



Company: Noble Energy
Rig: Production/VES
API # 05-123-23198

Date: 12/31/2013

Surveyor: Nick Kula

VS: 0.000

Lat : 40.180

Long: -104.642

Well: Moser H34-9

Location: Weld County, Colorado

North Reference: GRID

Convergence: GRID North is 0.550 Degrees East

Declination: 8.44

Depth Reference: Ground Level

Elevation: 4833'

Total Depth as Drilled: 7287'

Lat & Long obtained by handheld GPS at wellhead

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbgr
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.000	0.435	318.704	0.285	-0.250	99.999	0.435	0.285	0.379	318.704
200.000	0.198	305.360	0.670	-0.641	199.997	0.246	0.670	0.927	316.242
300.000	0.108	290.610	0.803	-0.870	299.997	0.097	0.803	1.184	312.694
400.000	0.121	256.274	0.811	-1.061	399.997	0.069	0.811	1.335	307.380
500.000	0.273	232.753	0.641	-1.354	499.996	0.169	0.641	1.498	295.341
600.000	0.156	234.235	0.417	-1.654	599.996	0.118	0.417	1.706	284.165
700.000	0.421	97.861	0.288	-1.400	699.995	0.545	0.288	1.429	281.615
800.000	0.461	103.990	0.140	-0.645	799.992	0.062	0.140	0.660	282.257
900.000	0.387	107.622	-0.059	0.067	899.989	0.078	-0.059	0.089	131.555
1000.000	0.483	108.842	-0.298	0.788	999.986	0.096	-0.298	0.842	110.701
1100.000	0.490	99.134	-0.502	1.609	1099.983	0.083	-0.502	1.685	107.319
1200.000	0.386	100.769	-0.633	2.363	1199.980	0.104	-0.633	2.446	104.990
1300.000	0.231	77.809	-0.653	2.891	1299.978	0.196	-0.653	2.964	102.733
1400.000	0.220	43.020	-0.470	3.218	1399.978	0.135	-0.470	3.252	98.316
1500.000	0.312	22.916	-0.080	3.455	1499.976	0.130	-0.080	3.456	91.320
1600.000	0.276	7.815	0.410	3.594	1599.975	0.085	0.410	3.617	83.494
1700.000	0.358	1.879	0.961	3.637	1699.974	0.088	0.961	3.762	75.192
1800.000	0.261	327.057	1.465	3.523	1799.972	0.207	1.465	3.816	67.416
1900.000	0.290	275.613	1.682	3.147	1899.971	0.241	1.682	3.568	61.886
2000.000	0.262	263.406	1.680	2.669	1999.970	0.065	1.680	3.153	57.807
2100.000	0.194	275.621	1.670	2.273	2099.969	0.083	1.670	2.821	53.688
2200.000	0.182	218.237	1.562	2.006	2199.969	0.181	1.562	2.542	52.094
2300.000	0.198	266.250	1.426	1.735	2299.968	0.155	1.426	2.246	50.591
2400.000	0.336	295.372	1.540	1.298	2399.967	0.189	1.540	2.014	40.133
2500.000	0.547	326.554	2.064	0.771	2499.964	0.312	2.064	2.203	20.481
2600.000	0.497	355.853	2.895	0.476	2599.960	0.268	2.895	2.934	9.346
2700.000	0.488	350.447	3.748	0.374	2699.957	0.047	3.748	3.766	5.704
2800.000	0.626	16.848	4.690	0.462	2799.952	0.287	4.690	4.713	5.625
2900.000	0.931	41.641	5.820	1.160	2899.943	0.448	5.820	5.935	11.274
3000.000	0.752	31.366	6.988	2.042	2999.932	0.234	6.988	7.280	16.288
3100.000	0.512	79.101	7.633	2.822	3099.927	0.557	7.633	8.138	20.292
3200.000	0.773	43.253	8.209	3.723	3199.921	0.467	8.209	9.014	24.398
3300.000	1.472	7.531	9.973	4.354	3299.902	0.957	9.973	10.882	23.585
3400.000	1.722	349.465	12.724	4.248	3399.864	0.559	12.724	13.414	18.461
3500.000	0.852	343.457	14.914	3.761	3499.838	0.880	14.914	15.381	14.155

3600.000	0.646	8.457	16.184	3.632	3599.829	0.381	16.184	16.586	12.650
3700.000	0.500	8.826	17.172	3.782	3699.824	0.146	17.172	17.584	12.421
3800.000	0.346	21.073	17.885	3.958	3799.821	0.178	17.885	18.318	12.478
3900.000	0.388	336.367	18.477	3.930	3899.820	0.282	18.477	18.890	12.009
4000.000	0.423	340.448	19.135	3.671	3999.817	0.045	19.135	19.484	10.861
4100.000	0.930	356.869	20.293	3.503	4099.810	0.538	20.293	20.593	9.795
4200.000	1.248	10.985	22.173	3.667	4199.792	0.414	22.173	22.474	9.389
4300.000	1.365	23.263	24.337	4.345	4299.766	0.303	24.337	24.722	10.122
4400.000	1.330	351.349	26.578	4.640	4399.740	0.742	26.578	26.980	9.904
4500.000	1.419	334.395	28.842	3.931	4499.711	0.415	28.842	29.109	7.761
4600.000	1.221	342.749	30.976	3.080	4599.685	0.276	30.976	31.129	5.678
4700.000	0.729	300.076	32.312	2.214	4699.671	0.845	32.312	32.388	3.919
4800.000	0.796	238.569	32.268	1.071	4799.664	0.782	32.268	32.286	1.901
4900.000	0.829	95.639	31.835	1.198	4899.660	1.540	31.835	31.857	2.155
5000.000	1.586	99.462	31.536	3.282	4999.637	0.761	31.536	31.707	5.942
5100.000	1.690	68.629	31.846	6.021	5099.598	0.877	31.846	32.411	10.706
5200.000	1.004	51.190	32.933	8.077	5199.570	0.792	32.933	33.909	13.781
5300.000	1.001	43.636	34.114	9.363	5299.555	0.132	34.114	35.376	15.347
5400.000	0.876	43.487	35.300	10.491	5399.542	0.125	35.300	36.826	16.551
5500.000	0.541	51.991	36.146	11.389	5499.534	0.350	36.146	37.897	17.489
5600.000	0.563	50.322	36.750	12.139	5599.529	0.027	36.750	38.703	18.279
5700.000	1.048	17.035	37.938	12.785	5699.520	0.655	37.938	40.035	18.623
5800.000	1.151	14.818	39.784	13.310	5799.501	0.111	39.784	41.952	18.498
5900.000	0.950	7.654	41.577	13.677	5899.484	0.240	41.577	43.768	18.209
6000.000	0.735	356.418	43.038	13.748	5999.473	0.270	43.038	45.180	17.715
6100.000	0.685	359.086	44.275	13.698	6099.466	0.059	44.275	46.346	17.191
6200.000	0.562	357.541	45.363	13.667	6199.460	0.125	45.363	47.377	16.767
6300.000	0.554	1.885	46.335	13.662	6299.455	0.043	46.335	48.308	16.428
6400.000	0.558	332.034	47.248	13.450	6399.451	0.286	47.248	49.125	15.890
6500.000	0.478	352.742	48.092	13.169	6499.447	0.202	48.092	49.862	15.314
6600.000	0.452	327.844	48.840	12.906	6599.443	0.202	48.840	50.516	14.803
6700.000	0.643	69.589	49.369	13.223	6699.441	0.858	49.369	51.110	14.994
6800.000	1.379	77.646	49.823	14.924	6799.424	0.747	49.823	52.010	16.676
6900.000	1.635	99.216	49.852	17.508	6899.391	0.617	49.852	52.837	19.351
7000.000	0.728	94.420	49.574	19.549	6999.368	0.912	49.574	53.289	21.521
7050.000	0.554	126.109	49.407	20.060	7049.365	0.776	49.407	53.325	22.098

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