



Company: Noble Energy
 Rig: Production/ VES
 API # 05-123-17333
 Date: 6/15/2013
 Surveyor: Sean Bratt
 VS: 0.000
 Lat : 40.23131
 Long: -104.6002

Well: Mick D 18-4
 Location: Weld County, Colorado
 North Reference: GRID
 Convergence: Grid north is -0.58 of True North
 Declination: 8.5 Degrees
 Depth Reference: Ground Level
 Elevation: 4813
 Total Depth as Drilled: 7223

Lat & Long obtained by handheld GPS at wellhead
 Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbrg
0.000	0.000	0.000	0.000	0.000	0.000	****	0.000	0.000	0.000
100.000	0.642	300.598	0.285	-0.483	99.998	0.642	0.285	0.561	300.598
200.000	0.533	259.856	0.489	-1.423	199.993	0.422	0.489	1.504	288.961
300.000	0.506	268.998	0.399	-2.322	299.989	0.087	0.399	2.356	279.756
400.000	0.449	242.363	0.210	-3.110	399.986	0.227	0.210	3.117	273.861
500.000	0.655	212.255	-0.455	-3.762	499.981	0.349	-0.455	3.790	263.100
600.000	0.609	190.814	-1.461	-4.167	599.975	0.240	-1.461	4.416	250.678
700.000	0.914	218.604	-2.606	-4.764	699.967	0.470	-2.606	5.431	241.319
800.000	0.750	204.787	-3.824	-5.536	799.956	0.258	-3.824	6.728	235.368
900.000	0.769	212.859	-4.982	-6.175	899.947	0.109	-4.982	7.934	231.103
1000.000	0.914	216.280	-6.189	-7.011	999.936	0.153	-6.189	9.352	228.565
1100.000	0.914	216.475	-7.473	-7.957	1099.924	0.003	-7.473	10.916	226.796
1200.000	0.929	213.489	-8.791	-8.879	1199.911	0.050	-8.791	12.495	225.285
1300.000	0.694	182.175	-10.072	-9.349	1299.901	0.493	-10.072	13.742	222.867
1400.000	0.840	204.118	-11.346	-9.671	1399.892	0.325	-11.346	14.909	220.444
1500.000	0.750	189.714	-12.660	-10.081	1499.883	0.218	-12.660	16.184	218.530
1600.000	0.304	147.140	-13.528	-10.048	1599.879	0.565	-13.528	16.851	216.603
1700.000	0.844	249.438	-14.009	-10.593	1699.875	0.955	-14.009	17.563	217.096
1800.000	0.957	237.026	-14.722	-11.983	1799.863	0.225	-14.722	18.982	219.144
1900.000	0.846	240.322	-15.542	-13.325	1899.850	0.122	-15.542	20.472	220.608
2000.000	0.849	196.645	-16.617	-14.179	1999.840	0.631	-16.617	21.844	220.472
2100.000	0.148	281.566	-17.301	-14.518	2099.837	0.849	-17.301	22.586	220.000
2200.000	0.760	244.895	-17.557	-15.246	2199.833	0.647	-17.557	23.252	220.969
2300.000	0.205	249.655	-17.901	-16.014	2299.829	0.556	-17.901	24.019	221.816
2400.000	0.925	224.488	-18.539	-16.748	2399.824	0.744	-18.539	24.983	222.094
2500.000	0.869	210.561	-19.767	-17.698	2499.812	0.224	-19.767	26.532	221.840
2600.000	0.013	186.435	-20.431	-18.085	2599.808	0.857	-20.431	27.286	221.514
2700.000	0.833	199.401	-21.129	-18.328	2699.804	0.820	-21.129	27.970	220.940
2800.000	0.486	249.653	-21.962	-18.967	2799.798	0.642	-21.962	29.019	220.815
2900.000	0.241	38.356	-21.945	-19.235	2899.797	0.703	-21.945	29.181	221.235
3000.000	0.599	215.997	-22.203	-19.412	2999.796	0.840	-22.203	29.492	221.163
3100.000	0.340	39.018	-22.396	-19.532	3099.794	0.939	-22.396	29.716	221.093
3200.000	0.394	179.518	-22.509	-19.343	3199.793	0.691	-22.509	29.678	220.673
3300.000	0.635	37.290	-22.412	-19.004	3299.792	0.977	-22.412	29.385	220.296
3400.000	0.582	19.598	-21.493	-18.498	3399.786	0.194	-21.493	28.357	220.717

3500.000	0.371	260.046	-21.071	-18.647	3499.784	0.830	-21.071	28.137	221.507
3600.000	0.777	296.608	-20.823	-19.572	3599.779	0.527	-20.823	28.578	223.226
3700.000	0.779	273.425	-20.479	-20.857	3699.770	0.313	-20.479	29.230	225.523
3800.000	1.068	255.760	-20.668	-22.438	3799.757	0.402	-20.668	30.506	227.352
3900.000	1.776	262.548	-21.098	-24.878	3899.726	0.727	-21.098	32.619	229.700
4000.000	2.068	259.533	-21.627	-28.189	3999.670	0.308	-21.627	35.529	232.504
4100.000	2.650	250.417	-22.729	-32.141	4099.585	0.691	-22.729	39.366	234.733
4200.000	2.226	252.719	-24.081	-36.174	4199.494	0.436	-24.081	43.456	236.348
4300.000	2.758	253.367	-25.347	-40.333	4299.399	0.533	-25.347	47.636	237.854
4400.000	2.951	254.581	-26.720	-45.120	4399.275	0.202	-26.720	52.438	239.366
4500.000	2.853	258.988	-27.879	-50.043	4499.147	0.244	-27.879	57.285	240.878
4600.000	2.958	270.042	-28.353	-55.066	4599.019	0.569	-28.353	61.936	242.757
4700.000	2.642	283.962	-27.795	-59.882	4698.901	0.747	-27.795	66.018	245.101
4800.000	3.359	270.546	-27.211	-65.048	4798.764	0.999	-27.211	70.510	247.300
4900.000	3.107	268.667	-27.246	-70.686	4898.605	0.274	-27.246	75.755	248.921
5000.000	2.743	270.944	-27.269	-75.787	4998.475	0.382	-27.269	80.544	250.210
5100.000	2.095	283.379	-26.807	-79.957	5098.386	0.830	-26.807	84.332	251.465
5200.000	1.559	258.922	-26.646	-83.071	5198.336	0.934	-26.646	87.239	252.216
5300.000	0.924	222.062	-27.505	-84.946	5298.314	0.990	-27.505	89.288	252.058
5400.000	0.698	212.386	-28.618	-85.812	5398.304	0.263	-28.618	90.459	251.556
5500.000	0.244	198.256	-29.335	-86.205	5498.300	0.465	-29.335	91.060	251.207
5600.000	0.850	211.736	-30.168	-86.662	5598.295	0.615	-30.168	91.763	250.807
5700.000	0.970	215.291	-31.489	-87.541	5698.282	0.133	-31.489	93.032	250.216
5800.000	0.972	219.169	-32.837	-88.565	5798.268	0.066	-32.837	94.457	249.657
5900.000	0.866	245.841	-33.804	-89.790	5898.256	0.436	-33.804	95.943	249.370
6000.000	0.455	323.497	-33.794	-90.716	5998.250	0.888	-33.794	96.806	249.569
6100.000	1.134	300.256	-32.976	-91.807	6098.240	0.738	-32.976	97.550	250.243
6200.000	1.117	288.705	-32.164	-93.585	6198.221	0.227	-32.164	98.958	251.033
6300.000	0.619	312.243	-31.488	-94.909	6298.210	0.603	-31.488	99.996	251.645
6400.000	1.222	280.241	-30.936	-96.358	6398.197	0.770	-30.936	101.202	252.201
6500.000	0.545	317.705	-30.394	-97.727	6498.185	0.856	-30.394	102.345	252.724
6600.000	0.537	276.142	-29.992	-98.513	6598.181	0.384	-29.992	102.978	253.067
6700.000	0.357	341.055	-29.647	-99.080	6698.179	0.503	-29.647	103.421	253.342
6800.000	0.938	273.521	-29.302	-99.998	6798.173	0.866	-29.302	104.203	253.668
6900.000	0.820	250.035	-29.496	-101.487	6898.161	0.376	-29.496	105.686	253.794
7000.000	1.037	257.731	-29.932	-103.043	6998.148	0.250	-29.932	107.303	253.802
7035.000	0.866	267.559	-30.011	-103.617	7033.143	0.672	-30.011	107.876	253.847

