



Company: NOBLE ENERGY
 Lease/Well: WILMOTH/6-3
 Location:
 Rig Name: PRODUCTION
 State/County: COLORADO/WELD
 Latitude: 40.35
 GRID North is 0.59 Degrees East of True North
 VS-Azi: 0.00 Degrees

FIELD COPY ONLY (NOT DEFINITIVE)

DEPTH REFERENCE : GL = 0'

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: wilmoth6-3raw.ut
 Minimum Curvature Method
 Report Date/Time: 4/7/2011 / 17:10

Vaughn Energy Services
 Rifle, Colorado
 970 456 2071
 Surveyor: S.Anderson
 Wilmoth 6-3 API# 05-123-12676

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N-S FT	+E-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.56	98.07	100.00	-0.07	0.48	-0.07	0.49	98.07	0.56
200.00	0.20	165.27	200.00	-0.31	1.01	-0.31	1.05	106.89	0.51
300.00	0.17	188.75	300.00	-0.62	1.03	-0.62	1.20	121.20	0.08
400.00	0.39	250.49	399.99	-0.89	0.69	-0.89	1.12	142.26	0.34
500.00	0.44	263.33	499.99	-1.04	-0.01	-1.04	1.04	180.81	0.10
600.00	0.50	266.74	599.99	-1.11	-0.83	-1.11	1.39	216.76	0.07
700.00	0.49	264.11	699.99	-1.18	-1.70	-1.18	2.07	235.15	0.02
800.00	0.67	259.36	799.98	-1.33	-2.70	-1.33	3.01	243.70	0.18
900.00	0.50	255.15	899.97	-1.55	-3.69	-1.55	4.01	247.19	0.17
1000.00	0.51	240.66	999.97	-1.88	-4.50	-1.88	4.88	247.30	0.13
1100.00	0.58	229.75	1099.97	-2.43	-5.28	-2.43	5.81	245.29	0.12
1200.00	0.52	228.02	1199.96	-3.06	-6.00	-3.06	6.73	243.00	0.06
1300.00	0.55	211.65	1299.96	-3.76	-6.58	-3.76	7.58	240.25	0.15
1400.00	0.47	209.16	1399.95	-4.53	-7.03	-4.53	8.36	237.23	0.08
1500.00	0.62	201.28	1499.95	-5.39	-7.43	-5.39	9.18	234.04	0.17
1600.00	0.43	216.41	1599.94	-6.19	-7.85	-6.19	10.00	231.71	0.24
1700.00	0.56	230.96	1699.94	-6.80	-8.44	-6.80	10.84	231.16	0.18
1800.00	0.40	232.40	1799.94	-7.32	-9.10	-7.32	11.68	231.19	0.15
1900.00	0.37	224.50	1899.94	-7.77	-9.61	-7.77	12.35	231.05	0.06
2000.00	0.34	213.83	1999.93	-8.25	-10.00	-8.25	12.96	230.49	0.07
2100.00	0.43	160.68	2099.93	-8.85	-10.04	-8.85	13.38	228.62	0.35
2200.00	0.18	127.91	2199.93	-9.30	-9.79	-9.30	13.50	226.49	0.30
2300.00	0.23	112.10	2299.93	-9.47	-9.49	-9.47	13.40	225.05	0.08
2400.00	0.21	95.41	2399.93	-9.56	-9.12	-9.56	13.21	223.64	0.07
2500.00	0.29	73.13	2499.93	-9.51	-8.69	-9.51	12.88	222.44	0.12
2600.00	0.16	39.33	2599.93	-9.32	-8.36	-9.32	12.52	221.89	0.18
2700.00	0.21	6.31	2699.93	-9.03	-8.25	-9.03	12.24	222.41	0.12
2800.00	0.09	355.71	2799.93	-8.78	-8.24	-8.78	12.04	223.19	0.12
2900.00	0.04	169.34	2899.93	-8.74	-8.24	-8.74	12.01	223.31	0.13
3000.00	0.26	205.40	2999.93	-8.99	-8.33	-8.99	12.25	222.83	0.23
3100.00	0.29	210.31	3099.92	-9.41	-8.55	-9.41	12.72	222.27	0.03

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3200.00	0.29	159.83	3199.92	-9.87	-8.59	-9.87	13.08	221.05	0.25
3300.00	0.11	51.67	3299.92	-10.05	-8.43	-10.05	13.12	219.99	0.34
3400.00	0.09	359.22	3399.92	-9.92	-8.36	-9.92	12.97	220.13	0.09
3500.00	0.12	341.82	3499.92	-9.74	-8.39	-9.74	12.86	220.75	0.04
3600.00	0.34	338.74	3599.92	-9.37	-8.53	-9.37	12.67	222.32	0.22
3700.00	0.22	328.28	3699.92	-8.93	-8.74	-8.93	12.50	224.39	0.12
3800.00	0.42	334.60	3799.92	-8.43	-9.00	-8.43	12.33	226.88	0.20
3900.00	0.37	352.87	3899.92	-7.77	-9.20	-7.77	12.05	229.80	0.14
4000.00	0.50	18.43	3999.91	-7.04	-9.10	-7.04	11.51	232.29	0.23
4100.00	0.34	29.80	4099.91	-6.37	-8.82	-6.37	10.88	234.16	0.18
4200.00	0.33	24.48	4199.91	-5.85	-8.55	-5.85	10.36	235.62	0.03
4300.00	0.21	25.59	4299.91	-5.42	-8.35	-5.42	9.96	237.02	0.12
4400.00	0.25	26.75	4399.91	-5.06	-8.17	-5.06	9.61	238.26	0.04
4500.00	0.37	29.91	4499.91	-4.58	-7.91	-4.58	9.14	239.93	0.12
4600.00	0.31	25.24	4599.90	-4.05	-7.64	-4.05	8.64	242.04	0.06
4700.00	0.29	6.21	4699.90	-3.56	-7.49	-3.56	8.29	244.60	0.10
4800.00	0.16	7.53	4799.90	-3.18	-7.45	-3.18	8.10	246.91	0.13
4900.00	0.17	0.64	4899.90	-2.89	-7.43	-2.89	7.97	248.74	0.03
5000.00	0.11	357.73	4999.90	-2.65	-7.43	-2.65	7.89	250.39	0.07
5100.00	0.17	351.07	5099.90	-2.41	-7.46	-2.41	7.84	252.07	0.06
5200.00	0.22	341.21	5199.90	-2.09	-7.54	-2.09	7.82	254.52	0.06
5300.00	0.21	353.23	5299.90	-1.73	-7.62	-1.73	7.82	257.25	0.05
5400.00	0.39	3.43	5399.90	-1.21	-7.62	-1.21	7.72	261.00	0.19
5500.00	0.88	5.22	5499.89	-0.11	-7.53	-0.11	7.54	269.16	0.49
5600.00	0.83	359.24	5599.88	1.37	-7.48	1.37	7.60	280.39	0.10
5700.00	0.75	349.32	5699.87	2.74	-7.61	2.74	8.08	289.81	0.15
5800.00	1.08	333.01	5799.86	4.23	-8.16	4.23	9.19	297.40	0.42
5900.00	1.24	326.46	5899.84	5.97	-9.19	5.97	10.96	303.04	0.21
6000.00	2.16	324.75	5999.79	8.42	-10.87	8.42	13.75	307.75	0.92
6100.00	1.33	323.92	6099.75	10.90	-12.65	10.90	16.70	310.76	0.83
6200.00	0.48	355.36	6199.73	12.26	-13.37	12.26	18.14	312.53	0.96
6300.00	0.39	32.57	6299.73	12.97	-13.22	12.97	18.52	314.45	0.29
6400.00	0.28	65.80	6399.73	13.35	-12.82	13.35	18.51	316.17	0.22
6500.00	0.46	89.45	6499.73	13.45	-12.19	13.45	18.16	317.82	0.24
6600.00	0.86	117.88	6599.72	13.11	-11.12	13.11	17.19	319.68	0.51
6700.00	0.90	126.43	6699.71	12.29	-9.82	12.29	15.73	321.36	0.14
6800.00	0.73	127.47	6799.70	11.43	-8.69	11.43	14.36	322.77	0.17
6900.00	0.67	138.43	6899.69	10.60	-7.79	10.60	13.16	323.70	0.14

<div> HORIZONTAL DISPLACEMENT IS 13.16 FEET AT 323.70 DEGREES </div>
