

Company: HRM Resources, LLC
WellName: Dutton #4-2-22
Location: NWNW Sec. 22, T4N-R67W

Vertical Section calculated on an Azimuth of: 96.3173

Survey Calculation Method: Minimum Curvature

FileName: F:\WELL REPORTS\HRM Resources LLC\Dutton 4-2-22\Dutton 4-2-22 WB Surveys.sr5

#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	SubSea Feet	North Feet	East Feet	Section Feet	Dogleg /100 ft	BldRate /100 ft	Trnrate /100 ft	Comment
0	0.00	0.00	96.32	0.00	4870.00	0.00	0.00	0.00	0.00	0.00	0.00	
1	100.00	0.00	96.32	100.00	4770.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	96.32	200.00	4670.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	300.00	0.00	96.32	300.00	4570.00	0.00	0.00	0.00	0.00	0.00	0.00	
4	400.00	0.00	96.32	400.00	4470.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	500.00	0.00	96.32	500.00	4370.00	0.00	0.00	0.00	0.00	0.00	0.00	
6	600.00	0.00	96.32	600.00	4270.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	700.00	0.00	96.32	700.00	4170.00	0.00	0.00	0.00	0.00	0.00	0.00	
8	800.00	0.00	96.32	800.00	4070.00	0.00	0.00	0.00	0.00	0.00	0.00	
9	900.00	0.00	96.32	900.00	3970.00	0.00	0.00	0.00	0.00	0.00	0.00	
Surface CSG												
KOP, B.G.=2°/100ft												
10	1000.00	0.00	96.32	1000.00	3870.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	1100.00	2.00	96.32	1099.98	3770.02	-0.19	1.73	1.75	2.00	2.00	0.00	
12	1200.00	4.00	96.32	1199.84	3670.16	-0.77	6.94	6.98	2.00	2.00	0.00	
13	1300.00	6.00	96.32	1299.45	3570.55	-1.73	15.60	15.69	2.00	2.00	0.00	
14	1400.00	8.00	96.32	1398.70	3471.30	-3.07	27.71	27.88	2.00	2.00	0.00	
15	1500.00	10.00	96.32	1497.47	3372.53	-4.79	43.26	43.52	2.00	2.00	0.00	
16	1600.00	12.00	96.32	1595.62	3274.38	-6.89	62.22	62.60	2.00	2.00	0.00	
17	1700.00	14.00	96.32	1693.06	3176.94	-9.36	84.58	85.10	2.00	2.00	0.00	
TOS, TAN=15.53°												
18	1776.50	15.53	96.32	1767.03	3102.97	-11.51	103.96	104.59	2.00	2.00	0.00	
19	1800.00	15.53	96.32	1789.67	3080.33	-12.20	110.21	110.88	0.00	0.00	0.00	
20	1900.00	15.53	96.32	1886.02	2983.98	-15.15	136.82	137.66	0.00	0.00	0.00	
21	2000.00	15.53	96.32	1982.37	2887.63	-18.09	163.43	164.43	0.00	0.00	0.00	
22	2100.00	15.53	96.32	2078.72	2791.28	-21.04	190.05	191.21	0.00	0.00	0.00	
23	2200.00	15.53	96.32	2175.06	2694.94	-23.99	216.66	217.98	0.00	0.00	0.00	
24	2300.00	15.53	96.32	2271.41	2598.59	-26.93	243.27	244.76	0.00	0.00	0.00	
25	2400.00	15.53	96.32	2367.76	2502.24	-29.88	269.88	271.53	0.00	0.00	0.00	
26	2500.00	15.53	96.32	2464.11	2405.89	-32.82	296.49	298.30	0.00	0.00	0.00	
27	2600.00	15.53	96.32	2560.46	2309.54	-35.77	323.10	325.08	0.00	0.00	0.00	
28	2700.00	15.53	96.32	2656.81	2213.19	-38.72	349.72	351.85	0.00	0.00	0.00	
29	2800.00	15.53	96.32	2753.16	2116.84	-41.66	376.33	378.63	0.00	0.00	0.00	
30	2900.00	15.53	96.32	2849.51	2020.49	-44.61	402.94	405.40	0.00	0.00	0.00	
31	3000.00	15.53	96.32	2945.86	1924.14	-47.55	429.55	432.18	0.00	0.00	0.00	
32	3100.00	15.53	96.32	3042.21	1827.79	-50.50	456.16	458.95	0.00	0.00	0.00	
33	3200.00	15.53	96.32	3138.56	1731.44	-53.45	482.77	485.72	0.00	0.00	0.00	
34	3300.00	15.53	96.32	3234.91	1635.09	-56.39	509.39	512.50	0.00	0.00	0.00	
35	3400.00	15.53	96.32	3331.25	1538.75	-59.34	536.00	539.27	0.00	0.00	0.00	
36	3500.00	15.53	96.32	3427.60	1442.40	-62.28	562.61	566.05	0.00	0.00	0.00	
37	3600.00	15.53	96.32	3523.95	1346.05	-65.23	589.22	592.82	0.00	0.00	0.00	
38	3700.00	15.53	96.32	3620.30	1249.70	-68.18	615.83	619.60	0.00	0.00	0.00	
39	3800.00	15.53	96.32	3716.65	1153.35	-71.12	642.44	646.37	0.00	0.00	0.00	
40	3900.00	15.53	96.32	3813.00	1057.00	-74.07	669.06	673.14	0.00	0.00	0.00	
41	4000.00	15.53	96.32	3909.35	960.65	-77.02	695.67	699.92	0.00	0.00	0.00	

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Location: NWNW Sec. 22, T4N-R67W

Vertical Section calculated on an Azimuth of: 96.3173

Survey Calculation Method: Minimum Curvature

FileName: F:\WELL REPORTS\HRM Resources LLC\Dutton 4-2-22\Dutton 4-2-22 WB Surveys.sr5

#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	SubSea Feet	North Feet	East Feet	Section Feet	Dogleg /100 ft	BldRate /100 ft	Trnrate /100 ft	Comment
42	4100.00	15.53	96.32	4005.70	864.30	-79.96	722.28	726.69	0.00	0.00	0.00	
43	4200.00	15.53	96.32	4102.05	767.95	-82.91	748.89	753.47	0.00	0.00	0.00	
44	4300.00	15.53	96.32	4198.40	671.60	-85.85	775.50	780.24	0.00	0.00	0.00	
45	4400.00	15.53	96.32	4294.75	575.25	-88.80	802.12	807.02	0.00	0.00	0.00	
46	4500.00	15.53	96.32	4391.09	478.91	-91.75	828.73	833.79	0.00	0.00	0.00	
47	4600.00	15.53	96.32	4487.44	382.56	-94.69	855.34	860.56	0.00	0.00	0.00	
48	4700.00	15.53	96.32	4583.79	286.21	-97.64	881.95	887.34	0.00	0.00	0.00	
49	4800.00	15.53	96.32	4680.14	189.86	-100.58	908.56	914.11	0.00	0.00	0.00	
50	4900.00	15.53	96.32	4776.49	93.51	-103.53	935.17	940.89	0.00	0.00	0.00	
51	5000.00	15.53	96.32	4872.84	-2.84	-106.48	961.79	967.66	0.00	0.00	0.00	
52	5100.00	15.53	96.32	4969.19	-99.19	-109.42	988.40	994.44	0.00	0.00	0.00	
53	5200.00	15.53	96.32	5065.54	-195.54	-112.37	1015.01	1021.21	0.00	0.00	0.00	
54	5300.00	15.53	96.32	5161.89	-291.89	-115.31	1041.62	1047.98	0.00	0.00	0.00	
55	5400.00	15.53	96.32	5258.24	-388.24	-118.26	1068.23	1074.76	0.00	0.00	0.00	
56	5500.00	15.53	96.32	5354.59	-484.59	-121.21	1094.84	1101.53	0.00	0.00	0.00	
57	5600.00	15.53	96.32	5450.94	-580.94	-124.15	1121.46	1128.31	0.00	0.00	0.00	
58	5700.00	15.53	96.32	5547.28	-677.28	-127.10	1148.07	1155.08	0.00	0.00	0.00	
59	5800.00	15.53	96.32	5643.63	-773.63	-130.04	1174.68	1181.86	0.00	0.00	0.00	
60	5900.00	15.53	96.32	5739.98	-869.98	-132.99	1201.29	1208.63	0.00	0.00	0.00	
61	6000.00	15.53	96.32	5836.33	-966.33	-135.94	1227.90	1235.40	0.00	0.00	0.00	
62	6100.00	15.53	96.32	5932.68	-1062.68	-138.88	1254.51	1262.18	0.00	0.00	0.00	
63	6152.00	15.53	96.32	5982.78	-1112.78	-140.41	1268.35	1276.10	0.00	0.00	0.00	
64	6200.00	14.57	96.32	6029.14	-1159.14	-141.79	1280.74	1288.56	2.00	2.00	0.00	
65	6300.00	12.57	96.32	6126.34	-1256.34	-144.37	1304.06	1312.03	2.00	2.00	0.00	
66	6400.00	10.57	96.32	6224.30	-1354.30	-146.57	1323.99	1332.08	2.00	2.00	0.00	
67	6500.00	8.57	96.32	6322.91	-1452.91	-148.40	1340.52	1348.71	2.00	2.00	0.00	
68	6600.00	6.57	96.32	6422.03	-1552.03	-149.85	1353.61	1361.88	2.00	2.00	0.00	
69	6700.00	4.57	96.32	6521.55	-1651.55	-150.92	1363.26	1371.59	2.00	2.00	0.00	
70	6800.00	2.57	96.32	6621.35	-1751.35	-151.61	1369.45	1377.81	2.00	2.00	0.00	
71	6900.00	0.57	96.32	6721.31	-1851.31	-151.91	1372.17	1380.55	2.00	2.00	0.00	
EOD, Start Vertical Section												
72	6928.50	0.00	96.32	6749.81	-1879.81	-151.92	1372.31	1380.69	2.00	2.00	0.00	
73	7000.00	0.00	96.32	6821.31	-1951.31	-151.92	1372.31	1380.69	0.00	0.00	0.00	
Int	7078.69	0.00	96.32	6900.00	-2030.00	-151.92	1372.31	1380.69	---	---	---	
Niobrara Top												
75	7100.00	0.00	96.32	6921.31	-2051.31	-151.92	1372.31	1380.69	0.00	0.00	0.00	
76	7200.00	0.00	96.32	7021.31	-2151.31	-151.92	1372.31	1380.69	0.00	0.00	0.00	
77	7300.00	0.00	96.32	7121.31	-2251.31	-151.92	1372.31	1380.69	0.00	0.00	0.00	
Int	7388.69	0.00	96.32	7210.00	-2340.00	-151.92	1372.31	1380.69	---	---	---	
Codell Top												
79	7400.00	0.00	96.32	7221.31	-2351.31	-151.92	1372.31	1380.69	0.00	0.00	0.00	
80	7500.00	0.00	96.32	7321.31	-2451.31	-151.92	1372.31	1380.69	0.00	0.00	0.00	
81	7568.69	0.00	96.32	7390.00	-2520.00	-151.92	1372.31	1380.69	0.00	0.00	0.00	

August 12,2010
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PathTracker Survey 5.0.361
Survey Calculation Program

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Company: HRM Resources, LLC
WellName: Dutton #4-2-22
Location: NWNW Sec. 22, T4N-R67W

Vertical Section calculated on an Azimuth of: 96.3173

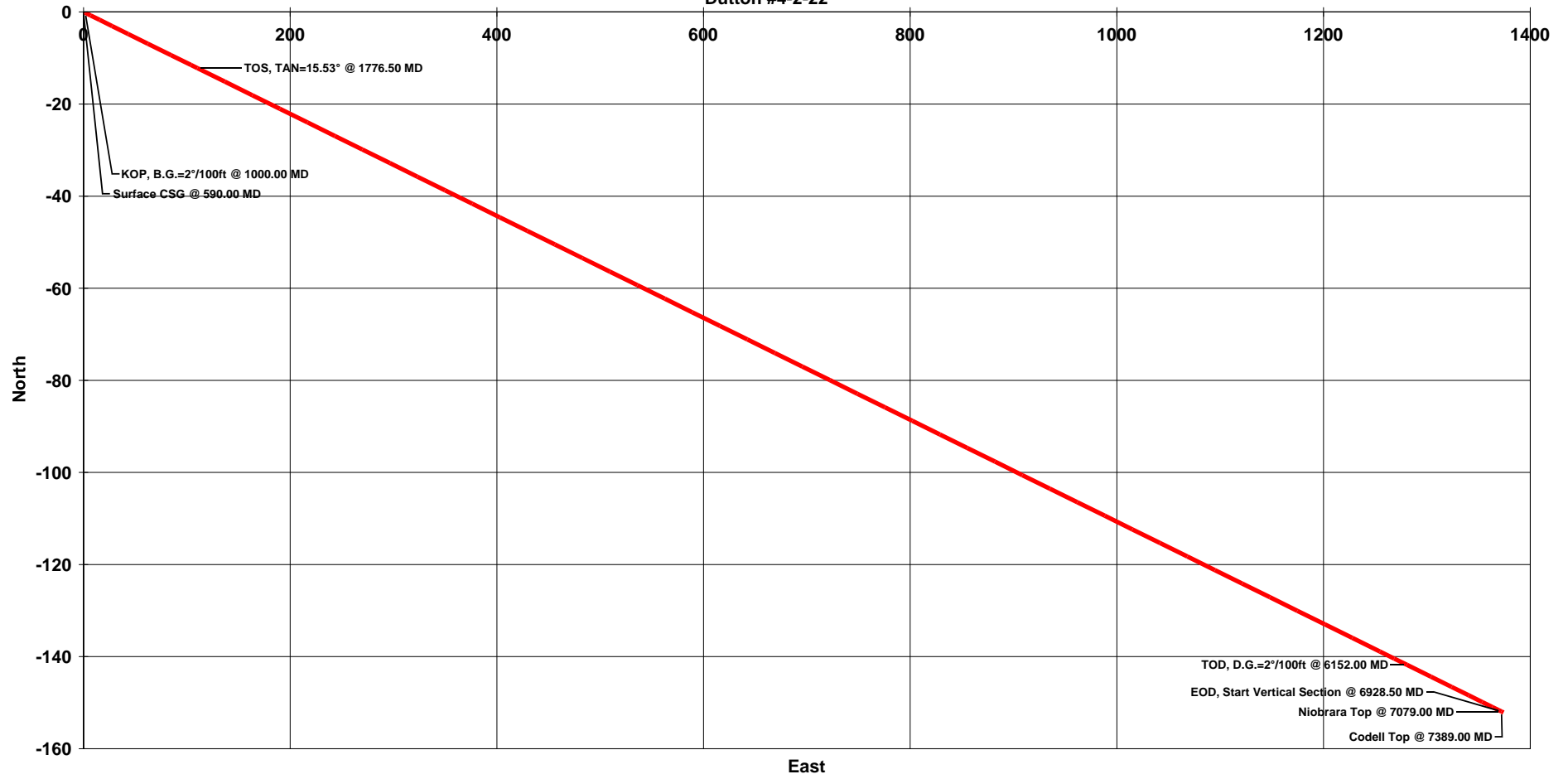
Survey Calculation Method: Minimum Curvature

FileName: F:\WELL REPORTS\HRM Resources LLC\Dutton 4-2-22\Dutton 4-2-22 WB Surveys.sr5

#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	SubSea Feet	North Feet	East Feet	Section Feet	Dogleg /100 ft	BldRate /100 ft	Trnrate /100 ft	Comment
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Closure is 1380.6931 feet on an Azimuth of 96.3173

Plan View
Dutton #4-2-22



Section View
Dutton #4-2-22

