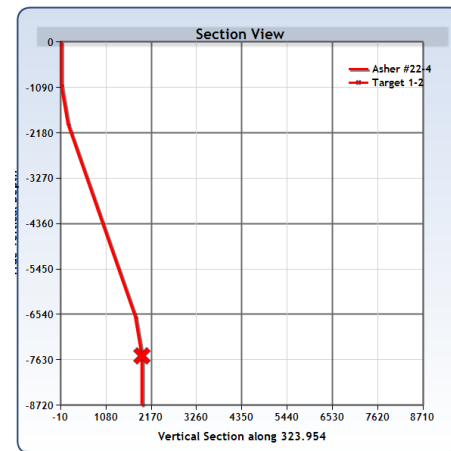
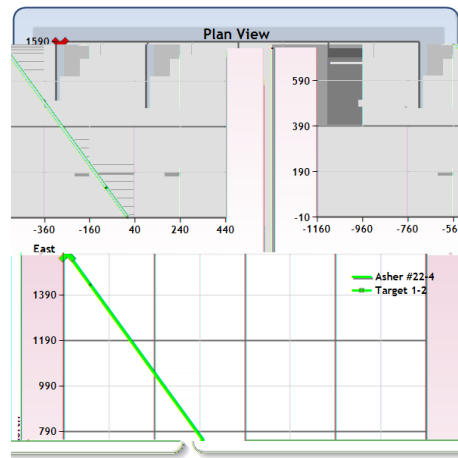




Company: Sovereign Operating Co., LLC
Well Name: Asher #22-4
Location: NWSE Sec. 4 T1S R68W
Info: North Reference is True North.
Info:
Vertical Section Calculated on an Azimuth of: 323.9540
Survey Calculation method: Minimum Curvature
File Name: asher #22-4, directional plan, 08-08-12.pl6

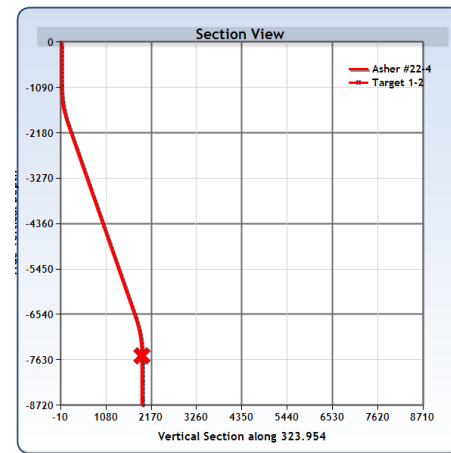
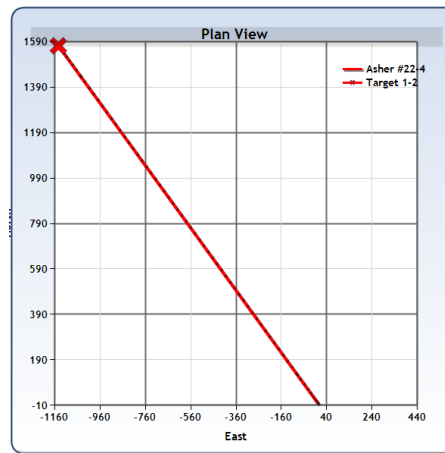


#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	SubSea Feet	Section Feet	Dogleg /100 ft	BldRate /100 ft	Trnrate /100 ft	Comment
0	0.00	0.00	323.95	0.00	0.00	0.00	5251.00	0.00	0.00	0.00	0.00	
1	1007.00	0.00	323.95	1007.00	0.00	0.00	4244.00	0.00	0.00	0.00	0.00	
2	1972.00	19.30	323.95	1953.85	130.17	-94.74	3297.15	161.00	2.00	2.00	0.00	
3	6881.20	19.30	323.95	6587.16	1442.09	-1049.51	-1336.16	1783.56	0.00	0.00	0.00	
4	7846.20	0.00	323.95	7534.02	1572.26	-1144.25	-2283.02	1944.56	2.00	2.00	0.00	
5	9016.18	0.00	323.95	8704.00	1572.26	-1144.25	-3453.00	1944.56	0.00	0.00	0.00	

Closure is 1944.5581 feet on an Azimuth of 323.9540



Company: Sovereign Operating Co., LLC
Well Name: Asher #22-4
Location: NWSE Sec. 4 T1S R68W
Info: North Reference is True North.
Info:
Vertical Section Calculated on an Azimuth of: 323.9540
Survey Calculation method: Minimum Curvature
File Name: Asher #22-4, Directional Surveys, 08-08-12.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	323.95	0.00	0.00	0.00	5251.00	0.00	0.00	0.00	0.00	
1	100.00	0.00	323.95	100.00	0.00	0.00	5151.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	323.95	200.00	0.00	0.00	5051.00	0.00	0.00	0.00	0.00	
3	300.00	0.00	323.95	300.00	0.00	0.00	4951.00	0.00	0.00	0.00	0.00	
4	400.00	0.00	323.95	400.00	0.00	0.00	4851.00	0.00	0.00	0.00	0.00	
5	500.00	0.00	323.95	500.00	0.00	0.00	4751.00	0.00	0.00	0.00	0.00	
6	600.00	0.00	323.95	600.00	0.00	0.00	4651.00	0.00	0.00	0.00	0.00	
7	700.00	0.00	323.95	700.00	0.00	0.00	4551.00	0.00	0.00	0.00	0.00	
8	800.00	0.00	323.95	800.00	0.00	0.00	4451.00	0.00	0.00	0.00	0.00	
9	900.00	0.00	323.95	900.00	0.00	0.00	4351.00	0.00	0.00	0.00	0.00	
10	1000.00	0.00	323.95	1000.00	0.00	0.00	4251.00	0.00	0.00	0.00	0.00	
KOP, B.G.=2°/100'												
11	1007.00	0.00	323.95	1007.00	0.00	0.00	4244.00	0.00	0.00	0.00	0.00	
12	1100.00	1.86	323.95	1099.98	1.22	-0.89	4151.02	1.51	2.00	2.00	0.00	
13	1200.00	3.86	323.95	1199.85	5.25	-3.82	4051.15	6.50	2.00	2.00	0.00	
14	1300.00	5.86	323.95	1299.49	12.10	-8.81	3951.51	14.97	2.00	2.00	0.00	
15	1400.00	7.86	323.95	1398.77	21.76	-15.84	3852.23	26.91	2.00	2.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
16	1500.00	9.86	323.95	1497.57	34.21	-24.90	3753.43	42.32	2.00	2.00	0.00	
17	1600.00	11.86	323.95	1595.77	49.45	-35.99	3655.23	61.16	2.00	2.00	0.00	
18	1700.00	13.86	323.95	1693.26	67.44	-49.08	3557.74	83.41	2.00	2.00	0.00	
19	1800.00	15.86	323.95	1789.91	88.18	-64.17	3461.09	109.06	2.00	2.00	0.00	
20	1900.00	17.86	323.95	1885.61	111.63	-81.24	3365.39	138.06	2.00	2.00	0.00	
EOB, Hold 19.3°												
21	1972.00	19.30	323.95	1953.85	130.17	-94.74	3297.15	161.00	2.00	2.00	0.00	
22	2000.00	19.30	323.95	1980.28	137.66	-100.18	3270.72	170.25	0.00	0.00	0.00	
23	2100.00	19.30	323.95	2074.66	164.38	-119.63	3176.34	203.30	0.00	0.00	0.00	
24	2200.00	19.30	323.95	2169.04	191.10	-139.08	3081.96	236.36	0.00	0.00	0.00	
25	2300.00	19.30	323.95	2263.42	217.83	-158.53	2987.58	269.41	0.00	0.00	0.00	
26	2400.00	19.30	323.95	2357.80	244.55	-177.98	2893.20	302.46	0.00	0.00	0.00	
27	2500.00	19.30	323.95	2452.18	271.27	-197.43	2798.82	335.51	0.00	0.00	0.00	
28	2600.00	19.30	323.95	2546.56	298.00	-216.87	2704.44	368.56	0.00	0.00	0.00	
29	2700.00	19.30	323.95	2640.94	324.72	-236.32	2610.06	401.61	0.00	0.00	0.00	
30	2800.00	19.30	323.95	2735.32	351.45	-255.77	2515.68	434.66	0.00	0.00	0.00	
31	2900.00	19.30	323.95	2829.70	378.17	-275.22	2421.30	467.72	0.00	0.00	0.00	
32	3000.00	19.30	323.95	2924.08	404.89	-294.67	2326.92	500.77	0.00	0.00	0.00	
33	3100.00	19.30	323.95	3018.46	431.62	-314.12	2232.54	533.82	0.00	0.00	0.00	
34	3200.00	19.30	323.95	3112.84	458.34	-333.57	2138.16	566.87	0.00	0.00	0.00	
35	3300.00	19.30	323.95	3207.22	485.06	-353.01	2043.78	599.92	0.00	0.00	0.00	
36	3400.00	19.30	323.95	3301.60	511.79	-372.46	1949.40	632.97	0.00	0.00	0.00	
37	3500.00	19.30	323.95	3395.98	538.51	-391.91	1855.02	666.02	0.00	0.00	0.00	
38	3600.00	19.30	323.95	3490.36	565.23	-411.36	1760.64	699.08	0.00	0.00	0.00	
39	3700.00	19.30	323.95	3584.74	591.96	-430.81	1666.26	732.13	0.00	0.00	0.00	
40	3800.00	19.30	323.95	3679.12	618.68	-450.26	1571.88	765.18	0.00	0.00	0.00	
41	3900.00	19.30	323.95	3773.50	645.40	-469.71	1477.50	798.23	0.00	0.00	0.00	
42	4000.00	19.30	323.95	3867.88	672.13	-489.15	1383.12	831.28	0.00	0.00	0.00	
43	4100.00	19.30	323.95	3962.26	698.85	-508.60	1288.74	864.33	0.00	0.00	0.00	
44	4200.00	19.30	323.95	4056.64	725.58	-528.05	1194.36	897.38	0.00	0.00	0.00	
45	4300.00	19.30	323.95	4151.02	752.30	-547.50	1099.98	930.44	0.00	0.00	0.00	
46	4400.00	19.30	323.95	4245.40	779.02	-566.95	1005.60	963.49	0.00	0.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
47	4500.00	19.30	323.95	4339.78	805.75	-586.40	911.22	996.54	0.00	0.00	0.00	
48	4600.00	19.30	323.95	4434.16	832.47	-605.85	816.84	1029.59	0.00	0.00	0.00	
49	4700.00	19.30	323.95	4528.54	859.19	-625.30	722.46	1062.64	0.00	0.00	0.00	
50	4800.00	19.30	323.95	4622.92	885.92	-644.74	628.08	1095.69	0.00	0.00	0.00	
51	4900.00	19.30	323.95	4717.30	912.64	-664.19	533.70	1128.74	0.00	0.00	0.00	
52	5000.00	19.30	323.95	4811.68	939.36	-683.64	439.32	1161.80	0.00	0.00	0.00	
53	5100.00	19.30	323.95	4906.06	966.09	-703.09	344.94	1194.85	0.00	0.00	0.00	
54	5200.00	19.30	323.95	5000.44	992.81	-722.54	250.56	1227.90	0.00	0.00	0.00	
55	5300.00	19.30	323.95	5094.82	1019.53	-741.99	156.18	1260.95	0.00	0.00	0.00	
56	5400.00	19.30	323.95	5189.20	1046.26	-761.44	61.80	1294.00	0.00	0.00	0.00	
57	5500.00	19.30	323.95	5283.58	1072.98	-780.88	-32.58	1327.05	0.00	0.00	0.00	
58	5600.00	19.30	323.95	5377.96	1099.71	-800.33	-126.96	1360.10	0.00	0.00	0.00	
59	5700.00	19.30	323.95	5472.34	1126.43	-819.78	-221.34	1393.16	0.00	0.00	0.00	
60	5800.00	19.30	323.95	5566.72	1153.15	-839.23	-315.72	1426.21	0.00	0.00	0.00	
61	5900.00	19.30	323.95	5661.10	1179.88	-858.68	-410.10	1459.26	0.00	0.00	0.00	
62	6000.00	19.30	323.95	5755.48	1206.60	-878.13	-504.48	1492.31	0.00	0.00	0.00	
63	6100.00	19.30	323.95	5849.86	1233.32	-897.58	-598.86	1525.36	0.00	0.00	0.00	
64	6200.00	19.30	323.95	5944.24	1260.05	-917.02	-693.24	1558.41	0.00	0.00	0.00	
65	6300.00	19.30	323.95	6038.62	1286.77	-936.47	-787.62	1591.46	0.00	0.00	0.00	
66	6400.00	19.30	323.95	6133.00	1313.49	-955.92	-882.00	1624.52	0.00	0.00	0.00	
67	6500.00	19.30	323.95	6227.38	1340.22	-975.37	-976.38	1657.57	0.00	0.00	0.00	
68	6600.00	19.30	323.95	6321.76	1366.94	-994.82	-1070.76	1690.62	0.00	0.00	0.00	
69	6700.00	19.30	323.95	6416.14	1393.66	-1014.27	-1165.14	1723.67	0.00	0.00	0.00	
70	6800.00	19.30	323.95	6510.52	1420.39	-1033.72	-1259.52	1756.72	0.00	0.00	0.00	
TOD, D.G.=2°/100'												
71	6881.20	19.30	323.95	6587.16	1442.09	-1049.51	-1336.16	1783.56	0.00	0.00	0.00	
72	6900.00	18.92	323.95	6604.93	1447.06	-1053.13	-1353.93	1789.72	2.00	2.00	0.00	
73	7000.00	16.92	323.95	6700.07	1471.95	-1071.24	-1449.07	1820.49	2.00	2.00	0.00	
74	7100.00	14.92	323.95	6796.22	1494.13	-1087.38	-1545.22	1847.92	2.00	2.00	0.00	
75	7200.00	12.92	323.95	6893.28	1513.58	-1101.54	-1642.28	1871.99	2.00	2.00	0.00	
76	7300.00	10.92	323.95	6991.12	1530.29	-1113.70	-1740.12	1892.65	2.00	2.00	0.00	
77	7400.00	8.92	323.95	7089.62	1544.22	-1123.84	-1838.62	1909.88	2.00	2.00	0.00	



#	Depth	Inc	Azimuth	TVD	North	East	SubSea	Section	Dogleg	BldRate	Trnrate	Comment
78	7500.00	6.92	323.95	7188.66	1555.37	-1131.95	-1937.66	1923.66	2.00	2.00	0.00	
79	7600.00	4.92	323.95	7288.12	1563.71	-1138.02	-2037.12	1933.99	2.00	2.00	0.00	
80	7700.00	2.92	323.95	7387.88	1569.25	-1142.05	-2136.88	1940.83	2.00	2.00	0.00	
81	7800.00	0.92	323.95	7487.82	1571.96	-1144.03	-2236.82	1944.19	2.00	2.00	0.00	
EOD, Hold 0°												
82	7846.20	0.00	323.95	7534.02	1572.26	-1144.25	-2283.02	1944.56	2.00	2.00	0.00	
83	7900.00	0.00	323.95	7587.82	1572.26	-1144.25	-2336.82	1944.56	0.00	0.00	0.00	
NBRR												
Int	7996.18	0.00	323.95	7684.00	1572.26	-1144.25	-2433.00	1944.56	---	---	---	
85	8000.00	0.00	323.95	7687.82	1572.26	-1144.25	-2436.82	1944.56	0.00	0.00	0.00	
86	8100.00	0.00	323.95	7787.82	1572.26	-1144.25	-2536.82	1944.56	0.00	0.00	0.00	
87	8200.00	0.00	323.95	7887.82	1572.26	-1144.25	-2636.82	1944.56	0.00	0.00	0.00	
88	8300.00	0.00	323.95	7987.82	1572.26	-1144.25	-2736.82	1944.56	0.00	0.00	0.00	
89	8400.00	0.00	323.95	8087.82	1572.26	-1144.25	-2836.82	1944.56	0.00	0.00	0.00	
NBRR												
Int	8429.18	0.00	323.95	8117.00	1572.26	-1144.25	-2866.00	1944.56	---	---	---	
91	8500.00	0.00	323.95	8187.82	1572.26	-1144.25	-2936.82	1944.56	0.00	0.00	0.00	
92	8600.00	0.00	323.95	8287.82	1572.26	-1144.25	-3036.82	1944.56	0.00	0.00	0.00	
93	8700.00	0.00	323.95	8387.82	1572.26	-1144.25	-3136.82	1944.56	0.00	0.00	0.00	
94	8800.00	0.00	323.95	8487.82	1572.26	-1144.25	-3236.82	1944.56	0.00	0.00	0.00	
JSND												
Int	8866.18	0.00	323.95	8554.00	1572.26	-1144.25	-3303.00	1944.56	---	---	---	
96	8900.00	0.00	323.95	8587.82	1572.26	-1144.25	-3336.82	1944.56	0.00	0.00	0.00	
97	9000.00	0.00	323.95	8687.82	1572.26	-1144.25	-3436.82	1944.56	0.00	0.00	0.00	
98	9016.18	0.00	323.95	8704.00	1572.26	-1144.25	-3453.00	1944.56	0.00	0.00	0.00	

Closure is 1944.5581 feet on an Azimuth of 323.9540