

Minimum Radius of Curvature

API: 42-479-43146 **Well: Gates 010-CHK-A TR3 N2H** **Wellhead Location N+/S- : 28.052808**
Operator: Chesapeake Energy **Area: Eagleford** **E+/W- : -99.857186**
Rig: Patterson 596 **Type: U-Lateral** **Magnetic Declination: 4.53**
TD: 20,300' **Plane of Proposal: 115.00**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
0	0.00	0.00		0.0	0.00	0.00	0.00	0.00	0.00			
87	0.02	39.35	87	87.0	102.36	0.01	0.01	0.02	39.35	0.02	0.02	45.23
145	0.02	46.30	58	145.0	102.37	0.03	0.02	0.04	41.33	0.00	0.00	11.98
240	0.17	17.11	95	240.0	102.35	0.17	0.08	0.19	23.98	0.16	0.16	-30.73
334	0.33	278.37	94	334.0	102.08	0.35	-0.15	0.38	336.53	0.42	0.17	277.94
429	0.10	134.96	95	429.0	101.89	0.33	-0.36	0.49	312.06	0.44	-0.24	-150.96
523	0.45	315.30	94	523.0	101.62	0.53	-0.56	0.77	313.30	0.59	0.37	191.85
618	0.14	175.21	95	618.0	101.33	0.68	-0.82	1.06	309.82	0.59	-0.33	-147.46
713	0.10	219.56	95	713.0	101.37	0.50	-0.86	0.99	300.24	0.10	-0.04	46.68
808	0.15	332.98	95	808.0	101.25	0.55	-0.97	1.11	299.49	0.22	0.05	119.39
902	0.21	304.88	94	902.0	100.98	0.76	-1.17	1.39	302.96	0.11	0.06	-29.89
997	0.52	321.84	95	997.0	100.42	1.19	-1.58	1.98	307.18	0.34	0.33	17.85
1092	0.53	349.30	95	1092.0	99.78	1.97	-1.92	2.75	315.62	0.26	0.01	28.91
1186	0.47	351.09	94	1186.0	99.31	2.77	-2.06	3.46	323.35	0.07	-0.06	1.90
1281	0.55	359.85	95	1281.0	98.90	3.61	-2.12	4.19	329.55	0.12	0.08	9.22
1375	0.46	353.69	94	1375.0	98.52	4.44	-2.17	4.94	333.98	0.11	-0.10	-6.55
1470	0.34	14.23	95	1470.0	98.26	5.09	-2.14	5.52	337.20	0.19	-0.13	-357.33
1565	0.54	355.68	95	1565.0	97.99	5.81	-2.10	6.18	340.09	0.26	0.21	359.42
1660	0.53	353.10	95	1660.0	97.54	6.69	-2.19	7.04	341.88	0.03	-0.01	-2.72
1754	0.37	321.21	94	1754.0	97.04	7.36	-2.43	7.75	341.71	0.31	-0.17	-33.93
1849	0.66	329.49	95	1849.0	96.31	8.07	-2.90	8.58	340.22	0.31	0.31	8.72
1943	0.61	310.74	94	1943.0	95.39	8.87	-3.56	9.55	338.14	0.23	-0.05	-19.95
2038	0.59	158.14	95	2038.0	95.26	8.74	-3.76	9.52	336.74	1.23	-0.02	-160.63
2131	1.11	154.38	93	2130.9	96.30	7.49	-3.19	8.14	336.91	0.56	0.56	-4.04
2226	0.87	147.01	95	2225.9	97.62	6.05	-2.40	6.51	338.36	0.29	-0.25	-7.76
2321	0.83	145.67	95	2320.9	98.83	4.88	-1.62	5.14	341.64	0.05	-0.04	-1.41
2415	0.72	160.21	94	2414.9	99.83	3.76	-1.04	3.90	344.60	0.24	-0.12	15.47
2510	0.50	138.02	95	2509.9	100.63	2.89	-0.56	2.94	349.11	0.34	-0.23	-23.36
2603	0.27	138.02	93	2602.9	101.21	2.43	-0.14	2.43	356.74	0.25	-0.25	0.00
2698	0.22	176.43	95	2697.9	101.50	2.08	0.02	2.08	0.63	0.18	-0.05	40.43
2793	0.37	180.60	95	2792.9	101.71	1.59	0.03	1.59	1.12	0.16	0.16	4.39
2887	0.16	180.66	94	2886.9	101.89	1.15	0.03	1.15	1.31	0.22	-0.22	0.06
3013	0.40	167.75	126	3012.9	102.23	0.55	0.12	0.56	12.11	0.20	0.19	-10.25
3107	0.30	185.58	94	3106.9	102.51	-0.02	0.16	0.16	96.05	0.16	-0.11	18.97
3202	0.38	194.46	95	3201.9	102.65	-0.57	0.06	0.57	173.94	0.10	0.08	9.35
3297	0.58	212.12	95	3296.9	102.65	-1.28	-0.27	1.31	192.06	0.26	0.21	18.59
3392	0.53	221.35	95	3391.9	102.47	-2.02	-0.82	2.18	202.10	0.11	-0.05	9.72
3486	0.46	212.93	94	3485.9	102.29	-2.66	-1.31	2.97	206.24	0.11	-0.07	-8.96
3581	0.42	236.20	95	3580.9	102.06	-3.18	-1.81	3.66	209.66	0.19	-0.04	24.49
3675	0.42	259.72	94	3674.9	101.60	-3.43	-2.43	4.21	215.37	0.18	0.00	25.02
3770	0.42	283.94	95	3769.9	100.97	-3.41	-3.11	4.62	222.43	0.19	0.00	25.49
3865	0.60	278.09	95	3864.9	100.16	-3.25	-3.94	5.11	230.49	0.20	0.19	-6.16
3959	0.48	285.99	94	3958.9	99.30	-3.08	-4.81	5.71	237.41	0.15	-0.13	8.40
4053	0.47	291.56	94	4052.9	98.52	-2.83	-5.55	6.23	243.01	0.05	-0.01	5.93
4148	0.56	278.27	95	4147.9	97.69	-2.62	-6.37	6.89	247.67	0.16	0.09	-13.99
4243	0.48	302.12	95	4242.9	96.85	-2.34	-7.17	7.54	251.93	0.24	-0.08	25.11
4337	0.64	308.93	94	4336.9	95.95	-1.80	-7.91	8.11	257.19	0.18	0.17	7.24
4431	0.88	317.38	94	4430.8	94.77	-0.94	-8.81	8.85	263.92	0.28	0.26	8.99
4526	0.90	321.27	95	4525.8	93.43	0.18	-9.77	9.77	271.07	0.07	0.02	4.09
4620	0.86	304.66	94	4619.8	92.07	1.16	-10.81	10.87	276.12	0.27	-0.04	-17.67
4715	0.77	303.29	95	4714.8	90.74	1.91	-11.93	12.08	279.12	0.10	-0.09	-1.44
4810	0.81	302.55	95	4809.8	89.44	2.63	-13.03	13.29	281.40	0.04	0.04	-0.78
4904	0.87	307.15	94	4903.8	88.08	3.41	-14.16	14.56	283.56	0.10	0.06	4.89
4999	0.99	317.11	95	4998.8	86.62	4.45	-15.29	15.92	286.23	0.21	0.13	10.48
5093	1.09	315.94	94	5092.8	85.03	5.69	-16.46	17.42	289.06	0.11	0.11	-1.24
5188	1.26	311.32	95	5187.7	83.18	7.03	-17.88	19.21	291.46	0.20	0.18	-4.86
5282	2.53	294.67	94	5281.7	80.12	8.58	-20.54	22.26	292.66	1.46	1.35	-17.71
5377	4.11	290.41	95	5376.5	74.63	10.64	-25.64	27.76	292.54	1.68	1.66	-4.48

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						N-S Ft	E-W Ft	Distance FT	Direction Deg			
5472	4.49	305.15	95	5471.3	67.57	13.97	-31.87	34.79	293.67	1.23	0.40	15.52
5566	6.30	304.58	94	5564.8	58.87	19.01	-39.12	43.50	295.92	1.93	1.93	-0.61
5661	6.43	299.10	95	5659.3	48.42	24.56	-48.06	53.97	297.07	0.65	0.14	-5.77
5756	6.25	290.51	95	5753.7	37.96	28.96	-57.55	64.43	296.71	1.02	-0.19	-9.04
5850	8.71	295.75	94	5846.9	25.74	33.84	-68.76	76.64	296.21	2.71	2.62	5.57
5945	8.55	301.38	95	5940.8	11.53	40.65	-81.27	90.86	296.57	0.90	-0.17	5.93
6040	7.77	301.10	95	6034.8	-1.88	47.64	-92.79	104.31	297.18	0.82	-0.82	-0.29
6134	7.14	300.99	94	6128.0	-14.00	53.93	-103.24	116.48	297.58	0.67	-0.67	-0.12
6229	6.40	299.21	95	6222.4	-25.16	59.55	-112.93	127.67	297.81	0.81	-0.78	-1.87
6324	5.83	296.34	95	6316.8	-35.26	64.28	-121.87	137.78	297.81	0.68	-0.60	-3.02
6418	6.71	300.49	94	6410.3	-45.50	69.18	-130.88	148.04	297.86	1.05	0.94	4.41
6513	8.54	303.72	95	6504.4	-58.00	75.92	-141.53	160.61	298.21	1.98	1.93	3.40
6608	9.09	301.96	95	6598.3	-72.42	83.80	-153.77	175.12	298.59	0.64	0.58	-1.85
6702	8.39	300.87	94	6691.2	-86.61	91.25	-165.95	189.39	298.81	0.77	-0.74	-1.16
6797	7.63	300.48	95	6785.3	-99.79	98.01	-177.34	202.62	298.93	0.80	-0.80	-0.41
6892	7.04	298.94	95	6879.5	-111.87	104.02	-187.87	214.75	298.97	0.65	-0.62	-1.62
6986	6.92	296.08	94	6972.8	-123.28	109.30	-197.99	226.16	298.90	0.39	-0.13	-3.04
7081	6.41	294.52	95	7067.2	-134.31	114.02	-207.96	237.17	298.73	0.57	-0.54	-1.64
7176	5.63	292.48	95	7161.7	-144.26	118.00	-217.09	247.09	298.53	0.85	-0.82	-2.15
7270	4.90	287.76	94	7255.3	-152.85	120.99	-225.17	255.62	298.25	0.90	-0.78	-5.02
7365	4.45	286.29	95	7349.9	-160.52	123.26	-232.58	263.22	297.92	0.49	-0.47	-1.55
7459	3.90	287.75	94	7443.7	-167.30	125.26	-239.12	269.94	297.65	0.60	-0.59	1.55
7554	3.35	290.38	95	7538.5	-173.27	127.21	-244.80	275.88	297.46	0.60	-0.58	2.77
7649	3.40	146.24	95	7633.4	-173.63	125.83	-245.84	276.17	297.11	6.76	0.05	-151.73
7744	12.91	126.14	95	7727.4	-160.77	117.21	-235.68	263.21	296.44	10.30	10.01	-21.16
7839	22.87	114.41	95	7817.7	-131.82	103.28	-210.22	234.23	296.16	11.10	10.48	-12.35
7933	33.64	121.02	94	7900.4	-87.52	82.25	-171.15	189.89	295.67	11.92	11.46	7.03
8028	44.99	118.86	95	7973.8	-27.65	52.38	-119.02	130.04	293.75	12.03	11.95	-2.27
8122	55.18	116.98	94	8034.0	44.26	18.75	-55.36	58.45	288.71	10.95	10.84	-2.00
8218	59.46	115.41	96	8085.8	125.02	-16.89	17.13	24.06	134.58	4.67	4.46	-1.64
8312	66.20	115.54	94	8128.7	208.60	-52.84	92.59	106.60	119.71	7.17	7.17	0.14
8407	77.54	116.94	95	8158.3	298.71	-92.72	173.42	196.65	118.13	12.02	11.94	1.47
8501	87.54	117.49	94	8170.4	391.73	-135.30	256.19	289.73	117.84	10.65	10.64	0.59
8596	85.77	115.56	95	8176.0	486.52	-177.65	341.04	384.54	117.51	2.75	-1.86	-2.03
8691	85.40	115.42	95	8183.3	581.24	-218.41	426.54	479.21	117.11	0.42	-0.39	-0.15
8786	88.17	115.17	95	8188.6	676.08	-258.93	512.29	574.01	116.81	2.93	2.92	-0.26
8880	89.14	115.93	94	8190.8	770.05	-299.46	597.07	667.96	116.64	1.31	1.03	0.81
8975	89.47	117.82	95	8192.0	864.98	-342.40	681.80	762.95	116.67	2.02	0.35	1.99
9070	89.52	117.74	95	8192.8	959.87	-386.68	765.85	857.93	116.79	0.10	0.05	-0.08
9164	89.49	118.51	94	8193.6	1053.72	-430.99	848.74	951.90	116.92	0.82	-0.03	0.82
9259	89.05	115.12	95	8194.8	1148.65	-473.83	933.51	1046.88	116.91	3.60	-0.46	-3.57
9354	89.09	113.53	95	8196.4	1243.63	-512.96	1020.06	1141.78	116.70	1.67	0.04	-1.67
9449	89.71	115.18	95	8197.4	1338.62	-552.13	1106.60	1236.69	116.52	1.86	0.65	1.74
9543	90.43	116.68	94	8197.3	1432.60	-593.24	1191.13	1330.69	116.48	1.77	0.77	1.60
9630	90.64	116.64	87	8196.5	1519.56	-632.27	1268.88	1417.68	116.49	0.25	0.24	-0.05
9733	90.63	115.83	103	8195.3	1622.53	-677.80	1361.26	1520.67	116.47	0.79	-0.01	-0.79
9828	88.18	112.94	95	8196.3	1717.50	-717.01	1447.77	1615.59	116.35	3.99	-2.58	-3.04
9923	88.23	112.59	95	8199.3	1812.38	-753.75	1535.32	1710.37	116.15	0.37	0.05	-0.37
10018	87.96	112.70	95	8202.4	1907.25	-790.31	1622.95	1805.15	115.96	0.31	-0.28	0.12
10112	88.92	116.24	94	8205.0	2001.20	-829.23	1708.46	1899.07	115.89	3.90	1.02	3.77
10207	89.85	119.20	95	8206.0	2096.07	-873.41	1792.54	1994.00	115.98	3.27	0.98	3.12
10301	88.41	117.63	94	8207.4	2189.89	-918.13	1875.20	2087.91	116.09	2.27	-1.53	-1.67
10396	89.85	117.33	95	8208.9	2284.79	-961.96	1959.47	2182.87	116.15	1.55	1.52	-0.32
10491	89.10	114.00	95	8209.8	2379.76	-1003.10	2045.08	2277.85	116.13	3.59	-0.79	-3.51
10585	89.59	113.22	94	8210.8	2473.73	-1040.74	2131.21	2371.75	116.03	0.98	0.52	-0.83
10680	88.70	111.72	95	8212.2	2568.62	-1077.05	2218.98	2466.56	115.89	1.84	-0.94	-1.58
10774	87.92	113.61	94	8215.0	2662.50	-1113.25	2305.68	2560.37	115.77	2.17	-0.83	2.01
10869	88.42	114.96	95	8218.1	2757.44	-1152.30	2392.23	2655.29	115.72	1.51	0.53	1.42

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10963	92.77	115.85	94	8217.1	2851.41	-1192.62	2477.11	2749.26	115.71	4.72	4.63	0.95
11058	90.40	117.81	95	8214.5	2946.31	-1235.47	2561.84	2844.19	115.75	3.24	-2.49	2.06
11152	89.97	118.10	94	8214.1	3040.18	-1279.54	2644.88	2938.13	115.82	0.55	-0.46	0.31
11247	89.16	117.01	95	8214.9	3135.09	-1323.48	2729.09	3033.08	115.87	1.43	-0.85	-1.15
11341	89.59	117.65	94	8215.9	3229.00	-1366.64	2812.60	3127.04	115.92	0.82	0.46	0.68
11436	89.11	116.93	95	8217.0	3323.92	-1410.19	2897.02	3222.01	115.96	0.91	-0.51	-0.76
11530	87.88	115.52	94	8219.4	3417.86	-1451.71	2981.31	3315.97	115.96	1.99	-1.31	-1.50
11625	91.00	116.72	95	8220.4	3512.82	-1493.53	3066.59	3410.95	115.97	3.52	3.28	1.26
11719	91.15	118.62	94	8218.6	3606.70	-1537.17	3149.82	3504.89	116.01	2.03	0.16	2.02
11814	89.80	119.24	95	8217.8	3701.47	-1583.12	3232.96	3599.77	116.09	1.56	-1.42	0.65
11908	89.69	118.09	94	8218.2	3795.28	-1628.21	3315.44	3693.67	116.16	1.23	-0.12	-1.22
12002	89.36	116.44	94	8219.0	3889.20	-1671.27	3398.99	3787.65	116.18	1.79	-0.35	-1.76
12097	88.77	115.57	95	8220.6	3984.17	-1712.92	3484.36	3882.63	116.18	1.11	-0.62	-0.92
12192	88.03	115.19	95	8223.2	4079.13	-1753.62	3570.15	3977.59	116.16	0.88	-0.78	-0.40
12287	89.04	116.65	95	8225.6	4174.08	-1795.13	3655.57	4072.55	116.15	1.87	1.06	1.54
12381	89.14	116.54	94	8227.1	4268.03	-1837.21	3739.61	4166.54	116.16	0.16	0.11	-0.12
12476	88.85	115.60	95	8228.8	4363.00	-1878.95	3824.93	4261.52	116.16	1.04	-0.31	-0.99
12571	88.75	115.11	95	8230.8	4457.98	-1919.62	3910.76	4356.49	116.14	0.53	-0.11	-0.52
12665	88.60	113.96	94	8233.0	4551.95	-1958.65	3996.25	4450.43	116.11	1.23	-0.16	-1.22
12760	89.75	114.38	95	8234.3	4646.93	-1997.54	4082.91	4545.36	116.07	1.29	1.21	0.44
12824	89.04	115.12	64	8235.0	4710.92	-2024.33	4141.03	4609.34	116.05	1.60	-1.11	1.16
12855	87.83	114.04	31	8235.9	4741.91	-2037.22	4169.21	4640.32	116.04	5.23	-3.90	-3.48
12950	88.67	116.16	95	8238.8	4836.86	-2077.50	4255.19	4735.25	116.02	2.40	0.88	2.23
12981	89.74	116.16	31	8239.2	4867.85	-2091.17	4283.01	4766.25	116.02	3.45	3.45	0.00
13044	89.18	116.23	63	8239.8	4930.83	-2118.97	4339.54	4829.25	116.03	0.90	-0.89	0.11
13107	91.12	109.76	63	8239.6	4993.76	-2143.57	4397.50	4892.12	115.99	10.72	3.08	-10.27
13138	92.65	106.30	31	8238.6	5024.50	-2153.16	4426.95	4922.81	115.94	12.20	4.94	-11.16
13201	94.14	99.44	63	8234.9	5085.95	-2167.16	4488.22	4984.05	115.77	11.12	2.37	-10.89
13232	92.75	95.49	31	8233.0	5115.45	-2171.18	4518.90	5013.43	115.66	13.49	-4.48	-12.74
13264	90.86	91.64	32	8232.0	5145.22	-2173.17	4550.81	5043.07	115.53	13.40	-5.91	-12.03
13295	89.86	88.03	31	8231.8	5173.27	-2173.08	4581.81	5071.02	115.37	12.08	-3.23	-11.65
13327	89.41	84.51	32	8232.0	5201.32	-2171.00	4613.73	5099.00	115.20	11.09	-1.41	-11.00
13358	88.98	81.16	31	8232.4	5227.56	-2167.13	4644.48	5125.20	115.01	10.89	-1.39	-10.81
13390	88.34	76.92	32	8233.2	5253.45	-2161.05	4675.88	5151.12	114.80	13.40	-2.00	-13.25
13421	88.79	73.04	31	8234.0	5277.18	-2153.02	4705.81	5174.95	114.59	12.60	1.45	-12.52
13452	89.43	70.20	31	8234.4	5299.70	-2143.25	4735.22	5197.68	114.35	9.39	2.06	-9.16
13484	90.66	68.08	32	8234.4	5321.99	-2131.85	4765.12	5220.27	114.10	7.66	3.84	-6.63
13516	91.70	64.90	32	8233.8	5343.18	-2119.09	4794.46	5241.89	113.84	10.45	3.25	-9.94
13547	92.52	61.32	31	8232.6	5362.29	-2105.09	4822.08	5261.54	113.58	11.84	2.65	-11.55
13579	92.05	57.11	32	8231.3	5380.27	-2088.72	4849.54	5280.23	113.30	13.23	-1.47	-13.16
13610	91.25	53.20	31	8230.5	5395.83	-2071.02	4874.97	5296.65	113.02	12.87	-2.58	-12.61
13642	90.61	49.88	32	8229.9	5410.13	-2051.12	4900.02	5312.00	112.71	10.56	-2.00	-10.38
13673	90.00	46.82	31	8229.8	5422.41	-2030.53	4923.18	5325.48	112.41	10.07	-1.97	-9.87
13704	89.35	43.70	31	8229.9	5433.14	-2008.71	4945.20	5337.59	112.11	10.28	-2.10	-10.06
13736	88.68	40.77	32	8230.5	5442.62	-1985.02	4966.70	5348.68	111.78	9.39	-2.09	-9.16
13767	88.46	37.91	31	8231.3	5450.30	-1961.06	4986.34	5358.11	111.47	9.25	-0.71	-9.23
13799	88.10	35.04	32	8232.2	5456.66	-1935.34	5005.36	5366.48	111.14	9.04	-1.13	-8.97
13830	89.37	32.16	31	8232.9	5461.29	-1909.53	5022.51	5373.25	110.82	10.15	4.10	-9.29
13862	90.19	29.05	32	8233.0	5464.42	-1881.99	5038.79	5378.79	110.48	10.05	2.56	-9.72
13893	90.20	26.44	31	8232.9	5465.90	-1854.56	5053.22	5382.79	110.15	8.42	0.03	-8.42
13925	89.17	22.76	32	8233.1	5465.68	-1825.47	5066.54	5385.37	109.81	11.94	-3.22	-11.50
13957	87.65	19.13	32	8234.0	5463.42	-1795.60	5077.98	5386.09	109.47	12.29	-4.75	-11.34
13988	85.95	15.60	31	8235.7	5459.31	-1766.06	5087.21	5385.05	109.14	12.62	-5.48	-11.39
14036	86.05	10.68	48	8239.1	5449.47	-1719.45	5098.09	5380.25	108.64	10.23	0.21	-10.25
14083	87.48	6.59	47	8241.7	5436.25	-1673.07	5105.14	5372.30	108.15	9.21	3.04	-8.70
14130	89.42	1.73	47	8243.0	5419.54	-1626.22	5108.54	5361.14	107.66	11.13	4.13	-10.34
14177	90.12	355.54	47	8243.2	5398.68	-1579.26	5107.42	5346.01	107.18	13.25	1.49	752.79
14225	90.67	349.39	48	8242.9	5372.88	-1531.70	5101.13	5326.13	106.71	12.86	1.15	-12.81

Minimum Radius of Curvature

API: 42-479-43146 **Well: Gates 010-CHK-A TR3 N2H** **Wellhead Location N+/S- : 28.052808**
Operator: Chesapeake Energy **Area: Eagleford** **E+/W- : -99.857186**
Rig: Patterson 596 **Type: U-Lateral** **Magnetic Declination: 4.53**
TD: 20,300' **Plane of Proposal: 115.00**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
14272	90.46	344.31	47	8242.4	5343.86	-1485.95	5090.44	5302.89	106.27	10.82	-0.45	-10.81
14319	90.37	339.25	47	8242.1	5311.68	-1441.32	5075.75	5276.43	105.85	10.77	-0.19	-10.77
14366	90.67	334.59	47	8241.6	5276.72	-1398.10	5057.34	5247.03	105.45	9.93	0.64	-9.91
14414	90.39	328.96	48	8241.2	5238.29	-1355.82	5034.64	5214.01	105.07	11.74	-0.58	-11.73
14461	90.03	323.89	47	8241.0	5198.20	-1316.68	5008.66	5178.83	104.73	10.81	-0.77	-10.79
14508	89.92	318.35	47	8241.0	5156.01	-1280.10	4979.17	5141.09	104.42	11.79	-0.23	-11.79
14555	91.24	312.37	47	8240.6	5111.97	-1246.68	4946.16	5100.86	104.15	13.03	2.81	-12.72
14603	93.36	306.86	48	8238.6	5065.58	-1216.11	4909.23	5057.62	103.91	12.29	4.42	-11.48
14650	93.08	302.45	47	8236.0	5019.34	-1189.43	4870.64	5013.77	103.72	9.39	-0.60	-9.38
14744	89.91	293.76	94	8233.5	4925.61	-1145.22	4787.84	4922.90	103.45	9.84	-3.37	-9.24
14839	89.86	293.86	95	8233.7	4830.63	-1106.87	4700.93	4829.48	103.25	0.12	-0.05	0.11
14933	89.36	293.30	94	8234.4	4736.66	-1069.27	4614.78	4737.04	103.05	0.80	-0.53	-0.60
15027	88.96	293.35	94	8235.7	4642.71	-1032.05	4528.47	4644.59	102.84	0.43	-0.43	0.05
15122	88.20	292.89	95	8238.1	4547.79	-994.76	4441.13	4551.17	102.63	0.94	-0.80	-0.48
15217	90.43	296.07	95	8239.2	4452.82	-955.40	4354.69	4458.27	102.37	4.09	2.35	3.35
15312	89.78	295.82	95	8239.1	4357.83	-913.84	4269.27	4365.98	102.08	0.73	-0.68	-0.26
15407	92.06	297.02	95	8237.5	4262.88	-871.58	4184.21	4274.02	101.77	2.71	2.40	1.26
15502	92.40	297.17	95	8233.8	4168.02	-828.34	4099.70	4182.54	101.42	0.39	0.36	0.16
15596	90.66	293.84	94	8231.3	4074.07	-787.89	4014.90	4091.48	101.10	4.00	-1.85	-3.54
15691	91.12	295.53	95	8229.8	3979.09	-748.22	3928.60	3999.22	100.78	1.84	0.48	1.78
15786	91.52	296.41	95	8227.7	3884.13	-706.63	3843.22	3907.64	100.42	1.02	0.42	0.93
15881	90.78	296.02	95	8225.7	3789.17	-664.68	3758.00	3816.33	100.03	0.88	-0.78	-0.41
15975	91.02	297.55	94	8224.3	3695.23	-622.32	3674.10	3726.44	99.61	1.65	0.26	1.63
16069	92.18	300.82	94	8221.6	3601.53	-576.51	3592.08	3638.05	99.12	3.69	1.23	3.48
16163	92.89	297.83	94	8217.5	3507.90	-530.52	3510.22	3550.08	98.59	3.27	0.76	-3.18
16258	91.21	297.03	95	8214.1	3413.05	-486.79	3425.95	3460.37	98.09	1.96	-1.77	-0.84
16353	90.23	296.44	95	8212.9	3318.11	-444.06	3341.12	3370.50	97.57	1.20	-1.03	-0.62
16448	89.93	296.00	95	8212.8	3223.13	-402.08	3255.89	3280.63	97.04	0.56	-0.32	-0.46
16542	90.18	296.46	94	8212.7	3129.15	-360.54	3171.57	3192.00	96.49	0.56	0.27	0.49
16636	92.20	296.73	94	8210.7	3035.21	-318.47	3087.54	3103.92	95.89	2.17	2.15	0.29
16731	90.93	294.78	95	8208.1	2940.26	-277.21	3002.02	3014.79	95.28	2.45	-1.34	-2.05
16825	90.19	294.07	94	8207.2	2846.27	-238.34	2916.44	2926.16	94.67	1.09	-0.79	-0.76
16920	90.74	296.84	95	8206.4	2751.29	-197.52	2830.67	2837.55	93.99	2.97	0.58	2.92
17110	90.53	296.53	190	8204.3	2561.38	-112.19	2660.92	2663.28	92.41	0.20	-0.11	-0.16
17204	90.59	295.27	94	8203.4	2467.40	-71.14	2576.36	2577.35	91.58	1.34	0.06	-1.34
17299	90.19	293.98	95	8202.8	2372.41	-31.56	2490.01	2490.21	90.73	1.42	-0.42	-1.36
17393	89.51	292.97	94	8203.0	2278.44	5.89	2403.79	2403.80	89.86	1.30	-0.72	-1.07
17488	89.58	294.28	95	8203.8	2183.47	43.96	2316.76	2317.17	88.91	1.38	0.07	1.38
17582	88.83	293.56	94	8205.1	2089.50	82.07	2230.84	2232.35	87.89	1.11	-0.80	-0.77
17676	89.68	293.91	94	8206.3	1995.53	119.90	2144.80	2148.15	86.80	0.98	0.90	0.37
17771	90.45	294.29	95	8206.2	1900.55	158.69	2058.08	2064.19	85.59	0.90	0.81	0.40
17865	91.32	295.62	94	8204.7	1806.56	198.34	1972.87	1982.81	84.26	1.69	0.93	1.41
17959	91.21	294.38	94	8202.7	1712.58	238.06	1887.70	1902.65	82.81	1.32	-0.12	-1.32
18053	92.50	293.86	94	8199.6	1618.65	276.45	1801.95	1823.04	81.28	1.48	1.37	-0.55
18148	92.58	293.63	95	8195.4	1523.76	314.67	1715.08	1743.71	79.60	0.26	0.08	-0.24
18242	92.03	292.69	94	8191.6	1429.89	351.61	1628.73	1666.25	77.82	1.16	-0.59	-1.00
18336	91.49	295.18	94	8188.7	1335.96	389.72	1542.86	1591.32	75.82	2.71	-0.57	2.65
18431	90.64	293.93	95	8187.0	1240.98	429.19	1456.47	1518.39	73.58	1.59	-0.89	-1.32
18526	88.90	293.27	95	8187.4	1146.01	467.22	1369.42	1446.93	71.16	1.96	-1.83	-0.69
18620	90.20	295.31	94	8188.1	1052.03	505.89	1283.75	1379.83	68.49	2.57	1.38	2.17
18714	90.11	295.36	94	8187.8	958.03	546.11	1198.79	1317.32	65.51	0.11	-0.10	0.05
18809	90.29	295.61	95	8187.5	863.04	586.99	1113.03	1258.33	62.19	0.32	0.19	0.26
18904	89.87	296.60	95	8187.4	768.06	628.79	1027.72	1204.82	58.54	1.13	-0.44	1.04
18999	89.96	296.80	95	8187.5	673.10	671.47	942.85	1157.52	54.54	0.23	0.09	0.21
19093	89.96	296.94	94	8187.6	579.15	713.96	859.00	1116.97	50.27	0.15	0.00	0.15
19188	89.75	297.17	95	8187.8	484.21	757.17	774.40	1083.05	45.64	0.33	-0.22	0.24
19282	89.69	300.00	94	8188.3	390.40	802.14	691.87	1059.29	40.78	3.01	-0.06	3.01
19296	89.62	300.17	14	8188.4	376.89	808.94	680.13	1056.86	40.06	1.35	-0.52	1.25

Minimum Radius of Curvature

API: 42-479-43146 **Well: Gates 010-CHK-A TR3 N2H** **Wellhead Location N+/S- : 28.052808**
Operator: Chesapeake Energy **Area: Eagleford** **E+/W- : -99.857186**
Rig: Patterson 596 **Type: U-Lateral** **Magnetic Declination: 4.53**
TD: 20,300' **Plane of Proposal: 115.00**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
19377	89.55	300.48	81	8189.0	295.81	850.05	609.84	1046.18	35.66	0.39	-0.09	0.38
19472	90.33	298.44	95	8189.0	201.10	896.77	527.13	1040.22	30.45	2.30	0.82	-2.15
19566	89.25	295.09	94	8189.4	107.16	939.10	443.21	1038.43	25.27	3.74	-1.15	-3.56
19661	89.08	295.34	95	8190.8	12.18	979.56	357.27	1042.68	20.04	0.32	-0.18	0.26
19756	92.66	296.52	95	8189.3	-82.78	1021.09	271.86	1056.66	14.91	3.97	3.77	1.24
19850	91.97	295.90	94	8185.5	-176.69	1062.57	187.60	1079.01	10.01	0.99	-0.73	-0.66
19945	90.86	297.80	95	8183.2	-271.60	1105.47	102.87	1110.24	5.32	2.32	-1.17	2.00
20039	90.57	298.57	94	8182.0	-365.45	1149.86	20.02	1150.03	1.00	0.88	-0.31	0.82
20134	90.27	299.02	95	8181.3	-460.24	1195.62	-63.23	1197.29	356.97	0.57	-0.32	0.47
20225	89.72	298.59	91	8181.3	-551.04	1239.46	-142.97	1247.68	353.42	0.77	-0.60	-0.47
20300	89.72	298.59	75	8181.7	-625.89	1275.35	-208.82	1292.34	350.70	0.00	0.00	0.00