



Company: Noble Energy
 Rig: Production/Coretech
 API # 05-123-29808
 Date: 3/13/2014
 Surveyor: Randy Holcomb
 VS: 0.000
 Lat : 40.286
 Long: -104.734

Well: Miller K25-31
 Location: Weld County, Colorado
 North Reference: GRID
 Convergence: Grid north is 0.49 East of True North
 Declination: 8.47
 Depth Reference: Ground Level
 Elevation: 4762 Feet
 Total Depth as Drilled: 7385 Feet

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
100.000	0.348	285.305	0.080	-0.293	99.999	0.348	0.080	0.304	285.305
200.000	0.274	259.014	0.115	-0.821	199.998	0.159	0.115	0.829	277.967
300.000	0.040	277.011	0.074	-1.090	299.998	0.236	0.074	1.093	273.863
400.000	0.315	335.540	0.328	-1.239	399.997	0.296	0.328	1.282	284.843
500.000	0.166	297.785	0.646	-1.481	499.996	0.210	0.646	1.616	293.575
600.000	0.182	54.897	0.805	-1.480	599.996	0.297	0.805	1.684	298.550
700.000	0.289	89.427	0.899	-1.098	699.995	0.173	0.899	1.419	309.315
800.000	0.053	84.949	0.905	-0.799	799.995	0.237	0.905	1.208	318.565
900.000	0.079	125.353	0.869	-0.697	899.994	0.052	0.869	1.114	321.291
1000.000	0.050	188.322	0.786	-0.646	999.994	0.072	0.786	1.018	320.581
1100.000	0.135	32.449	0.843	-0.590	1099.994	0.181	0.843	1.029	325.032
1200.000	0.470	35.666	1.276	-0.287	1199.993	0.336	1.276	1.307	347.311
1300.000	0.331	51.746	1.788	0.179	1299.990	0.178	1.788	1.797	5.713
1400.000	0.570	35.376	2.372	0.694	1399.987	0.269	2.372	2.472	16.301
1500.000	0.461	34.819	3.108	1.212	1499.983	0.109	3.108	3.336	21.296
1600.000	0.576	13.038	3.929	1.555	1599.979	0.226	3.929	4.225	21.593
1700.000	0.530	8.108	4.877	1.734	1699.975	0.066	4.877	5.176	19.570
1800.000	0.245	22.973	5.532	1.882	1799.972	0.300	5.532	5.844	18.793
1900.000	0.242	346.198	5.934	1.916	1899.971	0.154	5.934	6.236	17.890
2000.000	0.531	263.000	6.083	1.405	1999.969	0.557	6.083	6.243	13.010
2100.000	0.949	250.830	5.755	0.163	2099.961	0.445	5.755	5.757	1.626
2200.000	1.529	231.852	4.658	-1.668	2199.938	0.703	4.658	4.948	340.297
2300.000	1.523	222.838	2.860	-3.621	2299.902	0.240	2.860	4.614	308.299
2400.000	1.359	224.900	1.045	-5.362	2399.871	0.173	1.045	5.463	281.030
2500.000	1.455	223.080	-0.722	-7.066	2499.840	0.106	-0.722	7.103	264.165
2600.000	1.419	232.760	-2.399	-8.919	2599.809	0.245	-2.399	9.236	254.945
2700.000	1.744	210.539	-4.460	-10.679	2699.772	0.688	-4.460	11.573	247.334
2800.000	1.827	204.911	-7.217	-12.124	2799.723	0.194	-7.217	14.109	239.237
2900.000	1.803	217.118	-9.917	-13.745	2899.674	0.387	-9.917	16.949	234.189
3000.000	1.589	237.409	-11.918	-15.862	2999.631	0.633	-11.918	19.840	233.081
3100.000	1.387	252.333	-13.032	-18.184	3099.597	0.435	-13.032	22.372	234.371
3200.000	1.497	268.008	-13.445	-20.642	3199.566	0.408	-13.445	24.635	236.923
3300.000	1.365	283.346	-13.215	-23.107	3299.535	0.404	-13.215	26.619	240.234
3400.000	1.213	308.200	-12.286	-25.098	3399.510	0.574	-12.286	27.944	243.917
3500.000	1.297	330.459	-10.646	-26.488	3499.487	0.492	-10.646	28.547	248.103
3600.000	1.260	332.049	-8.690	-27.561	3599.462	0.052	-8.690	28.899	252.499
3700.000	1.126	340.101	-6.796	-28.411	3699.441	0.215	-6.796	29.212	256.548

3800.000	1.152	323.850	-5.060	-29.338	3799.421	0.323	-5.060	29.771	260.215
3900.000	1.153	327.405	-3.400	-30.473	3899.401	0.072	-3.400	30.663	263.633
4000.000	0.948	317.908	-1.939	-31.570	3999.384	0.268	-1.939	31.630	266.486
4100.000	1.115	325.441	-0.523	-32.677	4099.368	0.215	-0.523	32.681	269.083
4200.000	1.254	301.196	0.845	-34.165	4199.347	0.516	0.845	34.175	271.416
4300.000	1.443	292.741	1.898	-36.262	4299.319	0.274	1.898	36.312	272.997
4400.000	1.084	302.038	2.887	-38.225	4399.295	0.413	2.887	38.334	274.319
4500.000	1.236	321.104	4.228	-39.704	4499.275	0.413	4.228	39.929	276.078
4600.000	1.152	321.125	5.850	-41.012	4599.253	0.085	5.850	41.427	278.118
4700.000	1.644	315.947	7.664	-42.640	4699.223	0.508	7.664	43.324	280.189
4800.000	1.611	289.183	9.156	-44.965	4799.184	0.754	9.156	45.888	281.510
4900.000	1.212	279.001	9.784	-47.338	4899.154	0.469	9.784	48.338	281.677
5000.000	0.885	286.217	10.165	-49.125	4999.137	0.352	10.165	50.165	281.691
5100.000	0.718	298.081	10.676	-50.420	5099.127	0.235	10.676	51.538	281.955
5200.000	0.611	316.463	11.358	-51.340	5199.121	0.237	11.358	52.581	282.474
5300.000	0.703	307.250	12.116	-52.196	5299.114	0.140	12.116	53.584	283.068
5400.000	0.831	313.329	12.985	-53.212	5399.105	0.151	12.985	54.774	283.713
5500.000	0.799	314.067	13.967	-54.241	5499.095	0.034	13.967	56.010	284.440
5600.000	0.978	304.203	14.932	-55.448	5599.083	0.235	14.932	57.423	285.072
5700.000	1.228	301.626	15.974	-57.066	5699.064	0.254	15.974	59.259	285.638
5800.000	1.421	295.773	17.075	-59.095	5799.038	0.236	17.075	61.512	286.116
5900.000	1.629	302.015	18.368	-61.417	5899.002	0.266	18.368	64.105	286.650
6000.000	1.441	296.082	19.674	-63.752	5998.966	0.247	19.674	66.719	287.151
6100.000	1.310	301.427	20.823	-65.856	6098.938	0.183	20.823	69.070	287.546
6200.000	0.830	258.718	21.277	-67.541	6198.921	0.898	21.277	70.813	287.485
6300.000	0.839	291.311	21.401	-68.934	6298.911	0.468	21.401	72.180	287.248
6400.000	0.694	292.966	21.904	-70.173	6398.902	0.147	21.904	73.512	287.335
6500.000	0.377	288.653	22.245	-71.042	6498.898	0.319	22.245	74.444	287.387
6600.000	0.482	223.481	22.045	-71.644	6598.895	0.471	22.045	74.959	287.103
6700.000	0.387	297.393	21.895	-72.233	6698.893	0.528	21.895	75.479	286.863
6800.000	0.445	300.323	22.246	-72.868	6798.891	0.061	22.246	76.188	286.977
6900.000	0.463	306.302	22.681	-73.529	6898.888	0.051	22.681	76.947	287.143
7000.000	0.441	306.549	23.150	-74.164	6998.884	0.022	23.150	77.693	287.335
7100.000	0.443	307.480	23.614	-74.780	7098.881	0.007	23.614	78.420	287.525
7200.000	0.459	293.572	24.009	-75.453	7198.878	0.110	24.009	79.181	287.651
7300.000	0.480	293.624	24.337	-76.204	7298.875	0.021	24.337	79.996	287.712
7400.000	0.462	300.296	24.708	-76.935	7398.872	0.058	24.708	80.805	287.805