



Company: Noble Energy Inc.
Rig: Production/Lightning
Latitude: 40.48478
Longitude: -104.3826
API # 05-123-29412
Date: 3/4/2013

Well: Wells Ranch USX AA 13-10
Location: Weld County, Colorado
North Reference: Grid North/-0.72
Depth Reference: Ground Level
Surveyor: Randy Holcomb
VS: 0

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	0.365	105.219	-0.084	0.307	99.999	0.365	-0.084	0.318	105.219
200.000	0.234	129.036	-0.296	0.773	199.998	0.178	-0.296	0.828	110.940
300.000	0.250	218.455	-0.595	0.797	299.997	0.341	-0.595	0.994	126.774
400.000	0.661	218.942	-1.215	0.298	399.994	0.412	-1.215	1.251	166.209
500.000	0.427	235.342	-1.876	-0.371	499.989	0.279	-1.876	1.912	191.183
600.000	0.120	310.680	-2.019	-0.757	599.988	0.413	-2.019	2.156	200.545
700.000	0.149	292.034	-1.902	-0.957	699.988	0.052	-1.902	2.129	206.719
800.000	0.103	307.955	-1.798	-1.149	799.988	0.058	-1.798	2.133	212.583
900.000	0.146	319.565	-1.645	-1.302	899.988	0.050	-1.645	2.098	218.363
1000.000	0.139	309.763	-1.470	-1.478	999.987	0.025	-1.470	2.085	225.158
1100.000	0.189	287.296	-1.344	-1.729	1099.987	0.080	-1.344	2.190	232.152
1200.000	0.270	308.578	-1.148	-2.071	1199.986	0.117	-1.148	2.368	241.007
1300.000	0.168	305.135	-0.916	-2.375	1299.985	0.103	-0.916	2.546	248.902
1400.000	0.414	255.428	-0.923	-2.845	1399.984	0.332	-0.923	2.991	252.022
1500.000	0.445	247.531	-1.162	-3.553	1499.981	0.067	-1.162	3.739	251.885
1600.000	0.217	300.807	-1.214	-4.075	1599.980	0.360	-1.214	4.252	253.415
1700.000	0.119	237.006	-1.173	-4.325	1699.979	0.196	-1.173	4.481	254.823
1800.000	0.224	328.443	-1.064	-4.515	1799.979	0.256	-1.064	4.638	256.743
1900.000	0.434	325.818	-0.584	-4.830	1899.977	0.211	-0.584	4.865	263.105
2000.000	0.952	303.451	0.187	-5.735	1999.970	0.575	0.187	5.738	271.868
2100.000	1.272	287.558	0.980	-7.486	2099.951	0.442	0.980	7.550	277.455
2200.000	1.955	291.250	1.933	-10.134	2199.911	0.690	1.933	10.317	280.797
2300.000	2.029	291.831	3.209	-13.368	2299.851	0.077	3.209	13.747	283.500
2400.000	2.450	289.774	4.591	-17.023	2399.774	0.429	4.591	17.631	285.093
2500.000	2.542	288.139	6.004	-21.142	2499.679	0.116	6.004	21.978	285.855
2600.000	2.638	289.543	7.465	-25.418	2599.577	0.115	7.465	26.491	286.366
2700.000	2.715	292.104	9.126	-29.781	2699.468	0.142	9.126	31.148	287.037
2800.000	2.439	298.156	11.021	-33.851	2799.367	0.387	11.021	35.600	288.034
2900.000	2.312	303.921	13.151	-37.401	2899.281	0.270	13.151	39.645	289.372
3000.000	2.268	304.174	15.387	-40.711	2999.201	0.045	15.387	43.522	290.705
3100.000	2.185	312.824	17.794	-43.746	3099.126	0.346	17.794	47.227	292.135
3200.000	1.938	325.500	20.483	-46.102	3199.062	0.517	20.483	50.447	293.956
3300.000	1.683	356.263	23.342	-47.155	3299.014	0.991	23.342	52.616	296.336
3400.000	1.523	28.540	25.975	-46.616	3398.977	0.904	25.975	53.364	299.127
3500.000	1.779	62.339	27.863	-44.606	3498.938	0.991	27.863	52.593	301.991
3600.000	1.744	76.063	28.950	-41.754	3598.891	0.422	28.950	50.808	304.736
3700.000	2.149	69.728	29.966	-38.518	3698.833	0.458	29.966	48.802	307.883
3800.000	2.363	73.543	31.200	-34.782	3798.755	0.261	31.200	46.725	311.892

3900.000	2.682	66.728	32.708	-30.657	3898.659	0.437	32.708	44.829	316.854
4000.000	2.056	75.742	34.074	-26.769	3998.573	0.726	34.074	43.332	321.847
4100.000	1.778	75.017	34.917	-23.532	4098.517	0.279	34.917	42.106	326.023
4200.000	1.310	78.509	35.546	-20.913	4198.480	0.478	35.546	41.242	329.530
4300.000	1.103	83.316	35.886	-18.837	4298.458	0.229	35.886	40.529	332.305
4400.000	0.772	90.536	35.991	-17.207	4398.445	0.352	35.991	39.893	334.448
4500.000	0.214	130.988	35.863	-16.393	4498.441	0.625	35.863	39.432	335.435
4600.000	0.785	217.193	35.195	-16.667	4598.437	0.800	35.195	38.941	334.660
4700.000	1.534	206.825	33.454	-17.685	4698.416	0.774	33.454	37.841	332.138
4800.000	3.110	205.928	29.820	-19.475	4798.331	1.577	29.820	35.616	326.852
4900.000	3.079	206.191	24.970	-21.847	4898.185	0.035	24.970	33.178	318.817
5000.000	2.810	207.141	20.379	-24.150	4998.053	0.273	20.379	31.600	310.159
5100.000	1.575	218.318	17.120	-26.120	5097.978	1.301	17.120	31.231	303.241
5200.000	0.830	219.914	15.486	-27.437	5197.956	0.745	15.486	31.506	299.440
5300.000	0.424	232.191	14.703	-28.194	5297.950	0.426	14.703	31.798	297.541
5400.000	0.343	260.401	14.426	-28.782	5397.947	0.203	14.426	32.195	296.622
5500.000	0.395	337.054	14.694	-29.211	5497.946	0.459	14.694	32.699	296.704
5600.000	0.503	14.367	15.437	-29.236	5597.943	0.305	15.437	33.062	297.834
5700.000	0.952	5.539	16.689	-29.047	5697.935	0.461	16.689	33.500	299.879
5800.000	0.934	11.191	18.315	-28.809	5797.921	0.095	18.315	34.138	302.445
5900.000	0.710	23.194	19.684	-28.407	5897.911	0.281	19.684	34.560	304.719
6000.000	0.457	341.191	20.631	-28.292	5997.906	0.480	20.631	35.015	306.100
6100.000	0.743	15.701	21.632	-28.245	6097.901	0.448	21.632	35.577	307.448
6200.000	0.689	3.769	22.856	-28.030	6197.893	0.158	22.856	36.167	309.194
6300.000	0.675	14.582	24.026	-27.842	6297.886	0.129	24.026	36.775	310.792
6400.000	0.487	29.762	24.965	-27.483	6397.881	0.241	24.965	37.129	312.251
6500.000	0.394	39.636	25.599	-27.052	6497.878	0.120	25.599	37.244	313.419
6600.000	0.219	36.766	26.017	-26.719	6597.876	0.176	26.017	37.293	314.238
6700.000	0.490	71.107	26.308	-26.199	6697.875	0.333	26.308	37.129	315.119