

Company: Noble
Lease/Well: State Schmidt/36-10



Rig Name: Production
State/County: Colorado/Weld
Latitude: 40.35



GRID North is 0.58 Degrees East of True North
VS-Azi: 0.00 Degrees

Depth Reference : GL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01_ed.ut

Minimum Curvature Method

Report Date/Time: 9/10/2012 / 10:43

Vaughn Energy Services

Rifle, Colorado

970-456-2071

Surveyor: Garry Fowler

State Schmidt 36-10 API# 05-123-13368

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	0.12	181.45	100.00	-0.10	0.00	-0.10	0.10	181.45	0.12
200.00	0.13	190.33	200.00	-0.31	-0.03	-0.31	0.32	184.57	0.02
300.00	0.24	194.12	300.00	-0.62	-0.10	-0.62	0.63	188.70	0.11
400.00	0.19	196.59	400.00	-0.99	-0.19	-0.99	1.01	191.13	0.04
500.00	0.21	192.59	500.00	-1.33	-0.28	-1.33	1.36	192.01	0.02
600.00	0.28	194.80	600.00	-1.74	-0.38	-1.74	1.78	192.45	0.07
700.00	0.34	195.02	700.00	-2.26	-0.52	-2.26	2.32	193.02	0.06
800.00	0.34	193.27	799.99	-2.84	-0.67	-2.84	2.92	193.25	0.01
900.00	0.35	198.23	899.99	-3.42	-0.83	-3.42	3.52	193.68	0.03
1000.00	0.35	170.81	999.99	-4.01	-0.88	-4.01	4.11	192.36	0.17
1100.00	0.41	171.80	1099.99	-4.67	-0.78	-4.67	4.73	189.48	0.05
1200.00	0.55	174.77	1199.98	-5.50	-0.69	-5.50	5.54	187.11	0.15
1300.00	0.60	248.85	1299.98	-6.16	-1.13	-6.16	6.27	190.39	0.69
1400.00	0.61	256.03	1399.97	-6.48	-2.14	-6.48	6.83	198.25	0.08
1500.00	0.70	267.94	1499.97	-6.63	-3.27	-6.63	7.39	206.22	0.16
1600.00	0.83	280.33	1599.96	-6.52	-4.60	-6.52	7.98	215.15	0.21
1700.00	0.82	282.36	1699.95	-6.24	-6.01	-6.24	8.66	223.90	0.03
1800.00	0.80	288.24	1799.94	-5.87	-7.37	-5.87	9.42	231.45	0.08
1900.00	0.88	285.54	1899.93	-5.45	-8.77	-5.45	10.33	238.18	0.09
2000.00	0.84	289.38	1999.92	-5.00	-10.21	-5.00	11.36	243.92	0.08

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
2100.00	0.88	284.54	2099.91	-4.56	-11.64	-4.56	12.50	248.60	0.09
2200.00	0.88	304.54	2199.89	-3.93	-13.02	-3.93	13.60	253.19	0.31
2300.00	0.89	288.02	2299.88	-3.26	-14.39	-3.26	14.75	257.24	0.25
2400.00	0.85	261.58	2399.87	-3.13	-15.86	-3.13	16.17	258.85	0.40
2500.00	0.85	252.53	2499.86	-3.46	-17.30	-3.46	17.65	258.70	0.13
2600.00	0.89	252.21	2599.85	-3.92	-18.75	-3.92	19.16	258.20	0.05
2700.00	0.92	250.64	2699.84	-4.42	-20.25	-4.42	20.73	257.69	0.04
2800.00	0.99	249.68	2799.82	-4.99	-21.81	-4.99	22.38	257.13	0.07
2900.00	0.98	262.80	2899.81	-5.39	-23.47	-5.39	24.08	257.06	0.22
3000.00	1.00	266.40	2999.79	-5.55	-25.18	-5.55	25.79	257.56	0.07
3100.00	1.15	275.91	3099.78	-5.50	-27.05	-5.50	27.61	258.50	0.24
3200.00	1.32	296.56	3199.75	-4.89	-29.08	-4.89	29.49	260.46	0.47
3300.00	1.52	311.11	3299.72	-3.50	-31.12	-3.50	31.31	263.59	0.41
3400.00	1.70	321.84	3399.68	-1.46	-33.03	-1.46	33.06	267.47	0.35
3500.00	1.99	324.19	3499.63	1.12	-34.97	1.12	34.98	271.83	0.30
3600.00	2.08	337.36	3599.57	4.21	-36.68	4.21	36.92	276.54	0.48
3700.00	2.53	334.49	3699.49	7.87	-38.33	7.87	39.13	281.61	0.46
3800.00	2.54	335.78	3799.39	11.89	-40.19	11.89	41.91	286.48	0.06
3900.00	2.53	331.17	3899.29	15.85	-42.17	15.85	45.05	290.60	0.20
4000.00	2.54	337.62	3999.19	19.83	-44.08	19.83	48.33	294.23	0.29
4100.00	3.14	343.30	4099.07	24.51	-45.71	24.51	51.86	298.20	0.67
4200.00	3.15	341.27	4198.92	29.73	-47.38	29.73	55.93	302.11	0.11
4300.00	2.85	345.79	4298.78	34.74	-48.87	34.74	59.96	305.41	0.38
4400.00	2.76	343.65	4398.66	39.47	-50.16	39.47	63.83	308.20	0.14
4500.00	2.82	338.44	4498.54	44.07	-51.74	44.07	67.97	310.42	0.26
4600.00	2.50	333.48	4598.44	48.31	-53.62	48.31	72.18	312.02	0.39
4700.00	2.28	335.09	4698.35	52.07	-55.43	52.07	76.05	313.21	0.24
4800.00	1.54	335.86	4798.29	55.10	-56.82	55.10	79.15	314.12	0.74
4900.00	1.34	330.74	4898.26	57.34	-57.94	57.34	81.52	314.70	0.24
5000.00	1.27	339.43	4998.24	59.39	-58.90	59.39	83.65	315.24	0.21
5100.00	1.23	340.36	5098.21	61.44	-59.65	61.44	85.63	315.85	0.04
5200.00	1.02	341.92	5198.19	63.30	-60.29	63.30	87.42	316.40	0.22
5300.00	1.03	343.85	5298.18	65.01	-60.81	65.01	89.02	316.91	0.04
5400.00	0.98	338.46	5398.16	66.67	-61.38	66.67	90.62	317.37	0.11
5500.00	0.93	338.65	5498.15	68.22	-61.98	68.22	92.17	317.74	0.05
5600.00	0.91	341.78	5598.13	69.73	-62.53	69.73	93.65	318.12	0.05
5700.00	0.92	347.88	5698.12	71.27	-62.94	71.27	95.08	318.55	0.10
5800.00	0.84	3.92	5798.11	72.79	-63.06	72.79	96.31	319.09	0.26
5900.00	0.81	5.86	5898.10	74.22	-62.94	74.22	97.32	319.70	0.04
6000.00	0.72	10.86	5998.09	75.54	-62.75	75.54	98.21	320.29	0.11
6100.00	0.58	14.82	6098.08	76.65	-62.50	76.65	98.90	320.81	0.15
6200.00	0.50	17.55	6198.08	77.55	-62.24	77.55	99.44	321.25	0.09

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
6300.00	0.74	17.20	6298.07	78.59	-61.92	78.59	100.05	321.77	0.25
6400.00	0.82	22.97	6398.06	79.87	-61.45	79.87	100.77	322.43	0.11
6500.00	0.81	25.80	6498.05	81.17	-60.86	81.17	101.45	323.14	0.04
6600.00	0.82	38.79	6598.04	82.36	-60.10	82.36	101.96	323.88	0.18
6700.00	0.87	46.52	6698.03	83.44	-59.10	83.44	102.25	324.69	0.13
6800.00	0.58	52.65	6798.03	84.27	-58.15	84.27	102.39	325.39	0.30
6900.00	0.28	71.00	6898.02	84.66	-57.52	84.66	102.35	325.81	0.33