

Company: Noble  
Lease/Well: State Schmidt/36-8



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



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 / 10:56

Vaughn Energy Services  
Rifle, Colorado  
970-456-2071  
Surveyor: Garry Fowler  
State Schmidt 36-8 / API #05-123-13366

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	0.27	121.64	100.00	-0.12	0.20	-0.12	0.24	121.64	0.27
200.00	0.27	121.59	200.00	-0.38	0.61	-0.38	0.72	121.63	0.00
300.00	0.29	161.69	300.00	-0.74	0.89	-0.74	1.16	129.60	0.19
400.00	0.23	166.91	400.00	-1.17	1.02	-1.17	1.55	139.05	0.06
500.00	0.21	168.27	500.00	-1.55	1.10	-1.55	1.90	144.61	0.02
600.00	0.28	188.58	599.99	-1.97	1.10	-1.97	2.25	150.76	0.11
700.00	0.26	176.24	699.99	-2.43	1.08	-2.43	2.65	156.03	0.06
800.00	0.28	172.91	799.99	-2.89	1.12	-2.89	3.10	158.75	0.03
900.00	0.24	174.37	899.99	-3.33	1.17	-3.33	3.53	160.61	0.04
1000.00	0.17	186.73	999.99	-3.69	1.18	-3.69	3.87	162.31	0.08
1100.00	0.18	197.13	1099.99	-3.98	1.11	-3.98	4.14	164.40	0.03
1200.00	0.19	199.95	1199.99	-4.29	1.01	-4.29	4.41	166.76	0.01
1300.00	0.19	204.07	1299.99	-4.60	0.88	-4.60	4.69	169.13	0.01
1400.00	0.24	206.72	1399.99	-4.94	0.72	-4.94	5.00	171.72	0.05
1500.00	0.24	204.62	1499.99	-5.32	0.54	-5.32	5.35	174.24	0.01
1600.00	0.36	205.78	1599.99	-5.80	0.31	-5.80	5.81	176.91	0.12
1700.00	0.36	211.67	1699.98	-6.35	0.01	-6.35	6.35	179.92	0.04
1800.00	0.30	212.16	1799.98	-6.85	-0.30	-6.85	6.85	182.49	0.06
1900.00	0.23	214.25	1899.98	-7.24	-0.55	-7.24	7.26	184.36	0.07
2000.00	0.25	213.89	1999.98	-7.58	-0.79	-7.58	7.62	185.92	0.02

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	0.26	198.70	2099.98	-7.98	-0.98	-7.98	8.04	187.00	0.07
2200.00	0.25	172.27	2199.98	-8.41	-1.02	-8.41	8.47	186.94	0.12
2300.00	0.24	168.90	2299.98	-8.83	-0.95	-8.83	8.88	186.17	0.02
2400.00	0.42	152.67	2399.98	-9.36	-0.75	-9.36	9.39	184.55	0.20
2500.00	0.47	148.99	2499.97	-10.04	-0.37	-10.04	10.04	182.09	0.05
2600.00	0.45	184.79	2599.97	-10.77	-0.19	-10.77	10.78	181.01	0.28
2700.00	0.40	203.05	2699.97	-11.48	-0.36	-11.48	11.49	181.79	0.14
2800.00	0.45	221.07	2799.96	-12.10	-0.75	-12.10	12.12	183.56	0.14
2900.00	0.51	232.64	2899.96	-12.67	-1.37	-12.67	12.74	186.15	0.11
3000.00	0.51	233.49	2999.96	-13.20	-2.07	-13.20	13.36	188.93	0.01
3100.00	0.48	246.20	3099.95	-13.63	-2.81	-13.63	13.92	191.66	0.11
3200.00	0.47	243.38	3199.95	-13.99	-3.56	-13.99	14.43	194.30	0.02
3300.00	0.26	243.17	3299.95	-14.27	-4.14	-14.27	14.86	196.16	0.21
3400.00	0.45	182.82	3399.95	-14.77	-4.36	-14.77	15.40	196.44	0.39
3500.00	0.53	164.00	3499.94	-15.60	-4.25	-15.60	16.17	195.24	0.18
3600.00	0.62	132.51	3599.94	-16.41	-3.73	-16.41	16.82	192.80	0.32
3700.00	0.69	136.36	3699.93	-17.21	-2.91	-17.21	17.45	189.61	0.09
3800.00	0.72	136.66	3799.92	-18.10	-2.06	-18.10	18.22	186.50	0.03
3900.00	0.74	134.52	3899.92	-19.01	-1.17	-19.01	19.05	183.52	0.03
4000.00	0.73	133.28	3999.91	-19.90	-0.25	-19.90	19.90	180.72	0.02
4100.00	0.95	135.73	4099.90	-20.93	0.79	-20.93	20.95	177.83	0.23
4200.00	1.43	136.23	4199.87	-22.43	2.24	-22.43	22.54	174.31	0.48
4300.00	1.57	133.79	4299.84	-24.28	4.09	-24.28	24.62	170.44	0.16
4400.00	1.64	130.40	4399.80	-26.16	6.17	-26.16	26.88	166.72	0.12
4500.00	1.85	131.23	4499.75	-28.15	8.48	-28.15	29.40	163.24	0.20
4600.00	0.98	131.94	4599.72	-29.78	10.33	-29.78	31.52	160.88	0.87
4700.00	0.97	133.41	4699.71	-30.94	11.58	-30.94	33.03	159.48	0.03
4800.00	0.89	133.17	4799.70	-32.05	12.76	-32.05	34.50	158.29	0.08
4900.00	0.79	144.81	4899.69	-33.15	13.73	-33.15	35.88	157.51	0.20
5000.00	0.60	168.77	4999.68	-34.23	14.23	-34.23	37.07	157.43	0.34
5100.00	0.39	179.34	5099.67	-35.08	14.33	-35.08	37.90	157.78	0.24
5200.00	0.46	188.53	5199.67	-35.82	14.28	-35.82	38.56	158.27	0.10
5300.00	0.43	199.65	5299.67	-36.56	14.09	-36.56	39.19	158.92	0.09
5400.00	0.40	232.64	5399.67	-37.13	13.69	-37.13	39.57	159.76	0.24
5500.00	0.42	200.13	5499.66	-37.68	13.28	-37.68	39.95	160.58	0.23
5600.00	0.45	183.88	5599.66	-38.42	13.13	-38.42	40.60	161.13	0.13
5700.00	0.47	165.52	5699.66	-39.21	13.21	-39.21	41.37	161.38	0.15
5800.00	0.63	161.29	5799.65	-40.13	13.49	-40.13	42.34	161.42	0.16
5900.00	0.70	148.56	5899.65	-41.17	13.98	-41.17	43.48	161.24	0.16
6000.00	0.57	134.86	5999.64	-42.04	14.65	-42.04	44.52	160.79	0.20
6100.00	0.50	125.56	6099.64	-42.65	15.36	-42.65	45.33	160.19	0.11
6200.00	0.33	125.55	6199.63	-43.07	15.96	-43.07	45.94	159.67	0.17

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	0.31	154.95	6299.63	-43.49	16.31	-43.49	46.45	159.44	0.16
6400.00	0.24	169.50	6399.63	-43.95	16.46	-43.95	46.93	159.46	0.10
6500.00	0.20	190.42	6499.63	-44.33	16.47	-44.33	47.29	159.62	0.09
6600.00	0.10	218.97	6599.63	-44.57	16.38	-44.57	47.49	159.82	0.12
6700.00	0.21	194.61	6699.63	-44.82	16.28	-44.82	47.68	160.04	0.12
6800.00	0.26	188.70	6799.63	-45.22	16.20	-45.22	48.03	160.29	0.06
6900.00	0.26	182.84	6899.63	-45.67	16.15	-45.67	48.44	160.52	0.03
6940.00	0.27	165.49	6939.63	-45.85	16.17	-45.85	48.62	160.57	0.20