



**Company:** Noble Energy

**Rig:** Production / Coretech

**API #** 05-123-22827

**Date:** 3/27/2014

**Surveyor:** Norman Cowan

**VS:** 0.000

**Lat :** 40.463

**Long:** -104.524

**Well:** Carpio A 26-4

**Location:** Weld County, Colorado

**North Reference:** GRID

**Convergence:** Grid north is 0.63 Deg East of Tru

**Declination:** 8.37 Degrees

**Depth Reference:** Ground Level

**Elevation:** 4660 Feet

**Total Depth as Drilled:** 7021 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	0.129	302.132	0.060	-0.095	100.000	0.129	0.060	0.112	302.132
200.000	0.227	231.735	-0.003	-0.346	200.000	0.220	-0.003	0.346	269.435
300.000	0.195	230.693	-0.234	-0.633	299.999	0.032	-0.234	0.675	249.705
400.000	0.311	226.041	-0.531	-0.961	399.998	0.118	-0.531	1.097	241.079
500.000	0.369	199.375	-1.023	-1.263	499.996	0.167	-1.023	1.626	230.984
600.000	0.531	191.515	-1.781	-1.462	599.993	0.172	-1.781	2.305	219.388
700.000	0.950	183.196	-3.063	-1.601	699.984	0.432	-3.063	3.456	207.601
800.000	1.541	179.553	-5.234	-1.637	799.960	0.596	-5.234	5.484	197.365
900.000	2.022	174.552	-8.335	-1.459	899.912	0.505	-8.335	8.462	189.928
1000.000	2.150	176.784	-11.964	-1.186	999.846	0.151	-11.964	12.023	185.662
1100.000	2.230	178.914	-15.782	-1.044	1099.773	0.114	-15.782	15.816	183.785
1200.000	2.187	172.619	-19.619	-0.762	1199.698	0.246	-19.619	19.634	182.225
1300.000	2.107	167.449	-23.305	-0.118	1299.628	0.209	-23.305	23.305	180.289
1400.000	1.966	170.200	-26.789	0.574	1399.565	0.171	-26.789	26.795	178.773
1500.000	1.922	169.609	-30.129	1.168	1499.508	0.048	-30.129	30.151	177.779
1600.000	1.645	168.558	-33.185	1.755	1599.459	0.279	-33.185	33.231	176.972
1700.000	1.262	164.943	-35.655	2.326	1699.427	0.393	-35.655	35.731	176.267
1800.000	0.827	198.410	-37.403	2.384	1799.411	0.732	-37.403	37.479	176.352
1900.000	0.920	189.939	-38.878	2.018	1899.399	0.159	-38.878	38.931	177.029
2000.000	0.431	198.908	-40.025	1.758	1999.392	0.498	-40.025	40.064	177.486
2100.000	0.509	200.392	-40.798	1.481	2099.389	0.079	-40.798	40.824	177.921
2200.000	0.228	170.830	-41.410	1.358	2199.387	0.330	-41.410	41.433	178.122
2300.000	0.074	335.205	-41.548	1.362	2299.386	0.300	-41.548	41.570	178.122
2400.000	0.254	23.812	-41.287	1.425	2399.386	0.212	-41.287	41.311	178.024
2500.000	0.265	29.955	-40.883	1.630	2499.385	0.030	-40.883	40.916	177.717
2600.000	0.184	359.913	-40.522	1.745	2599.384	0.141	-40.522	40.560	177.534
2700.000	0.223	23.933	-40.184	1.824	2699.384	0.093	-40.184	40.225	177.401
2800.000	0.225	13.890	-39.816	1.950	2799.383	0.039	-39.816	39.864	177.197
2900.000	0.243	57.170	-39.511	2.175	2899.382	0.173	-39.511	39.571	176.849
3000.000	0.252	54.799	-39.269	2.533	2999.381	0.014	-39.269	39.350	176.309
3100.000	0.164	84.354	-39.128	2.856	3099.380	0.136	-39.128	39.232	175.825
3200.000	0.171	199.182	-39.255	2.949	3199.380	0.282	-39.255	39.365	175.703
3300.000	0.422	140.418	-39.679	3.135	3299.379	0.364	-39.679	39.803	175.482
3400.000	0.721	129.724	-40.365	3.853	3399.374	0.316	-40.365	40.548	174.547
3500.000	1.518	125.257	-41.531	5.418	3499.354	0.801	-41.531	41.883	172.567

3600.000	2.016	128.681	-43.394	7.872	3599.306	0.509	-43.394	44.103	169.718
3700.000	2.082	122.360	-45.466	10.779	3699.242	0.235	-45.466	46.726	166.662
3800.000	2.193	111.744	-47.147	14.091	3799.173	0.411	-47.147	49.207	163.360
3900.000	2.177	105.596	-48.366	17.698	3899.101	0.235	-48.366	51.502	159.902
4000.000	2.235	113.941	-49.668	21.309	3999.027	0.326	-49.668	54.046	156.779
4100.000	1.845	113.572	-51.103	24.566	4098.963	0.390	-51.103	56.701	154.326
4200.000	1.355	109.520	-52.141	27.155	4198.924	0.502	-52.141	58.789	152.490
4300.000	0.580	79.757	-52.446	28.767	4298.910	0.899	-52.446	59.818	151.255
4400.000	0.315	7.587	-52.084	29.301	4398.907	0.569	-52.084	59.760	150.639
4500.000	1.123	338.254	-50.900	28.974	4498.899	0.862	-50.900	58.569	150.350
4600.000	1.996	329.436	-48.491	27.726	4598.861	0.903	-48.491	55.857	150.240
4700.000	2.011	313.148	-45.791	25.560	4698.800	0.568	-45.791	52.442	150.830
4800.000	1.431	304.144	-43.891	23.247	4798.755	0.638	-43.891	49.667	152.092
4900.000	0.856	292.951	-42.899	21.526	4898.735	0.613	-42.899	47.997	153.353
5000.000	0.540	288.484	-42.458	20.391	4998.727	0.321	-42.458	47.100	154.347
5100.000	0.134	271.634	-42.305	19.827	5098.725	0.413	-42.305	46.721	154.890
5200.000	0.233	211.840	-42.475	19.602	5198.725	0.202	-42.475	46.780	155.227
5300.000	0.478	168.842	-43.057	19.575	5298.723	0.346	-43.057	47.298	155.552
5400.000	0.971	154.181	-44.229	20.025	5398.715	0.523	-44.229	48.551	155.641
5500.000	1.196	150.530	-45.900	20.907	5498.697	0.235	-45.900	50.437	155.511
5600.000	0.840	146.326	-47.418	21.827	5598.681	0.364	-47.418	52.201	155.283
5700.000	0.479	160.855	-48.423	22.370	5698.674	0.395	-48.423	53.340	155.204
5800.000	0.426	116.071	-48.981	22.841	5798.671	0.348	-48.981	54.045	154.999
5900.000	0.463	99.439	-49.210	23.573	5898.669	0.134	-49.210	54.565	154.404
6000.000	0.223	140.403	-49.426	24.095	5998.667	0.328	-49.426	54.987	154.011
6100.000	0.226	129.913	-49.703	24.371	6098.666	0.041	-49.703	55.356	153.880
6200.000	0.271	103.432	-49.884	24.751	6198.665	0.122	-49.884	55.687	153.610
6300.000	0.391	73.432	-49.842	25.308	6298.663	0.207	-49.842	55.899	153.080
6400.000	0.343	78.666	-49.686	25.929	6398.661	0.058	-49.686	56.044	152.442
6500.000	0.323	91.078	-49.632	26.504	6498.660	0.075	-49.632	56.266	151.897
6600.000	0.368	68.261	-49.518	27.085	6598.658	0.144	-49.518	56.442	151.323
6700.000	0.366	76.512	-49.325	27.694	6698.656	0.053	-49.325	56.568	150.687
6800.000	0.365	91.239	-49.257	28.323	6798.654	0.094	-49.257	56.820	150.101

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