



**Company:** Noble Energy

**Rig:** Production/Core-Tech

**API #** 05-123-11796

**Date:** 6/20/2014

**Surveyor:** Nick Kula

**VS:** 0.000

**Lat :** 40.332

**Long:** -104.577

**Well:** Cox 8-1

**Location:** Weld County, CO

**North Reference:** GRID

**Convergence:** GRID North is 0.600 Degrees East

**Declination:** 8.36

**Depth Reference:** RKB=Ground Level

**Elevation:** 4768'

**Total Depth as Drilled:** 7148'

**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	0.577	99.840	-0.086	0.496	99.998	0.577	-0.086	0.503	99.840
200.000	0.446	95.950	-0.212	1.379	199.994	0.135	-0.212	1.396	98.755
300.000	0.205	58.426	-0.159	1.919	299.993	0.310	-0.159	1.926	94.744
400.000	0.105	1.669	0.026	2.074	399.992	0.171	0.026	2.074	89.293
500.000	0.136	127.264	0.045	2.171	499.992	0.214	0.045	2.171	88.807
600.000	0.054	245.596	-0.046	2.222	599.992	0.168	-0.046	2.223	91.184
700.000	0.038	113.782	-0.079	2.209	699.992	0.084	-0.079	2.211	92.039
800.000	0.185	301.824	-0.007	2.102	799.992	0.223	-0.007	2.102	90.184
900.000	0.279	304.379	0.216	1.764	899.991	0.095	0.216	1.777	83.013
1000.000	0.137	267.876	0.349	1.443	999.991	0.188	0.349	1.484	76.387
1100.000	0.255	295.522	0.441	1.122	1099.990	0.148	0.441	1.206	68.548
1200.000	0.306	256.922	0.477	0.661	1199.989	0.191	0.477	0.815	54.222
1300.000	0.429	330.233	0.741	0.215	1299.987	0.450	0.741	0.772	16.210
1400.000	0.463	323.944	1.393	-0.208	1399.984	0.060	1.393	1.409	351.494
1500.000	0.427	349.429	2.086	-0.515	1499.981	0.200	2.086	2.149	346.143
1600.000	0.189	283.936	2.492	-0.743	1599.980	0.389	2.492	2.601	343.391
1700.000	0.114	141.501	2.454	-0.842	1699.980	0.289	2.454	2.594	341.068
1800.000	0.060	137.879	2.337	-0.744	1799.980	0.054	2.337	2.453	342.333
1900.000	0.289	132.038	2.129	-0.522	1899.979	0.229	2.129	2.192	346.229
2000.000	0.165	172.485	1.818	-0.316	1999.978	0.195	1.818	1.845	350.140
2100.000	0.341	120.724	1.522	-0.041	2099.978	0.272	1.522	1.523	358.456
2200.000	0.299	243.411	1.254	-0.018	2199.977	0.562	1.254	1.254	359.168
2300.000	0.329	287.116	1.221	-0.526	2299.975	0.235	1.221	1.330	336.712
2400.000	0.546	271.373	1.317	-1.276	2399.972	0.246	1.317	1.834	315.905
2500.000	0.512	276.392	1.378	-2.196	2499.968	0.057	1.378	2.593	302.111
2600.000	0.555	277.819	1.494	-3.120	2599.964	0.046	1.494	3.460	295.584
2700.000	0.685	295.594	1.818	-4.140	2699.958	0.231	1.818	4.522	293.711
2800.000	0.629	280.330	2.175	-5.220	2799.952	0.183	2.175	5.655	292.623
2900.000	0.654	284.091	2.413	-6.313	2899.945	0.049	2.413	6.759	290.914
3000.000	0.667	284.675	2.699	-7.430	2999.939	0.015	2.699	7.905	289.964
3100.000	0.724	285.327	3.013	-8.603	3099.931	0.057	3.013	9.115	289.305
3200.000	1.130	298.374	3.649	-10.079	3199.918	0.455	3.649	10.719	289.902
3300.000	0.956	314.147	4.699	-11.545	3299.902	0.334	4.699	12.465	292.145

3400.000	1.256	314.068	6.042	-12.931	3399.883	0.299	6.042	14.273	295.043
3500.000	1.657	320.417	7.918	-14.639	3499.851	0.432	7.918	16.643	298.407
3600.000	1.352	323.679	9.983	-16.260	3599.816	0.316	9.983	19.079	301.548
3700.000	0.896	333.841	11.636	-17.303	3699.797	0.496	11.636	20.852	303.919
3800.000	0.968	339.038	13.127	-17.950	3799.783	0.111	13.127	22.238	306.177
3900.000	1.033	324.387	14.648	-18.777	3899.768	0.263	14.648	23.815	307.958
4000.000	0.604	322.701	15.800	-19.622	3999.758	0.429	15.800	25.193	308.843
4100.000	0.434	339.018	16.573	-20.077	4099.754	0.224	16.573	26.034	309.539
4200.000	0.574	332.562	17.371	-20.443	4199.750	0.151	17.371	26.827	310.355
4300.000	0.770	304.698	18.198	-21.226	4299.743	0.376	18.198	27.959	310.607
4400.000	1.076	300.081	19.051	-22.591	4399.730	0.314	19.051	29.552	310.140
4500.000	1.537	314.239	20.457	-24.365	4499.704	0.560	20.457	31.814	310.018
4600.000	1.673	315.779	22.440	-26.344	4599.665	0.143	22.440	34.606	310.424
4700.000	1.456	328.953	24.575	-28.018	4699.628	0.419	24.575	37.268	311.254
4800.000	2.371	325.729	27.373	-29.838	4799.571	0.920	27.373	40.492	312.533
4900.000	3.080	324.568	31.271	-32.560	4899.457	0.711	31.271	45.145	313.843
5000.000	3.371	325.607	35.886	-35.778	4999.299	0.296	35.886	50.675	315.086
5100.000	2.808	330.902	40.452	-38.630	5099.153	0.630	40.452	55.935	316.320
5200.000	2.465	342.668	44.646	-40.462	5199.048	0.639	44.646	60.254	317.814
5300.000	2.330	0.280	48.732	-41.093	5298.962	0.746	48.732	63.745	319.861
5400.000	2.993	1.297	53.374	-41.024	5398.853	0.665	53.374	67.319	322.454
5500.000	3.010	11.291	58.560	-40.451	5498.717	0.523	58.560	71.172	325.365
5600.000	2.500	19.297	63.193	-39.216	5598.601	0.638	63.193	74.372	328.177
5700.000	1.751	15.807	66.721	-38.080	5698.532	0.760	66.721	76.822	330.285
5800.000	1.452	24.461	69.343	-37.139	5798.493	0.384	69.343	78.663	331.827
5900.000	0.903	1.232	71.284	-36.597	5898.472	0.717	71.284	80.130	332.824
6000.000	1.048	44.107	72.729	-35.944	5998.459	0.726	72.729	81.126	333.700
6100.000	1.011	91.563	73.361	-34.426	6098.444	0.829	73.361	81.037	334.861
6200.000	0.657	136.344	72.922	-33.148	6198.434	0.714	72.922	80.103	335.555
6300.000	1.023	136.645	71.858	-32.140	6298.424	0.366	71.858	78.718	335.903
6400.000	1.465	131.659	70.359	-30.572	6398.400	0.455	70.359	76.714	336.515
6500.000	1.864	140.360	68.257	-28.579	6498.357	0.471	68.257	73.999	337.281
6600.000	2.161	143.628	65.487	-26.424	6598.296	0.318	65.487	70.617	338.026
6700.000	2.692	142.640	62.102	-23.881	6698.206	0.533	62.102	66.536	338.966
6800.000	2.967	145.421	58.105	-20.987	6798.084	0.307	58.105	61.779	340.141
6900.000	3.489	150.124	53.336	-18.002	6897.925	0.585	53.336	56.292	341.349

of True North