0.20
19,428.00	91.65	166.44	9,104.39	-10,038.93	2,641.79	10,380.35	0.13	-0.09	0.09
19,523.00	89.78	166.16	9,103.20	-10,131.22	2,664.29	10,475.33	1.99	-1.97	-0.29
19,618.00	91.57	166.32	9,102.08	-10,223.48	2,686.88	10,570.31	1.89	1.88	0.17
19,713.00	92.28	166.58	9,098.89	-10,315.79	2,709.12	10,665.25	0.80	0.75	0.27
19,808.00	93.05	166.87	9,094.47	-10,407.95	2,731.72	10,760.15	1.10	0.81	-0.75
19,903.00	93.00	166.92	9,089.46	-10,500.16	2,754.03	10,855.01	1.10	-0.05	1.11
19,998.00	91.56	166.61	9,085.68	-10,592.56	2,775.77	10,949.91	1.55	-1.52	-0.33
20,094.00	90.31	168.05	9,084.11	-10,686.20	2,796.82	11,045.86	1.99	-1.30	1.50
20,189.00	90.89	167.84	9,083.12	-10,779.10	2,816.66	11,140.78	0.65	0.61	-0.22
20,284.00	88.69	167.74	9,083.47	-10,871.95	2,836.75	11,235.72	2.32	-2.32	-0.11
20,379.00	88.55	167.90	9,085.76	-10,964.78	2,856.79	11,330.63	0.22	-0.15	0.17
20,474.00	88.12	167.83	9,088.52	-11,057.62	2,876.75	11,425.52	0.46	-0.45	-0.07
20,569.00	89.35	169.08	9,090.61	-11,150.67	2,895.76	11,520.39	1.85	1.29	1.32
20,664.00	89.17	169.66	9,091.84	-11,244.03	2,913.28	11,615.19	0.64	-0.19	0.61
20,759.00	89.50	169.95	9,092.94	-11,337.53	2,930.09	11,709.94	0.46	0.35	0.31
20,854.00	90.02	170.17	9,093.34	-11,431.10	2,946.49	11,804.67	0.59	0.55	0.23
20,949.00	90.09	169.92	9,093.25	-11,524.67	2,962.91	11,899.40	0.27	0.07	-0.26
21,044.00	90.28	169.80	9,092.94	-11,618.18	2,979.64	11,994.16	0.24	0.20	-0.13
21,139.00	90.78	170.57	9,092.06	-11,711.79	2,995.83	12,088.87	0.97	0.53	0.81
21,234.00	90.33	171.70	9,091.14	-11,805.65	3,010.47	12,183.44	1.28	-0.47	1.19
21,329.00	89.13	170.11	9,091.59	-11,899.45	3,025.49	12,278.05	2.10	-1.26	-1.67
21,424.00	90.20	167.83	9,092.15	-11,992.68	3,043.66	12,372.89	2.65	1.13	-2.40
21,519.00	91.29	167.65	9,090.91	-12,085.51	3,063.83	12,467.82	1.16	1.15	-0.19
21,614.00	91.56	167.59	9,088.55	-12,178.27	3,084.19	12,562.74	0.29	0.28	-0.06
21,709.00	90.81	167.66	9,086.58	-12,271.04	3,104.55	12,657.67	0.79	-0.79	0.07
21,804.00	90.65	168.26	9,085.37	-12,363.94	3,124.36	12,752.59	0.65	-0.17	0.63
21,899.00	90.93	169.10	9,084.06	-12,457.09	3,143.01	12,847.45	0.93	0.29	0.88
21,991.00	90.28	168.89	9,083.09	-12,547.39	3,160.57	12,939.30	0.74	-0.71	-0.23
22,041.00	90.28	168.89	9,082.85	-12,596.45	3,170.21	12,989.22	0.00	0.00	0.00
UL 2539 W14 09LM									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
UL 2539 W14 09LM	0.00	360.00	9,071.02	-12,597.28	3,201.56	280,977.400	548,086.720	32.349649	-102.202992
- hit/miss target									
- Shape									
- actual wellpath misses target center by 33.52ft at 22041.00ft MD (9082.85 TVD, -12596.45 N, 3170.21 E)									
- Point									

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Site:	Martin County	MD Reference:	KB @ 2959.01ft (UNIT 408)
Well:	UL 2539 W14 09LM	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	NN

Checked By: _____	Approved By: _____	Date: _____
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