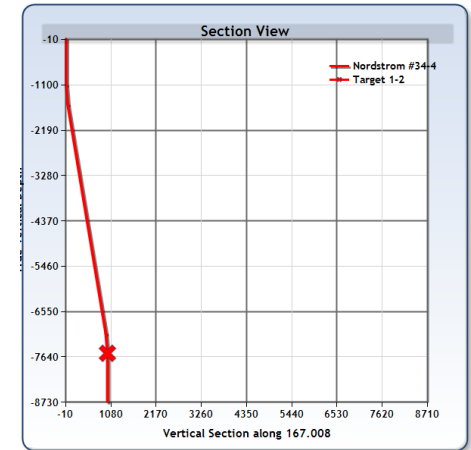
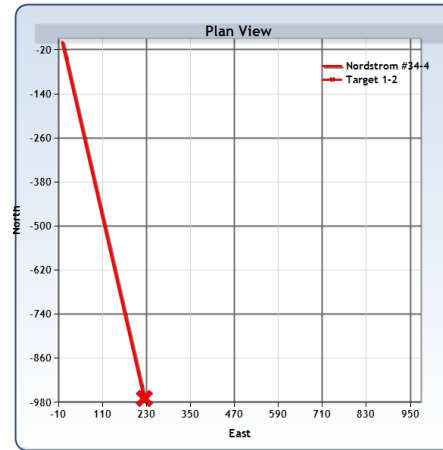


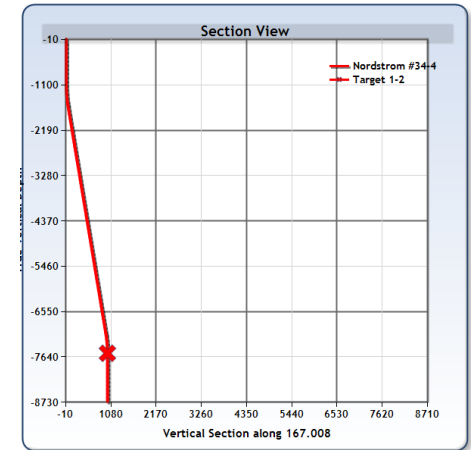
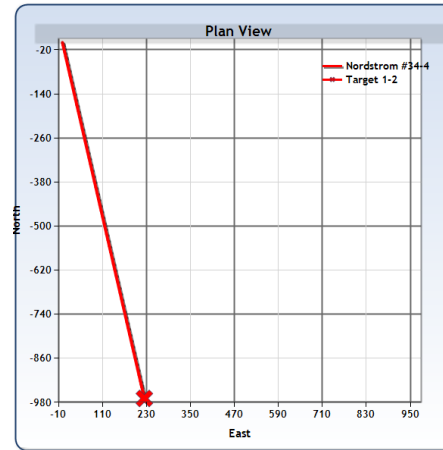
Company: Sovereign Operating, Co., LLC
Well Name: Nordstrom #34-4
Location: NWSE Sec. 4 T1S R68W
Info: North Reference Is True North.
Info:
Vertical Section Calculated on an Azimuth of: 167.0080
Survey Calculation method: Minimum Curvature
File Name: nordstrom #34-4, directional surveys, 09-18-12.pl6



#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	SubSea Feet	Section Feet	Dogleg /100f	BldRate /100f	Trnrate /100f	Comment
0	0.00	0.00	167.01	0.00	0.00	0.00	5235.00	0.00	0.00	0.00	0.00	
1	1100.00	0.00	167.01	1100.00	0.00	0.00	4135.00	0.00	0.00	0.00	0.00	
2	1572.50	9.45	167.01	1570.36	-37.88	8.74	3664.64	38.88	2.00	2.00	0.00	
3	7160.60	9.45	167.01	7082.63	-931.89	215.01	-1847.63	956.37	0.00	0.00	0.00	
4	7633.10	0.00	167.01	7552.99	-969.77	223.75	-2317.99	995.25	2.00	2.00	0.00	
5	8796.11	0.00	167.01	8716.00	-969.77	223.75	-3481.00	995.25	0.00	0.00	0.00	

Closure is 995.2471 feet on an Azimuth of 167.0080

Company: Sovereign Operating, Co., LLC
Well Name: Nordstrom #34-4
Location: NWSE Sec. 4 T1S R68W
Info: North Reference Is True North.
Info:
Vertical Section Calculated on an Azimuth of: 167.0080
Survey Calculation method: Minimum Curvature
File Name: Nordstrom #34-4, Directional Surveys, 09-18-12.sr6



#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	SubSea Feet	Section Feet	Dogleg /100f	BldRate /100f	Trnrate /100f	Comment
0	0.00	0.00	167.01	0.00	0.00	0.00	5235.00	0.00	0.00	0.00	0.00	
1	100.00	0.00	167.01	100.00	0.00	0.00	5135.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	167.01	200.00	0.00	0.00	5035.00	0.00	0.00	0.00	0.00	
3	300.00	0.00	167.01	300.00	0.00	0.00	4935.00	0.00	0.00	0.00	0.00	
4	400.00	0.00	167.01	400.00	0.00	0.00	4835.00	0.00	0.00	0.00	0.00	
5	500.00	0.00	167.01	500.00	0.00	0.00	4735.00	0.00	0.00	0.00	0.00	
6	600.00	0.00	167.01	600.00	0.00	0.00	4635.00	0.00	0.00	0.00	0.00	
7	700.00	0.00	167.01	700.00	0.00	0.00	4535.00	0.00	0.00	0.00	0.00	
8	800.00	0.00	167.01	800.00	0.00	0.00	4435.00	0.00	0.00	0.00	0.00	
9	900.00	0.00	167.01	900.00	0.00	0.00	4335.00	0.00	0.00	0.00	0.00	
10	1000.00	0.00	167.01	1000.00	0.00	0.00	4235.00	0.00	0.00	0.00	0.00	
11	1100.00	0.00	167.01	1100.00	0.00	0.00	4135.00	0.00	0.00	0.00	0.00	
12	1200.00	2.00	167.01	1199.98	-1.70	0.39	4035.02	1.75	2.00	2.00	0.00	
13	1300.00	4.00	167.01	1299.84	-6.80	1.57	3935.16	6.98	2.00	2.00	0.00	
14	1400.00	6.00	167.01	1399.45	-15.29	3.53	3835.55	15.69	2.00	2.00	0.00	
15	1500.00	8.00	167.01	1498.70	-27.17	6.27	3736.30	27.88	2.00	2.00	0.00	
16	1572.50	9.45	167.01	1570.36	-37.88	8.74	3664.64	38.88	2.00	2.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
17	1600.00	9.45	167.01	1597.49	-42.28	9.76	3637.51	43.39	0.00	0.00	0.00	
18	1700.00	9.45	167.01	1696.13	-58.28	13.45	3538.87	59.81	0.00	0.00	0.00	
19	1800.00	9.45	167.01	1794.77	-74.28	17.14	3440.23	76.23	0.00	0.00	0.00	
20	1900.00	9.45	167.01	1893.42	-90.28	20.83	3341.58	92.65	0.00	0.00	0.00	
21	2000.00	9.45	167.01	1992.06	-106.28	24.52	3242.94	109.07	0.00	0.00	0.00	
22	2100.00	9.45	167.01	2090.70	-122.27	28.21	3144.30	125.49	0.00	0.00	0.00	
23	2200.00	9.45	167.01	2189.35	-138.27	31.90	3045.65	141.90	0.00	0.00	0.00	
24	2300.00	9.45	167.01	2287.99	-154.27	35.59	2947.01	158.32	0.00	0.00	0.00	
25	2400.00	9.45	167.01	2386.63	-170.27	39.28	2848.37	174.74	0.00	0.00	0.00	
26	2500.00	9.45	167.01	2485.27	-186.27	42.98	2749.73	191.16	0.00	0.00	0.00	
27	2600.00	9.45	167.01	2583.92	-202.27	46.67	2651.08	207.58	0.00	0.00	0.00	
28	2700.00	9.45	167.01	2682.56	-218.26	50.36	2552.44	224.00	0.00	0.00	0.00	
29	2800.00	9.45	167.01	2781.20	-234.26	54.05	2453.80	240.42	0.00	0.00	0.00	
30	2900.00	9.45	167.01	2879.85	-250.26	57.74	2355.15	256.84	0.00	0.00	0.00	
31	3000.00	9.45	167.01	2978.49	-266.26	61.43	2256.51	273.25	0.00	0.00	0.00	
32	3100.00	9.45	167.01	3077.13	-282.26	65.12	2157.87	289.67	0.00	0.00	0.00	
33	3200.00	9.45	167.01	3175.77	-298.26	68.81	2059.23	306.09	0.00	0.00	0.00	
34	3300.00	9.45	167.01	3274.42	-314.25	72.51	1960.58	322.51	0.00	0.00	0.00	
35	3400.00	9.45	167.01	3373.06	-330.25	76.20	1861.94	338.93	0.00	0.00	0.00	
36	3500.00	9.45	167.01	3471.70	-346.25	79.89	1763.30	355.35	0.00	0.00	0.00	
37	3600.00	9.45	167.01	3570.35	-362.25	83.58	1664.65	371.77	0.00	0.00	0.00	
38	3700.00	9.45	167.01	3668.99	-378.25	87.27	1566.01	388.18	0.00	0.00	0.00	
39	3800.00	9.45	167.01	3767.63	-394.25	90.96	1467.37	404.60	0.00	0.00	0.00	
40	3900.00	9.45	167.01	3866.27	-410.24	94.65	1368.73	421.02	0.00	0.00	0.00	
41	4000.00	9.45	167.01	3964.92	-426.24	98.34	1270.08	437.44	0.00	0.00	0.00	
42	4100.00	9.45	167.01	4063.56	-442.24	102.03	1171.44	453.86	0.00	0.00	0.00	
43	4200.00	9.45	167.01	4162.20	-458.24	105.73	1072.80	470.28	0.00	0.00	0.00	
44	4300.00	9.45	167.01	4260.85	-474.24	109.42	974.15	486.70	0.00	0.00	0.00	
45	4400.00	9.45	167.01	4359.49	-490.24	113.11	875.51	503.12	0.00	0.00	0.00	
46	4500.00	9.45	167.01	4458.13	-506.23	116.80	776.87	519.53	0.00	0.00	0.00	
47	4600.00	9.45	167.01	4556.78	-522.23	120.49	678.22	535.95	0.00	0.00	0.00	
48	4700.00	9.45	167.01	4655.42	-538.23	124.18	579.58	552.37	0.00	0.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
49	4800.00	9.45	167.01	4754.06	-554.23	127.87	480.94	568.79	0.00	0.00	0.00	
50	4900.00	9.45	167.01	4852.70	-570.23	131.56	382.30	585.21	0.00	0.00	0.00	
51	5000.00	9.45	167.01	4951.35	-586.23	135.25	283.65	601.63	0.00	0.00	0.00	
52	5100.00	9.45	167.01	5049.99	-602.23	138.95	185.01	618.05	0.00	0.00	0.00	
53	5200.00	9.45	167.01	5148.63	-618.22	142.64	86.37	634.47	0.00	0.00	0.00	
54	5300.00	9.45	167.01	5247.28	-634.22	146.33	-12.28	650.88	0.00	0.00	0.00	
55	5400.00	9.45	167.01	5345.92	-650.22	150.02	-110.92	667.30	0.00	0.00	0.00	
56	5500.00	9.45	167.01	5444.56	-666.22	153.71	-209.56	683.72	0.00	0.00	0.00	
57	5600.00	9.45	167.01	5543.20	-682.22	157.40	-308.20	700.14	0.00	0.00	0.00	
58	5700.00	9.45	167.01	5641.85	-698.22	161.09	-406.85	716.56	0.00	0.00	0.00	
59	5800.00	9.45	167.01	5740.49	-714.21	164.78	-505.49	732.98	0.00	0.00	0.00	
60	5900.00	9.45	167.01	5839.13	-730.21	168.48	-604.13	749.40	0.00	0.00	0.00	
61	6000.00	9.45	167.01	5937.78	-746.21	172.17	-702.78	765.81	0.00	0.00	0.00	
62	6100.00	9.45	167.01	6036.42	-762.21	175.86	-801.42	782.23	0.00	0.00	0.00	
63	6200.00	9.45	167.01	6135.06	-778.21	179.55	-900.06	798.65	0.00	0.00	0.00	
64	6300.00	9.45	167.01	6233.70	-794.21	183.24	-998.70	815.07	0.00	0.00	0.00	
65	6400.00	9.45	167.01	6332.35	-810.20	186.93	-1097.35	831.49	0.00	0.00	0.00	
66	6500.00	9.45	167.01	6430.99	-826.20	190.62	-1195.99	847.91	0.00	0.00	0.00	
67	6600.00	9.45	167.01	6529.63	-842.20	194.31	-1294.63	864.33	0.00	0.00	0.00	
68	6700.00	9.45	167.01	6628.28	-858.20	198.00	-1393.28	880.75	0.00	0.00	0.00	
69	6800.00	9.45	167.01	6726.92	-874.20	201.70	-1491.92	897.16	0.00	0.00	0.00	
70	6900.00	9.45	167.01	6825.56	-890.20	205.39	-1590.56	913.58	0.00	0.00	0.00	
71	7000.00	9.45	167.01	6924.21	-906.19	209.08	-1689.21	930.00	0.00	0.00	0.00	
72	7100.00	9.45	167.01	7022.85	-922.19	212.77	-1787.85	946.42	0.00	0.00	0.00	
73	7160.60	9.45	167.01	7082.63	-931.89	215.01	-1847.63	956.37	0.00	0.00	0.00	
74	7200.00	8.66	167.01	7121.53	-937.93	216.40	-1886.53	962.57	2.00	2.00	0.00	
75	7300.00	6.66	167.01	7220.64	-950.92	219.40	-1985.64	975.90	2.00	2.00	0.00	
76	7400.00	4.66	167.01	7320.14	-960.53	221.62	-2085.14	985.77	2.00	2.00	0.00	
77	7500.00	2.66	167.01	7419.93	-966.76	223.05	-2184.93	992.16	2.00	2.00	0.00	
78	7600.00	0.66	167.01	7519.89	-969.58	223.70	-2284.89	995.06	2.00	2.00	0.00	
79	7633.10	0.00	167.01	7552.99	-969.77	223.75	-2317.99	995.25	2.00	2.00	0.00	
80	7700.00	0.00	167.01	7619.89	-969.77	223.75	-2384.89	995.25	0.00	0.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
81	7800.00	0.00	167.01	7719.89	-969.77	223.75	-2484.89	995.25	0.00	0.00	0.00	
82	7900.00	0.00	167.01	7819.89	-969.77	223.75	-2584.89	995.25	0.00	0.00	0.00	
83	8000.00	0.00	167.01	7919.89	-969.77	223.75	-2684.89	995.25	0.00	0.00	0.00	
84	8100.00	0.00	167.01	8019.89	-969.77	223.75	-2784.89	995.25	0.00	0.00	0.00	
85	8200.00	0.00	167.01	8119.89	-969.77	223.75	-2884.89	995.25	0.00	0.00	0.00	
86	8300.00	0.00	167.01	8219.89	-969.77	223.75	-2984.89	995.25	0.00	0.00	0.00	
87	8400.00	0.00	167.01	8319.89	-969.77	223.75	-3084.89	995.25	0.00	0.00	0.00	
88	8500.00	0.00	167.01	8419.89	-969.77	223.75	-3184.89	995.25	0.00	0.00	0.00	
89	8600.00	0.00	167.01	8519.89	-969.77	223.75	-3284.89	995.25	0.00	0.00	0.00	
90	8700.00	0.00	167.01	8619.89	-969.77	223.75	-3384.89	995.25	0.00	0.00	0.00	
91	8796.11	0.00	167.01	8716.00	-969.77	223.75	-3481.00	995.25	0.00	0.00	0.00	

Closure is 995.2471 feet on an Azimuth of 167.0080