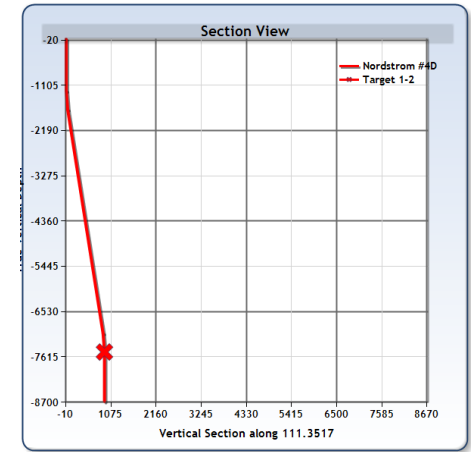
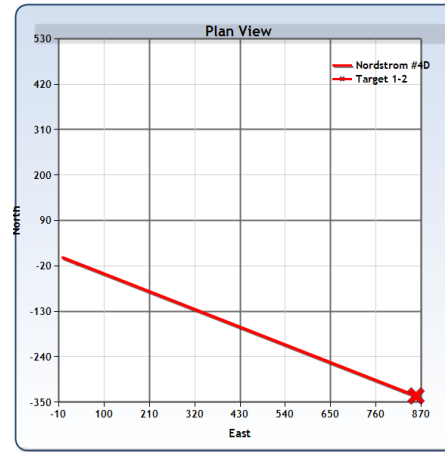


Company: Sovereign Operating Co., LLC
Well Name: Nordstrom #4D
Location: NWSE Sec. 4 T1S R68W
Info:
Info:
Vertical Section Calculated on an Azimuth of: 111.3517
Survey Calculation method: Minimum Curvature
File Name: nordstrom #4d, proposal.pl6

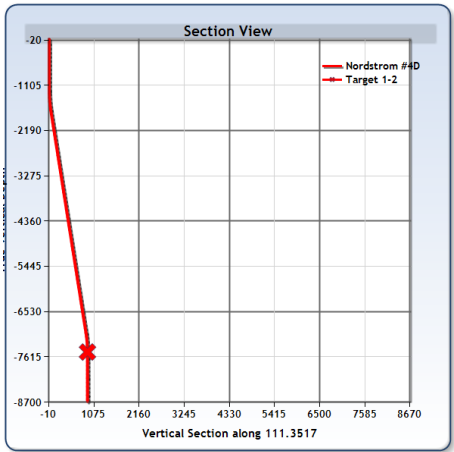
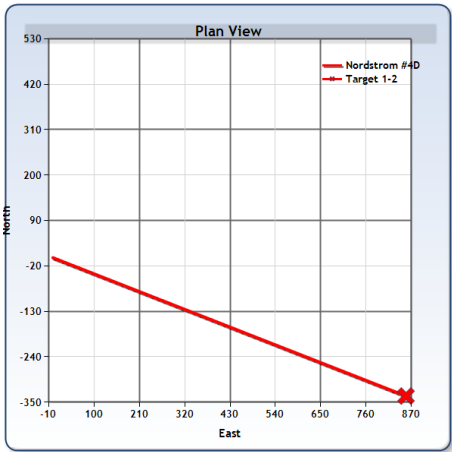


#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	SubSea Feet	Section Feet	Dogleg /100 ft	BldRate /100 ft	Trnrate /100 ft	Comment
0	0.00	0.00	111.35	0.00	0.00	0.00	5235.00	0.00	0.00	0.00	0.00	
1	1237.00	0.00	111.35	1237.00	0.00	0.00	3998.00	0.00	0.00	0.00	0.00	
2	1687.00	9.00	111.35	1685.15	-12.84	32.85	3549.85	35.27	2.00	2.00	0.00	
3	7117.30	9.00	111.35	7048.60	-322.13	824.03	-1813.60	884.76	0.00	0.00	0.00	
4	7567.30	0.00	111.35	7496.75	-334.97	856.88	-2261.75	920.03	2.00	2.00	0.00	
5	8751.55	0.00	111.35	8681.00	-334.97	856.88	-3446.00	920.03	0.00	0.00	0.00	

Closure is 920.0267 feet on an Azimuth of 111.3517



Company: Sovereign Operating Co., LLC
Well Name: Nordstrom #4D
Location: NWSE Sec. 4 T1S R68W
Info:
Info:
Vertical Section Calculated on an Azimuth of: 111.3517
Survey Calculation method: Minimum Curvature
File Name: Nordstrom #4D, Directional Surveys, 08-15-12.sr6



#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	SubSea Feet	Section Feet	Dogleg /100 ft	BldRate /100 ft	Trnrate /100 ft	Comment
0	0.00	0.00	111.35	0.00	0.00	0.00	5235.00	0.00	0.00	0.00	0.00	
1	100.00	0.00	111.35	100.00	0.00	0.00	5135.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	111.35	200.00	0.00	0.00	5035.00	0.00	0.00	0.00	0.00	
3	300.00	0.00	111.35	300.00	0.00	0.00	4935.00	0.00	0.00	0.00	0.00	
4	400.00	0.00	111.35	400.00	0.00	0.00	4835.00	0.00	0.00	0.00	0.00	
5	500.00	0.00	111.35	500.00	0.00	0.00	4735.00	0.00	0.00	0.00	0.00	
6	600.00	0.00	111.35	600.00	0.00	0.00	4635.00	0.00	0.00	0.00	0.00	
7	700.00	0.00	111.35	700.00	0.00	0.00	4535.00	0.00	0.00	0.00	0.00	
8	800.00	0.00	111.35	800.00	0.00	0.00	4435.00	0.00	0.00	0.00	0.00	
9	900.00	0.00	111.35	900.00	0.00	0.00	4335.00	0.00	0.00	0.00	0.00	
10	1000.00	0.00	111.35	1000.00	0.00	0.00	4235.00	0.00	0.00	0.00	0.00	
11	1100.00	0.00	111.35	1100.00	0.00	0.00	4135.00	0.00	0.00	0.00	0.00	
12	1200.00	0.00	111.35	1200.00	0.00	0.00	4035.00	0.00	0.00	0.00	0.00	
KOP, B.G.=2°/100'												
13	1237.00	0.00	111.35	1237.00	0.00	0.00	3998.00	0.00	0.00	0.00	0.00	
14	1300.00	1.26	111.35	1299.99	-0.25	0.65	3935.01	0.69	2.00	2.00	0.00	
15	1400.00	3.26	111.35	1399.91	-1.69	4.32	3835.09	4.64	2.00	2.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
16	1500.00	5.26	111.35	1499.63	-4.39	11.24	3735.37	12.06	2.00	2.00	0.00	
17	1600.00	7.26	111.35	1599.03	-8.36	21.39	3635.97	22.97	2.00	2.00	0.00	
EOB, HOLD 9°												
18	1687.00	9.00	111.35	1685.15	-12.84	32.85	3549.85	35.27	2.00	2.00	0.00	
19	1700.00	9.00	111.35	1697.99	-13.58	34.74	3537.01	37.30	0.00	0.00	0.00	
20	1800.00	9.00	111.35	1796.76	-19.28	49.31	3438.24	52.95	0.00	0.00	0.00	
21	1900.00	9.00	111.35	1895.53	-24.97	63.88	3339.47	68.59	0.00	0.00	0.00	
22	2000.00	9.00	111.35	1994.30	-30.67	78.45	3240.70	84.23	0.00	0.00	0.00	
23	2100.00	9.00	111.35	2093.07	-36.36	93.02	3141.93	99.88	0.00	0.00	0.00	
24	2200.00	9.00	111.35	2191.84	-42.06	107.59	3043.16	115.52	0.00	0.00	0.00	
25	2300.00	9.00	111.35	2290.60	-47.76	122.16	2944.40	131.16	0.00	0.00	0.00	
26	2400.00	9.00	111.35	2389.37	-53.45	136.73	2845.63	146.81	0.00	0.00	0.00	
27	2500.00	9.00	111.35	2488.14	-59.15	151.30	2746.86	162.45	0.00	0.00	0.00	
28	2600.00	9.00	111.35	2586.91	-64.84	165.87	2648.09	178.09	0.00	0.00	0.00	
29	2700.00	9.00	111.35	2685.68	-70.54	180.44	2549.32	193.74	0.00	0.00	0.00	
30	2800.00	9.00	111.35	2784.45	-76.23	195.01	2450.55	209.38	0.00	0.00	0.00	
31	2900.00	9.00	111.35	2883.22	-81.93	209.58	2351.78	225.03	0.00	0.00	0.00	
32	3000.00	9.00	111.35	2981.99	-87.63	224.15	2253.01	240.67	0.00	0.00	0.00	
33	3100.00	9.00	111.35	3080.76	-93.32	238.72	2154.24	256.31	0.00	0.00	0.00	
34	3200.00	9.00	111.35	3179.52	-99.02	253.29	2055.48	271.96	0.00	0.00	0.00	
35	3300.00	9.00	111.35	3278.29	-104.71	267.86	1956.71	287.60	0.00	0.00	0.00	
36	3400.00	9.00	111.35	3377.06	-110.41	282.43	1857.94	303.24	0.00	0.00	0.00	
37	3500.00	9.00	111.35	3475.83	-116.10	297.00	1759.17	318.89	0.00	0.00	0.00	
38	3600.00	9.00	111.35	3574.60	-121.80	311.57	1660.40	334.53	0.00	0.00	0.00	
39	3700.00	9.00	111.35	3673.37	-127.50	326.14	1561.63	350.17	0.00	0.00	0.00	
40	3800.00	9.00	111.35	3772.14	-133.19	340.71	1462.86	365.82	0.00	0.00	0.00	
41	3900.00	9.00	111.35	3870.91	-138.89	355.28	1364.09	381.46	0.00	0.00	0.00	
42	4000.00	9.00	111.35	3969.67	-144.58	369.85	1265.33	397.10	0.00	0.00	0.00	
43	4100.00	9.00	111.35	4068.44	-150.28	384.42	1166.56	412.75	0.00	0.00	0.00	
44	4200.00	9.00	111.35	4167.21	-155.97	398.99	1067.79	428.39	0.00	0.00	0.00	
45	4300.00	9.00	111.35	4265.98	-161.67	413.56	969.02	444.03	0.00	0.00	0.00	
46	4400.00	9.00	111.35	4364.75	-167.36	428.13	870.25	459.68	0.00	0.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
47	4500.00	9.00	111.35	4463.52	-173.06	442.70	771.48	475.32	0.00	0.00	0.00	
48	4600.00	9.00	111.35	4562.29	-178.76	457.27	672.71	490.96	0.00	0.00	0.00	
49	4700.00	9.00	111.35	4661.06	-184.45	471.84	573.94	506.61	0.00	0.00	0.00	
50	4800.00	9.00	111.35	4759.83	-190.15	486.41	475.17	522.25	0.00	0.00	0.00	
51	4900.00	9.00	111.35	4858.59	-195.84	500.97	376.41	537.89	0.00	0.00	0.00	
52	5000.00	9.00	111.35	4957.36	-201.54	515.54	277.64	553.54	0.00	0.00	0.00	
53	5100.00	9.00	111.35	5056.13	-207.23	530.11	178.87	569.18	0.00	0.00	0.00	
54	5200.00	9.00	111.35	5154.90	-212.93	544.68	80.10	584.82	0.00	0.00	0.00	
55	5300.00	9.00	111.35	5253.67	-218.63	559.25	-18.67	600.47	0.00	0.00	0.00	
56	5400.00	9.00	111.35	5352.44	-224.32	573.82	-117.44	616.11	0.00	0.00	0.00	
57	5500.00	9.00	111.35	5451.21	-230.02	588.39	-216.21	631.75	0.00	0.00	0.00	
58	5600.00	9.00	111.35	5549.98	-235.71	602.96	-314.98	647.40	0.00	0.00	0.00	
59	5700.00	9.00	111.35	5648.75	-241.41	617.53	-413.75	663.04	0.00	0.00	0.00	
60	5800.00	9.00	111.35	5747.51	-247.10	632.10	-512.51	678.69	0.00	0.00	0.00	
61	5900.00	9.00	111.35	5846.28	-252.80	646.67	-611.28	694.33	0.00	0.00	0.00	
62	6000.00	9.00	111.35	5945.05	-258.50	661.24	-710.05	709.97	0.00	0.00	0.00	
63	6100.00	9.00	111.35	6043.82	-264.19	675.81	-808.82	725.62	0.00	0.00	0.00	
64	6200.00	9.00	111.35	6142.59	-269.89	690.38	-907.59	741.26	0.00	0.00	0.00	
65	6300.00	9.00	111.35	6241.36	-275.58	704.95	-1006.36	756.90	0.00	0.00	0.00	
66	6400.00	9.00	111.35	6340.13	-281.28	719.52	-1105.13	772.55	0.00	0.00	0.00	
67	6500.00	9.00	111.35	6438.90	-286.97	734.09	-1203.90	788.19	0.00	0.00	0.00	
68	6600.00	9.00	111.35	6537.66	-292.67	748.66	-1302.66	803.83	0.00	0.00	0.00	
69	6700.00	9.00	111.35	6636.43	-298.36	763.23	-1401.43	819.48	0.00	0.00	0.00	
70	6800.00	9.00	111.35	6735.20	-304.06	777.80	-1500.20	835.12	0.00	0.00	0.00	
71	6900.00	9.00	111.35	6833.97	-309.76	792.37	-1598.97	850.76	0.00	0.00	0.00	
72	7000.00	9.00	111.35	6932.74	-315.45	806.94	-1697.74	866.41	0.00	0.00	0.00	
73	7100.00	9.00	111.35	7031.51	-321.15	821.51	-1796.51	882.05	0.00	0.00	0.00	
TOD, D.G.=2°/100'												
74	7117.30	9.00	111.35	7048.60	-322.13	824.03	-1813.60	884.76	0.00	0.00	0.00	
75	7200.00	7.35	111.35	7130.45	-326.41	834.98	-1895.45	896.51	2.00	2.00	0.00	
76	7300.00	5.35	111.35	7229.84	-330.44	845.27	-1994.84	907.57	2.00	2.00	0.00	
77	7400.00	3.35	111.35	7329.54	-333.20	852.33	-2094.54	915.14	2.00	2.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
78	7500.00	1.35	111.35	7429.45	-334.69	856.14	-2194.45	919.24	2.00	2.00	0.00	
EOD, HOLD												
0°												
79	7567.30	0.00	111.35	7496.75	-334.97	856.88	-2261.75	920.03	2.00	2.00	0.00	
80	7600.00	0.00	111.35	7529.45	-334.97	856.88	-2294.45	920.03	0.00	0.00	0.00	
81	7700.00	0.00	111.35	7629.45	-334.97	856.88	-2394.45	920.03	0.00	0.00	0.00	
Int	7717.55	0.00	111.35	7647.00	-334.97	856.88	-2412.00	920.03	---	---	---	
NBRR												
83	7800.00	0.00	111.35	7729.45	-334.97	856.88	-2494.45	920.03	0.00	0.00	0.00	
84	7900.00	0.00	111.35	7829.45	-334.97	856.88	-2594.45	920.03	0.00	0.00	0.00	
85	8000.00	0.00	111.35	7929.45	-334.97	856.88	-2694.45	920.03	0.00	0.00	0.00	
86	8100.00	0.00	111.35	8029.45	-334.97	856.88	-2794.45	920.03	0.00	0.00	0.00	
Int	8171.55	0.00	111.35	8101.00	-334.97	856.88	-2866.00	920.03	---	---	---	
CODL												
88	8200.00	0.00	111.35	8129.45	-334.97	856.88	-2894.45	920.03	0.00	0.00	0.00	
89	8300.00	0.00	111.35	8229.45	-334.97	856.88	-2994.45	920.03	0.00	0.00	0.00	
90	8400.00	0.00	111.35	8329.45	-334.97	856.88	-3094.45	920.03	0.00	0.00	0.00	
91	8500.00	0.00	111.35	8429.45	-334.97	856.88	-3194.45	920.03	0.00	0.00	0.00	
92	8600.00	0.00	111.35	8529.45	-334.97	856.88	-3294.45	920.03	0.00	0.00	0.00	
Int	8601.55	0.00	111.35	8531.00	-334.97	856.88	-3296.00	920.03	---	---	---	
JSND												
94	8700.00	0.00	111.35	8629.45	-334.97	856.88	-3394.45	920.03	0.00	0.00	0.00	
95	8751.55	0.00	111.35	8681.00	-334.97	856.88	-3446.00	920.03	0.00	0.00	0.00	

Closure is 920.0267 feet on an Azimuth of 111.3517