

Minimum Radius of Curvature

API: 42-389-39552 **Well: Old Monarch State 2 A21HU** **Wellhead Location N+/S- : 31.738534**
Operator: PDC **Area: Orla** **E+/W- : -103.914714**
Rig: H&P 629 **Type: U-Lateral** **Magnetic Declination: 6.58**
TD: 20,013' **Plane of Proposal: 2.50**

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			
0.00	0.00	0.00		0.0	0.00	0.00	0.00	0.00	0.00			
227	1.18	104.70	227	227.0	-27.67	-0.59	2.26	2.34	104.70	0.52	0.52	46.12
319	0.75	355.89	92	319.0	-27.27	-0.23	3.13	3.14	94.25	1.73	-0.47	273.03
410	2.21	325.93	91	409.9	-25.27	1.81	2.11	2.78	49.28	1.76	1.60	-32.92
504	3.11	325.70	94	503.8	-21.77	5.42	-0.34	5.43	356.37	0.96	0.96	-0.24
598	3.54	328.14	94	597.7	-17.34	9.99	-3.31	10.53	341.66	0.48	0.46	2.60
692	4.02	327.20	94	691.5	-12.25	15.23	-6.63	16.61	336.47	0.51	0.51	-1.00
785	4.24	328.85	93	784.2	-6.73	20.91	-10.17	23.25	334.06	0.27	0.24	1.77
877	4.43	328.83	92	876.0	-0.94	26.86	-13.77	30.19	332.86	0.21	0.21	-0.02
970	4.89	331.00	93	968.7	5.43	33.40	-17.55	37.73	332.28	0.53	0.49	2.33
1063	5.51	332.12	93	1061.3	12.66	40.82	-21.56	46.16	332.15	0.68	0.67	1.20
1156	6.10	336.23	93	1153.8	20.94	49.28	-25.64	55.56	332.51	0.78	0.63	4.42
1250	5.66	336.91	94	1247.3	29.60	58.12	-29.47	65.16	333.11	0.47	-0.47	0.72
1343	6.07	337.76	93	1339.8	38.20	66.89	-33.13	74.64	333.65	0.45	0.44	0.91
1438	5.30	341.32	95	1434.4	46.86	75.69	-36.44	84.01	334.29	0.89	-0.81	3.75
1534	4.51	340.85	96	1530.0	54.50	83.46	-39.10	92.16	334.90	0.82	-0.82	-0.49
1629	4.44	341.73	95	1624.7	61.41	90.48	-41.48	99.53	335.37	0.10	-0.07	0.93
1725	4.71	343.35	96	1720.4	68.61	97.79	-43.77	107.13	335.89	0.31	0.28	1.69
1820	5.00	344.49	95	1815.1	76.23	105.51	-45.99	115.10	336.45	0.32	0.31	1.20
1916	5.05	345.44	96	1910.7	84.25	113.63	-48.17	123.42	337.03	0.10	0.05	0.99
2011	5.13	344.02	95	2005.3	92.27	121.76	-50.40	131.78	337.52	0.16	0.08	-1.49
2107	5.45	341.09	96	2100.9	100.59	130.20	-53.05	140.60	337.83	0.44	0.33	-3.05
2203	5.76	340.29	96	2196.5	109.29	139.05	-56.16	149.96	338.01	0.33	0.32	-0.83
2298	4.51	340.77	95	2291.1	117.17	147.06	-58.99	158.46	338.14	1.32	-1.32	0.51
2394	4.32	340.83	96	2386.8	124.04	154.04	-61.43	165.84	338.26	0.20	-0.20	0.06
2489	4.33	342.38	95	2481.5	130.73	160.84	-63.69	172.99	338.40	0.12	0.01	1.63
2584	4.27	340.03	95	2576.3	137.37	167.58	-65.98	180.10	338.51	0.20	-0.06	-2.47
2680	4.01	341.55	96	2672.0	143.81	174.13	-68.26	187.03	338.59	0.29	-0.27	1.58
2775	4.11	340.86	95	2766.8	150.07	180.49	-70.43	193.75	338.68	0.12	0.11	-0.73
2870	4.15	346.48	95	2861.5	156.54	187.05	-72.35	200.56	338.85	0.43	0.04	5.92
2966	4.08	352.41	96	2957.3	163.24	193.81	-73.61	207.32	339.20	0.45	-0.07	6.18
3061	4.04	355.71	95	3052.0	169.89	200.50	-74.31	213.83	339.66	0.25	-0.04	3.47
3140	3.91	353.93	79	3130.8	175.32	205.95	-74.80	219.12	340.04	0.23	-0.16	-2.25
3253	3.66	350.90	113	3243.6	182.66	213.35	-75.78	226.41	340.45	0.28	-0.22	-2.68
3349	3.45	353.36	96	3339.4	188.52	219.24	-76.60	232.24	340.74	0.27	-0.22	2.56
3444	3.19	353.63	95	3434.2	193.95	224.71	-77.22	237.61	341.03	0.27	-0.27	0.28
3539	3.25	352.54	95	3529.1	199.21	230.01	-77.87	242.83	341.30	0.09	0.06	-1.15
3635	3.14	349.57	96	3625.0	204.46	235.29	-78.69	248.10	341.51	0.21	-0.11	-3.09
3730	3.14	350.36	95	3719.8	209.54	240.41	-79.60	253.25	341.68	0.05	0.00	0.83
3826	2.96	349.11	96	3815.7	214.52	245.44	-80.51	258.31	341.84	0.20	-0.19	-1.30
3921	2.84	348.22	95	3910.6	219.19	250.15	-81.45	263.08	341.96	0.13	-0.13	-0.94
4017	3.21	344.00	96	4006.4	224.04	255.06	-82.68	268.13	342.04	0.45	0.39	-4.40
4113	3.30	338.17	96	4102.3	229.11	260.21	-84.45	273.57	342.02	0.36	0.09	-6.07
4208	3.06	334.11	95	4197.1	233.83	265.03	-86.57	278.81	341.91	0.35	-0.25	-4.27
4304	3.06	332.02	96	4293.0	238.29	269.60	-88.89	283.88	341.75	0.12	0.00	-2.18
4399	3.05	331.57	95	4387.8	242.64	274.06	-91.29	288.86	341.58	0.03	-0.01	-0.47
4495	3.11	331.56	96	4483.7	247.07	278.60	-93.74	293.95	341.40	0.06	0.06	-0.01
4686	2.68	323.91	191	4674.5	255.00	286.76	-98.84	303.32	340.98	0.30	-0.23	-4.01
4781	2.72	323.83	95	4769.4	258.50	290.38	-101.48	307.60	340.74	0.04	0.04	-0.08
4876	1.70	316.50	95	4864.3	261.24	293.22	-103.78	311.04	340.51	1.11	-1.07	-7.72
4972	1.45	310.27	96	4960.2	262.97	295.04	-105.69	313.39	340.29	0.32	-0.26	-6.49
5067	1.35	304.06	95	5055.2	264.29	296.44	-107.53	315.34	340.06	0.19	-0.11	-6.54
5163	1.37	303.55	96	5151.2	265.48	297.71	-109.42	317.18	339.82	0.02	0.02	-0.53
5259	1.39	294.18	96	5247.2	266.50	298.82	-111.44	318.92	339.55	0.24	0.02	-9.76
5354	1.62	287.73	95	5342.1	267.28	299.70	-113.77	320.57	339.21	0.30	0.24	-6.79
5449	1.59	280.07	95	5437.1	267.80	300.34	-116.35	322.09	338.82	0.23	-0.03	-8.06
5545	1.47	278.24	96	5533.1	268.10	300.75	-118.88	323.39	338.43	0.13	-0.13	-1.91
5640	1.47	275.54	95	5628.0	268.29	301.04	-121.30	324.56	338.05	0.07	0.00	-2.84

Minimum Radius of Curvature

API: 42-389-39552 **Well: Old Monarch State 2 A21HU** **Wellhead Location N+/S- : 31.738534**
Operator: PDC **Area: Orla** **E+/W- : -103.914714**
Rig: H&P 629 **Type: U-Lateral** **Magnetic Declination: 6.58**
TD: 20,013' **Plane of Proposal: 2.50**

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			
5736	1.41	273.40	96	5724.0	268.37	301.23	-123.70	325.64	337.67	0.08	-0.06	-2.23
5831	1.42	271.44	95	5819.0	268.37	301.33	-126.05	326.63	337.30	0.05	0.01	-2.06
5927	1.41	271.18	96	5914.9	268.32	301.38	-128.42	327.60	336.92	0.01	-0.01	-0.27
6022	1.45	270.19	95	6009.9	268.24	301.41	-130.79	328.56	336.54	0.05	0.04	-1.04
6118	1.34	261.64	96	6105.9	267.98	301.25	-133.11	329.35	336.16	0.24	-0.11	-8.91
6213	1.21	256.88	95	6200.9	267.50	300.86	-135.19	329.84	335.80	0.18	-0.14	-5.01
6308	1.27	251.04	95	6295.8	266.85	300.29	-137.16	330.13	335.45	0.15	0.06	-6.15
6404	1.21	251.99	96	6391.8	266.10	299.63	-139.13	330.36	335.09	0.07	-0.06	0.99
6499	1.25	244.76	95	6486.8	265.27	298.88	-141.02	330.48	334.74	0.17	0.04	-7.61
6595	1.33	248.78	96	6582.8	264.33	298.03	-143.01	330.57	334.37	0.13	0.08	4.19
6690	1.33	246.70	95	6677.7	263.41	297.20	-145.05	330.70	333.99	0.05	0.00	-2.19
6786	1.28	249.62	96	6773.7	262.51	296.38	-147.08	330.87	333.61	0.09	-0.05	3.04
6881	1.18	236.99	95	6868.7	261.53	295.48	-148.89	330.87	333.26	0.30	-0.11	-13.29
6976	1.14	238.71	95	6963.7	260.43	294.46	-150.52	330.70	332.92	0.06	-0.04	1.81
7072	1.48	243.40	96	7059.7	259.30	293.41	-152.44	330.64	332.55	0.37	0.35	4.89
7167	1.54	249.83	95	7154.6	258.21	292.42	-154.74	330.83	332.11	0.19	0.06	6.77
7263	1.47	261.00	96	7250.6	257.47	291.78	-157.17	331.41	331.69	0.31	-0.07	11.64
7358	1.99	253.18	95	7345.5	256.68	291.11	-159.95	332.16	331.21	0.60	0.55	-8.23
7454	2.08	254.48	96	7441.5	255.59	290.16	-163.22	332.92	330.64	0.11	0.09	1.35
7549	1.56	250.67	95	7536.4	254.58	289.27	-166.10	333.57	330.14	0.56	-0.55	-4.01
7644	1.12	246.49	95	7631.4	253.69	288.47	-168.18	333.92	329.76	0.47	-0.46	-4.40
7739	1.09	252.58	95	7726.4	252.97	287.83	-169.89	334.23	329.45	0.13	-0.03	6.41
7835	1.16	248.58	96	7822.4	252.27	287.21	-171.66	334.60	329.13	0.11	0.07	-4.17
7929	1.47	253.51	94	7916.3	251.49	286.52	-173.71	335.06	328.77	0.35	0.33	5.24
8024	1.45	257.95	95	8011.3	250.79	285.92	-176.05	335.77	328.38	0.12	-0.02	4.67
8120	1.53	240.28	96	8107.3	249.80	285.03	-178.35	336.23	327.96	0.48	0.08	-18.41
8216	1.57	245.36	96	8203.2	248.52	283.85	-180.66	336.46	327.52	0.15	0.04	5.29
8311	1.51	236.21	95	8298.2	247.19	282.61	-182.88	336.62	327.09	0.27	-0.06	-9.63
8407	1.99	214.91	96	8394.2	245.03	280.54	-184.89	335.98	326.61	0.83	0.50	-22.19
8502	1.91	207.45	95	8489.1	242.20	277.78	-186.56	334.61	326.11	0.28	-0.08	-7.85
8598	1.96	187.06	96	8585.1	239.11	274.73	-187.50	332.62	325.69	0.72	0.05	-21.24
8693	1.77	203.49	95	8680.0	236.13	271.77	-188.29	330.62	325.29	0.59	-0.20	17.29
8789	1.82	192.02	96	8776.0	233.24	268.92	-189.19	328.81	324.87	0.38	0.05	-11.95
8884	1.82	195.01	95	8870.9	230.28	265.99	-189.90	326.82	324.48	0.10	0.00	3.15
8980	1.57	214.48	96	8966.9	227.67	263.43	-191.04	325.41	324.05	0.65	-0.26	20.28
9075	1.55	217.46	95	9061.8	225.52	261.34	-192.56	324.62	323.62	0.09	-0.02	3.14
9171	1.27	208.77	96	9157.8	223.50	259.38	-193.86	323.82	323.23	0.37	-0.29	-9.05
9266	1.61	214.77	95	9252.8	221.43	257.36	-195.13	322.97	322.83	0.39	0.36	6.32
9362	1.37	223.57	96	9348.7	219.42	255.42	-196.69	322.37	322.40	0.34	-0.25	9.17
9458	0.98	243.72	96	9444.7	218.16	254.22	-198.21	322.36	322.06	0.59	-0.41	20.99
9505	2.58	352.09	47	9491.7	219.01	255.09	-198.72	323.36	322.08	6.46	3.40	230.57
9553	6.01	352.99	48	9539.6	222.55	258.66	-199.17	326.46	322.40	7.15	7.15	1.88
9585	8.94	355.52	32	9571.3	226.67	262.80	-199.57	329.99	322.79	9.21	9.16	7.91
9648	13.45	4.65	63	9633.1	238.86	274.99	-199.36	339.65	324.06	7.67	7.16	-556.94
9695	17.12	11.64	47	9678.4	251.15	287.22	-197.52	348.58	325.48	8.72	7.81	14.87
9744	21.17	12.70	49	9724.7	266.99	302.92	-194.12	359.78	327.35	8.30	8.27	2.16
9791	25.83	13.79	47	9767.8	285.39	321.15	-189.81	373.05	329.42	9.96	9.91	2.32
9839	29.36	14.80	48	9810.3	307.15	342.69	-184.31	389.11	331.73	7.42	7.35	2.10
9892	34.88	16.61	53	9855.2	334.57	369.80	-176.65	409.83	334.47	10.57	10.42	3.42
9935	38.20	17.13	43	9889.7	359.36	394.29	-169.22	429.07	336.77	7.75	7.72	1.21
10030	46.86	12.67	95	9959.7	422.03	456.31	-152.93	481.26	341.47	9.65	9.12	-4.69
10126	56.82	14.10	96	10018.9	496.05	529.64	-135.42	546.67	345.66	10.44	10.38	1.49
10221	65.65	15.12	95	10064.6	577.38	610.13	-114.40	620.76	349.38	9.34	9.29	1.07
10316	77.06	15.31	95	10094.9	665.05	696.85	-90.81	702.74	352.57	12.01	12.01	0.20
10404	86.69	16.42	88	10107.4	749.70	780.54	-67.02	783.41	355.09	11.01	10.94	1.26
10566	87.51	16.27	162	10115.5	906.79	935.79	-21.49	936.04	358.68	0.51	0.51	-0.09
10661	87.81	15.65	95	10119.4	999.10	1027.05	4.61	1027.06	0.26	0.72	0.32	-0.65
10757	88.71	16.61	96	10122.3	1092.35	1119.23	31.27	1119.67	1.60	1.37	0.94	1.00

Minimum Radius of Curvature

API: 42-389-39552 **Well: Old Monarch State 2 A21HU** **Wellhead Location N+/S- : 31.738534**
Operator: PDC **Area: Orla** **E+/W- : -103.914714**
Rig: H&P 629 **Type: U-Lateral** **Magnetic Declination: 6.58**
TD: 20,013' **Plane of Proposal: 2.50**

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			
10852	88.12	15.24	95	10125.0	1184.72	1210.55	57.33	1211.90	2.71	1.57	-0.62	-1.44
10947	88.54	14.21	95	10127.7	1277.52	1302.39	81.46	1304.93	3.58	1.17	0.44	-1.08
11043	88.21	12.47	96	10130.5	1371.77	1395.76	103.60	1399.59	4.25	1.84	-0.34	-1.81
11138	87.67	11.27	95	10133.9	1465.44	1488.66	123.13	1493.75	4.73	1.38	-0.57	-1.26
11235	87.20	10.60	97	10138.2	1561.29	1583.80	141.51	1590.11	5.11	0.84	-0.48	-0.69
11330	88.80	10.52	95	10141.5	1655.29	1677.14	158.91	1684.65	5.41	1.69	1.68	-0.08
11377	89.97	9.58	47	10142.0	1701.88	1723.41	167.11	1731.49	5.54	3.19	2.49	-2.00
11426	90.67	8.41	49	10141.8	1750.57	1771.81	174.77	1780.40	5.63	2.78	1.43	-2.39
11473	91.15	6.82	47	10141.0	1797.37	1818.38	181.00	1827.37	5.68	3.53	1.02	-3.38
11521	90.84	5.23	48	10140.2	1845.27	1866.11	186.04	1875.36	5.69	3.37	-0.65	-3.31
11568	90.50	4.47	47	10139.6	1892.23	1912.94	190.01	1922.35	5.67	1.77	-0.72	-1.62
11617	89.97	2.86	49	10139.4	1941.22	1961.84	193.14	1971.32	5.62	3.46	-1.08	-3.29
11712	88.24	1.37	95	10140.9	2036.20	2056.75	196.65	2066.13	5.46	2.40	-1.82	-1.57
11808	88.37	1.39	96	10143.8	2132.14	2152.68	198.96	2161.86	5.28	0.14	0.14	0.02
11903	88.38	0.36	95	10146.5	2227.06	2247.63	200.41	2256.55	5.10	1.08	0.01	-1.08
11998	88.40	359.19	95	10149.1	2321.91	2342.59	200.04	2351.12	4.88	1.23	0.02	377.72
12094	89.30	359.21	96	10151.0	2417.73	2438.56	198.70	2446.64	4.66	0.94	0.94	0.02
12189	88.21	358.77	95	10153.1	2512.53	2533.52	197.02	2541.17	4.45	1.24	-1.15	-0.46
12284	89.10	358.84	95	10155.3	2607.31	2628.48	195.04	2635.70	4.24	0.94	0.94	0.07
12380	88.80	358.76	96	10157.1	2703.09	2724.44	193.03	2731.27	4.05	0.32	-0.31	-0.08
12475	88.54	358.73	95	10159.3	2797.86	2819.39	190.95	2825.85	3.87	0.28	-0.27	-0.03
12571	89.50	359.62	96	10160.9	2893.68	2915.36	189.57	2921.52	3.72	1.36	1.00	0.93
12666	88.74	0.28	95	10162.4	2988.58	3010.35	189.49	3016.31	3.60	1.06	-0.80	-378.25
12762	88.66	0.81	96	10164.6	3084.50	3106.32	190.40	3112.15	3.51	0.56	-0.08	0.55
12857	88.94	1.10	95	10166.6	3179.44	3201.29	191.98	3207.04	3.43	0.42	0.29	0.31
12953	88.96	1.15	96	10168.3	3275.40	3297.25	193.87	3302.95	3.36	0.06	0.02	0.05
13048	89.13	1.27	95	10169.9	3370.36	3392.22	195.87	3397.87	3.30	0.22	0.18	0.13
13144	89.27	1.43	96	10171.3	3466.33	3488.18	198.14	3493.81	3.25	0.22	0.15	0.17
13240	88.77	1.15	96	10172.9	3562.29	3584.14	200.30	3589.74	3.20	0.60	-0.52	-0.29
13335	88.74	1.04	95	10175.0	3657.24	3679.10	202.11	3684.65	3.14	0.12	-0.03	-0.12
13371	88.91	1.51	36	10175.7	3693.23	3715.09	202.91	3720.63	3.13	1.39	0.47	1.31
13466	87.82	1.82	95	10178.4	3788.18	3810.01	205.67	3815.55	3.09	1.19	-1.15	0.33
13562	87.34	2.19	96	10182.5	3884.09	3905.86	209.03	3911.45	3.06	0.63	-0.50	0.39
13657	87.62	14.50	95	10186.7	3978.32	3999.58	222.78	4005.78	3.19	12.95	0.29	12.96
13752	88.94	23.94	95	10189.5	4069.16	4089.14	254.00	4097.03	3.55	10.03	1.39	9.94
13848	89.22	27.21	96	10191.1	4157.45	4175.72	295.43	4186.15	4.05	3.42	0.29	3.41
13943	89.44	32.98	95	10192.2	4241.60	4257.87	343.05	4271.67	4.61	6.08	0.23	6.07
14039	87.79	37.54	96	10194.5	4322.29	4336.21	398.43	4354.48	5.25	5.05	-1.72	4.75
14135	88.12	43.59	96	10197.9	4397.79	4409.06	460.79	4433.07	5.97	6.31	0.34	6.30
14230	89.61	51.64	95	10199.8	4464.75	4473.03	530.89	4504.43	6.77	8.62	1.57	8.47
14326	88.35	58.37	96	10201.5	4523.15	4528.05	609.47	4568.88	7.67	7.13	-1.31	7.01
14421	87.42	62.74	95	10205.0	4573.36	4574.70	692.13	4626.77	8.60	4.70	-0.98	4.60
14517	87.98	73.71	96	10208.9	4612.74	4610.23	781.07	4675.93	9.62	11.43	0.58	11.43
14612	89.58	85.92	95	10210.9	4633.55	4626.99	874.37	4708.88	10.70	12.96	1.68	12.85
14707	88.01	91.53	95	10212.9	4639.80	4629.11	969.28	4729.50	11.83	6.13	-1.65	5.91
14803	89.19	101.50	96	10215.3	4633.09	4618.23	1064.51	4739.33	12.98	10.45	1.23	10.39
14898	88.18	107.28	95	10217.5	4613.53	4594.64	1156.47	4737.94	14.13	6.17	-1.06	6.08
14994	87.67	113.93	96	10220.9	4583.74	4560.89	1246.22	4728.09	15.28	6.94	-0.53	6.93
15089	88.94	120.06	95	10223.7	4544.38	4517.81	1330.79	4709.74	16.41	6.59	1.34	6.45
15185	90.31	126.05	96	10224.4	4495.60	4465.47	1411.21	4683.16	17.54	6.40	1.43	6.24
15280	90.90	131.43	95	10223.4	4439.47	4406.05	1485.28	4649.66	18.63	5.70	0.62	5.66
15375	89.27	138.44	95	10223.2	4375.41	4338.99	1552.48	4608.37	19.69	7.58	-1.72	7.38
15471	90.11	149.03	96	10223.7	4300.66	4261.70	1609.19	4555.39	20.69	11.07	0.88	11.03
15567	91.06	154.82	96	10222.8	4218.05	4177.04	1654.35	4492.72	21.61	6.11	0.99	6.03
15662	90.73	160.67	95	10221.3	4131.83	4089.17	1690.31	4424.75	22.46	6.17	-0.35	6.16
15758	91.71	166.39	96	10219.2	4041.10	3997.17	1717.51	4350.54	23.25	6.04	1.02	5.96
15853	91.32	173.72	95	10216.7	3948.43	3903.69	1733.89	4271.44	23.95	7.72	-0.41	7.72
15949	91.74	179.82	96	10214.2	3852.99	3807.92	1739.30	4186.34	24.55	6.37	0.44	6.35

Minimum Radius of Curvature

API: 42-389-39552 **Well: Old Monarch State 2 A21HU** **Wellhead Location N+/S- : 31.738534**
Operator: PDC **Area: Orla** **E+/W- : -103.914714**
Rig: H&P 629 **Type: U-Lateral** **Magnetic Declination: 6.58**
TD: 20,013' **Plane of Proposal: 2.50**

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			
16007	91.18	179.79	58	10212.7	3795.07	3749.94	1739.50	4133.75	24.89	0.97	-0.97	-0.05
16103	91.23	180.20	96	10210.7	3699.19	3653.96	1739.51	4046.89	25.46	0.43	0.05	0.43
16198	91.18	179.69	95	10208.7	3604.30	3558.98	1739.60	3961.38	26.05	0.54	-0.05	-0.54
16294	90.73	179.74	96	10207.1	3508.43	3463.00	1740.07	3875.59	26.68	0.47	-0.47	0.05
16389	90.62	179.59	95	10205.9	3413.55	3368.01	1740.63	3791.21	27.33	0.20	-0.12	-0.16
16485	90.98	179.68	96	10204.6	3317.68	3272.02	1741.24	3706.48	28.02	0.39	0.37	0.09
16581	90.70	179.50	96	10203.2	3221.81	3176.03	1741.93	3622.36	28.74	0.35	-0.29	-0.19
16676	90.45	178.73	95	10202.2	3126.99	3081.05	1743.40	3540.10	29.50	0.85	-0.26	-0.81
16771	91.23	179.83	95	10200.8	3032.15	2986.07	1744.59	3458.35	30.30	1.42	0.82	1.16
16822	91.68	180.60	51	10199.6	2981.21	2935.09	1744.40	3414.33	30.72	1.75	0.88	1.51
16867	91.40	180.06	45	10198.3	2936.25	2890.10	1744.14	3375.61	31.11	1.35	-0.62	-1.20
16963	91.15	179.10	96	10196.2	2840.40	2794.13	1744.84	3294.18	31.98	1.03	-0.26	-1.00
16999	91.99	179.58	36	10195.2	2804.47	2758.15	1745.26	3263.94	32.32	2.69	2.33	1.33
17031	92.33	183.46	32	10194.0	2772.51	2726.19	1744.41	3236.52	32.61	12.16	1.06	12.13
17094	90.67	185.49	63	10192.4	2709.57	2663.41	1739.49	3181.13	33.15	4.16	-2.63	3.22
17190	90.90	186.14	96	10191.0	2613.74	2567.91	1729.77	3096.17	33.96	0.72	0.24	0.68
17285	90.34	186.17	95	10190.0	2518.94	2473.46	1719.58	3012.47	34.81	0.59	-0.59	0.03
17381	90.62	186.75	96	10189.2	2423.17	2378.08	1708.78	2928.34	35.70	0.67	0.29	0.60
17476	90.17	186.79	95	10188.6	2328.44	2283.74	1697.59	2845.57	36.62	0.48	-0.47	0.04
17572	91.82	187.12	96	10186.9	2232.75	2188.47	1685.96	2762.58	37.61	1.75	1.72	0.34
17668	92.16	184.11	96	10183.6	2136.96	2092.99	1676.58	2681.70	38.70	3.15	0.35	-3.14
17763	92.07	183.13	95	10180.1	2042.04	1998.25	1670.58	2604.58	39.90	1.04	-0.09	-1.03
17858	90.48	181.59	95	10177.9	1947.07	1903.36	1666.67	2529.94	41.21	2.33	-1.67	-1.62
17954	92.94	182.90	96	10175.1	1851.13	1807.49	1662.91	2456.07	42.61	2.90	2.56	1.36
18049	92.24	182.71	95	10170.8	1756.22	1712.70	1658.27	2383.94	44.07	0.76	-0.74	-0.20
18145	90.78	182.14	96	10168.3	1660.26	1616.82	1654.21	2313.12	45.65	1.63	-1.52	-0.59
18240	91.26	183.85	95	10166.6	1565.28	1521.97	1649.25	2244.19	47.30	1.87	0.51	1.80
18335	90.20	183.31	95	10165.4	1470.31	1427.16	1643.32	2176.53	49.03	1.25	-1.12	-0.57
18431	90.31	183.54	96	10164.9	1374.32	1331.34	1637.58	2110.48	50.89	0.27	0.11	0.24
18526	88.63	182.91	95	10165.8	1279.34	1236.49	1632.24	2047.71	52.85	1.89	-1.77	-0.66
18622	92.27	183.00	96	10165.1	1183.36	1140.64	1627.29	1987.24	54.97	3.79	3.79	0.09
18718	92.07	181.92	96	10161.4	1087.43	1044.80	1623.17	1930.36	57.23	1.14	-0.21	-1.13
18813	90.98	179.63	95	10158.9	992.52	949.85	1621.89	1879.56	59.64	2.67	-1.15	-2.41
18909	91.77	180.95	96	10156.6	896.62	853.88	1621.40	1832.50	62.23	1.60	0.82	1.37
19004	92.61	182.93	95	10153.0	801.70	759.01	1618.19	1787.35	64.87	2.26	0.88	2.08
19100	91.15	180.27	96	10149.8	705.77	663.11	1615.51	1746.31	67.68	3.16	-1.52	-2.77
19195	91.79	180.43	95	10147.4	610.87	568.14	1614.93	1711.95	70.62	0.69	0.67	0.17
19291	91.68	182.16	96	10144.5	514.94	472.22	1612.76	1680.47	73.68	1.80	-0.11	1.80
19387	90.87	181.00	96	10142.3	418.98	376.28	1610.12	1653.50	76.85	1.47	-0.84	-1.21
19482	94.18	183.45	95	10138.1	324.09	281.46	1606.43	1630.91	80.06	4.33	3.48	2.58
19578	92.89	182.69	96	10132.2	228.28	185.79	1601.30	1612.05	83.38	1.56	-1.34	-0.79
19673	90.87	182.54	95	10129.1	133.34	90.94	1596.97	1599.56	86.74	2.13	-2.13	-0.16
19769	89.19	181.69	96	10129.1	37.34	-4.99	1593.43	1593.44	90.18	1.96	-1.75	-0.89
19865	89.72	181.74	96	10130.0	-58.64	-100.94	1590.56	1593.76	93.63	0.55	0.55	0.05
19956	88.46	181.61	91	10131.4	-149.62	-191.89	1587.90	1599.45	96.89	1.39	-1.38	-0.14
20013	88.46	181.61	57	10132.9	-206.59	-248.85	1586.30	1605.70	98.92	#NUM!	0.00	0.00