



Company: Noble Energy  
 Rig: Production / VES  
 API # 05-123-26987  
 Date: 12/2/2013  
 Surveyor: CJ Hines  
 VS: 0.000  
 Lat : 40.52156  
 Long: -104.632

Well: Anderson E #02-03  
 Location: Weld County, Colorado  
 North Reference: GRID  
 Convergence: Grid north is 0.56 East of True N  
 Declination: 8.47  
 Depth Reference: Ground Level  
 Elevation: 4841  
 Total Depth as Drilled: 7319

**Lat & Long obtained by handheld GPS at wellhead**

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbrg
100.000	0.219	107.993	-0.059	0.182	100.000	0.219	-0.059	0.191	107.993
200.000	0.177	271.825	-0.113	0.209	200.000	0.392	-0.113	0.238	118.419
300.000	0.223	4.085	0.086	0.069	299.999	0.290	0.086	0.110	38.567
400.000	0.482	110.563	0.132	0.476	399.998	0.585	0.132	0.494	74.448
500.000	0.688	82.274	0.066	1.465	499.993	0.349	0.066	1.466	87.437
600.000	1.659	86.092	0.245	3.504	599.971	0.973	0.245	3.513	86.001
700.000	2.226	84.971	0.514	6.883	699.913	0.569	0.514	6.902	85.730
800.000	2.287	85.552	0.839	10.807	799.835	0.065	0.839	10.840	85.561
900.000	2.377	79.206	1.382	14.834	899.753	0.273	1.382	14.899	84.677
1000.000	2.294	76.648	2.233	18.819	999.669	0.134	2.233	18.951	83.234
1100.000	2.182	78.819	3.064	22.633	1099.593	0.141	3.064	22.839	82.291
1200.000	2.328	83.233	3.672	26.517	1199.516	0.227	3.672	26.770	82.115
1300.000	2.015	78.615	4.259	30.258	1299.444	0.359	4.259	30.556	81.988
1400.000	2.126	84.153	4.795	33.826	1399.379	0.229	4.795	34.164	81.932
1500.000	2.014	86.577	5.088	37.425	1499.314	0.142	5.088	37.769	82.257
1600.000	1.803	74.446	5.615	40.694	1599.258	0.454	5.615	41.080	82.144
1700.000	1.511	88.195	6.078	43.527	1699.217	0.491	6.078	43.950	82.050
1800.000	1.268	83.436	6.247	45.944	1799.187	0.269	6.247	46.367	82.258
1900.000	1.266	53.444	7.031	47.931	1899.164	0.656	7.031	48.444	81.655
2000.000	1.012	34.498	8.417	49.319	1999.145	0.451	8.417	50.032	80.315
2100.000	0.769	25.244	9.752	50.105	2099.133	0.281	9.752	51.045	78.986
2200.000	0.335	90.843	10.355	50.683	2199.128	0.701	10.355	51.730	78.453
2300.000	0.423	114.412	10.198	51.311	2299.126	0.177	10.198	52.315	78.759
2400.000	0.506	134.169	9.738	51.964	2399.123	0.179	9.738	52.868	79.386
2500.000	0.663	110.383	9.229	52.823	2499.118	0.285	9.229	53.623	80.090
2600.000	0.835	130.415	8.555	53.920	2599.110	0.311	8.555	54.594	80.985
2700.000	1.067	136.652	7.405	55.114	2699.096	0.253	7.405	55.609	82.348
2800.000	1.192	159.047	5.756	56.125	2799.077	0.456	5.756	56.419	84.144
2900.000	0.825	159.767	4.109	56.746	2899.061	0.367	4.109	56.895	85.858
3000.000	0.693	161.043	2.861	57.192	2999.052	0.133	2.861	57.263	87.136
3100.000	0.783	123.708	1.910	57.956	3099.045	0.480	1.910	57.988	88.112
3200.000	0.647	152.836	1.029	58.782	3199.037	0.383	1.029	58.791	88.997
3300.000	0.857	132.705	0.020	59.589	3299.029	0.335	0.020	59.589	89.981
3400.000	0.704	131.704	-0.896	60.597	3399.019	0.154	-0.896	60.604	90.847
3500.000	0.204	106.891	-1.356	61.227	3499.016	0.525	-1.356	61.242	91.269

3600.000	0.110	41.902	-1.337	61.462	3599.016	0.187	-1.337	61.476	91.246
3700.000	0.236	41.586	-1.111	61.662	3699.015	0.125	-1.111	61.672	91.032
3800.000	0.303	22.888	-0.714	61.902	3799.014	0.110	-0.714	61.906	90.661
3900.000	0.582	0.099	0.038	62.005	3899.011	0.325	0.038	62.005	89.965
4000.000	0.766	337.941	1.166	61.755	3999.004	0.316	1.166	61.766	88.918
4100.000	0.835	321.795	2.358	61.054	4098.995	0.235	2.358	61.099	87.788
4200.000	0.657	257.275	2.804	60.044	4198.988	0.810	2.804	60.109	87.326
4300.000	0.865	179.324	1.923	59.494	4298.981	0.971	1.923	59.525	88.149
4400.000	1.170	125.970	0.568	60.329	4398.967	0.953	0.568	60.332	89.460
4500.000	1.085	140.551	-0.762	61.757	4498.948	0.298	-0.762	61.761	90.707
4600.000	1.380	165.775	-2.661	62.654	4598.926	0.611	-2.661	62.711	92.432
4700.000	1.006	182.375	-4.705	62.914	4698.904	0.506	-4.705	63.090	94.277
4800.000	0.958	242.363	-5.970	62.137	4798.892	0.983	-5.970	62.423	95.488
4900.000	1.738	253.136	-6.798	59.944	4898.863	0.817	-6.798	60.328	96.470
5000.000	1.999	294.895	-6.504	56.910	4998.815	1.354	-6.504	57.281	96.520
5100.000	2.601	337.313	-3.676	54.453	5098.740	1.756	-3.676	54.577	93.862
5200.000	2.975	357.250	1.010	53.453	5198.624	1.033	1.010	53.463	88.917
5300.000	2.703	353.549	5.945	53.064	5298.501	0.328	5.945	53.396	83.607
5400.000	2.692	359.667	10.637	52.785	5398.391	0.288	10.637	53.846	78.607
5500.000	2.661	359.184	15.306	52.738	5498.282	0.039	15.306	54.915	73.816
5600.000	3.978	347.822	21.018	51.974	5598.113	1.466	21.018	56.063	67.982
5700.000	4.725	342.474	28.336	50.002	5697.824	0.849	28.336	57.473	60.459
5800.000	4.341	332.023	35.606	46.986	5797.513	0.909	35.606	58.953	52.845
5900.000	2.884	301.736	40.272	43.071	5897.320	2.353	40.272	58.965	46.923
6000.000	2.006	295.133	42.338	39.347	5997.229	0.921	42.338	57.799	42.903
6100.000	1.628	267.770	43.026	36.343	6097.180	0.934	43.026	56.321	40.187
6200.000	1.710	262.684	42.781	33.444	6197.138	0.169	42.781	54.302	38.016
6300.000	1.537	264.435	42.461	30.629	6297.097	0.180	42.461	52.356	35.805
6400.000	1.626	267.036	42.258	27.878	6397.059	0.114	42.258	50.625	33.413
6500.000	1.981	253.431	41.691	24.804	6497.010	0.554	41.691	48.512	30.750
6600.000	1.365	247.140	40.736	22.049	6596.967	0.642	40.736	46.320	28.426
6700.000	1.252	224.582	39.494	20.184	6696.942	0.524	39.494	44.353	27.070
6800.000	1.363	229.710	37.947	18.510	6796.916	0.161	37.947	42.221	26.003
6900.000	0.938	231.429	36.667	16.963	6896.895	0.426	36.667	40.401	24.826
7000.000	0.111	203.129	36.068	16.284	6996.890	0.843	36.068	39.574	24.299
7050.000	0.324	326.166	36.141	16.187	7046.890	0.791	36.141	39.600	24.127

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