



Company: Noble Energy

Rig: Production / CoreTech

API # 05-123-14946

Date: 2/21/2014

Surveyor: CJ Hines

VS: 0.000

Lat : 40.289

Long: -104.728

Well: Martinson #25-3F

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.5 East of True Nort

Declination: 8.47

Depth Reference: Ground Level

Elevation: 4759

Total Depth as Drilled: 7360

Lat & Long obtained by handheld GPS at wellhead

MS 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	0.000
100.000	0.393	34.169	0.284	0.193	99.999	0.393	0.284	0.343	34.169
200.000	0.089	340.812	0.641	0.360	199.998	0.348	0.641	0.736	29.314
300.000	0.352	65.371	0.843	0.614	299.998	0.355	0.843	1.042	36.067
400.000	0.280	15.133	1.206	0.957	399.996	0.276	1.206	1.540	38.410
500.000	0.192	17.956	1.602	1.072	499.995	0.089	1.602	1.927	33.795
600.000	0.387	334.138	2.065	0.976	599.994	0.282	2.065	2.284	25.306
700.000	0.537	305.022	2.637	0.445	699.991	0.274	2.637	2.675	9.584
800.000	0.487	309.959	3.179	-0.264	799.987	0.066	3.179	3.190	355.251
900.000	0.871	304.591	3.884	-1.215	899.980	0.388	3.884	4.069	342.622
1000.000	0.751	294.581	4.587	-2.436	999.970	0.185	4.587	5.194	332.026
1100.000	0.824	284.818	5.044	-3.727	1099.960	0.153	5.044	6.272	323.535
1200.000	1.219	289.053	5.575	-5.428	1199.944	0.402	5.575	7.781	315.765
1300.000	0.718	271.658	5.940	-7.060	1299.930	0.575	5.940	9.227	310.078
1400.000	0.961	274.700	6.027	-8.522	1399.919	0.247	6.027	10.438	305.270
1500.000	0.917	288.238	6.346	-10.118	1499.906	0.225	6.346	11.943	302.098
1600.000	0.739	260.303	6.488	-11.514	1599.896	0.436	6.488	13.216	299.401
1700.000	1.122	286.290	6.654	-13.090	1699.883	0.561	6.654	14.685	296.946
1800.000	0.872	290.104	7.191	-14.745	1799.868	0.259	7.191	16.405	295.997
1900.000	0.748	302.910	7.807	-16.008	1899.858	0.219	7.807	17.810	295.998
2000.000	0.296	17.265	8.408	-16.479	1999.854	0.726	8.408	18.500	297.031
2100.000	0.354	21.394	8.942	-16.290	2099.852	0.063	8.942	18.583	298.763
2200.000	0.398	357.268	9.576	-16.194	2199.850	0.163	9.576	18.814	300.598
2300.000	0.326	82.781	9.959	-15.928	2299.849	0.494	9.959	18.786	302.016
2400.000	0.744	117.302	9.697	-15.069	2399.845	0.511	9.697	17.920	302.762
2500.000	0.818	121.123	9.030	-13.881	2499.835	0.090	9.030	16.560	303.046
2600.000	0.692	112.084	8.434	-12.710	2599.827	0.173	8.434	15.254	303.568
2700.000	0.625	109.596	8.024	-11.636	2699.820	0.073	8.024	14.135	304.589
2800.000	0.588	98.794	7.763	-10.615	2799.814	0.120	7.763	13.151	306.177
2900.000	0.056	178.456	7.635	-10.107	2899.813	0.581	7.635	12.667	307.070
3000.000	0.170	252.111	7.541	-10.247	2999.812	0.163	7.541	12.722	306.351
3100.000	0.321	337.439	7.754	-10.495	3099.812	0.351	7.754	13.049	306.459
3200.000	0.737	331.463	8.578	-10.910	3199.807	0.419	8.578	13.879	308.177
3300.000	0.427	333.457	9.477	-11.384	3299.802	0.311	9.477	14.812	309.777
3400.000	0.440	327.002	10.132	-11.759	3399.799	0.050	10.132	15.522	310.748
3500.000	0.920	277.409	10.557	-12.764	3499.793	0.718	10.557	16.564	309.593

3600.000	1.206	272.180	10.700	-14.613	3599.775	0.302	10.700	18.112	306.214
3700.000	2.041	269.373	10.721	-17.445	3699.734	0.838	10.721	20.476	301.573
3800.000	2.391	267.394	10.607	-21.310	3799.659	0.358	10.607	23.803	296.461
3900.000	2.284	270.779	10.539	-25.386	3899.576	0.175	10.539	27.487	292.546
4000.000	2.564	277.025	10.839	-29.598	3999.487	0.384	10.839	31.520	290.114
4100.000	2.710	294.175	12.081	-33.975	4099.382	0.799	12.081	36.059	289.575
4200.000	2.564	307.343	14.407	-37.910	4199.277	0.622	14.407	40.555	290.808
4300.000	2.610	308.860	17.192	-41.462	4299.175	0.082	17.192	44.885	292.521
4400.000	2.380	314.414	20.074	-44.717	4399.081	0.333	20.074	49.016	294.175
4500.000	2.096	318.837	22.904	-47.404	4499.004	0.332	22.904	52.647	295.788
4600.000	2.111	328.557	25.852	-49.569	4598.937	0.357	25.852	55.905	297.543
4700.000	1.865	348.590	29.018	-50.852	4698.878	0.733	29.018	58.549	299.711
4800.000	1.545	0.711	31.961	-51.157	4798.834	0.480	31.961	60.320	301.996
4900.000	1.340	2.152	34.478	-51.096	4898.803	0.209	34.478	61.641	304.010
5000.000	1.298	355.804	36.776	-51.135	4998.776	0.152	36.776	62.986	305.723
5100.000	1.288	335.851	38.931	-51.678	5098.751	0.448	38.931	64.701	306.992
5200.000	0.663	348.953	40.525	-52.249	5198.736	0.660	40.525	66.122	307.798
5300.000	0.757	309.550	41.513	-52.869	5298.729	0.487	41.513	67.220	308.139
5400.000	0.799	316.191	42.438	-53.861	5398.720	0.099	42.438	68.571	308.235
5500.000	1.074	340.287	43.823	-54.660	5498.707	0.474	43.823	70.059	308.720
5600.000	1.197	335.500	45.656	-55.410	5598.687	0.156	45.656	71.796	309.487
5700.000	1.100	305.091	47.159	-56.629	5698.668	0.610	47.159	73.693	309.787
5800.000	0.331	171.088	47.425	-57.369	5798.663	1.351	47.425	74.434	309.579
5900.000	0.491	257.659	47.048	-57.743	5898.661	0.576	47.048	74.484	309.173
6000.000	0.729	315.012	47.407	-58.612	5998.656	0.622	47.407	75.384	308.967
6100.000	0.584	327.830	48.288	-59.333	6098.649	0.206	48.288	76.500	309.140
6200.000	0.289	340.086	48.957	-59.691	6198.646	0.308	48.957	77.200	309.358
6300.000	0.361	344.304	49.497	-59.862	6298.645	0.075	49.497	77.675	309.586
6400.000	0.473	324.360	50.135	-60.187	6398.642	0.182	50.135	78.333	309.794
6500.000	0.408	328.622	50.775	-60.613	6498.639	0.073	50.775	79.070	309.952
6600.000	0.295	329.124	51.300	-60.931	6598.637	0.112	51.300	79.651	310.095
6700.000	0.179	302.577	51.605	-61.195	6698.636	0.157	51.605	80.049	310.141
6800.000	0.134	22.561	51.797	-61.281	6798.636	0.204	51.797	80.239	310.206
6900.000	0.143	152.535	51.795	-61.178	6898.636	0.252	51.795	80.159	310.252
7000.000	0.149	127.323	51.605	-61.017	6998.636	0.064	51.605	79.913	310.223
7100.000	0.391	82.744	51.569	-60.575	7098.635	0.303	51.569	79.553	310.408

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