



Company: Noble Energy  
 Rig: Production/Core-Tech  
 API # 05-123-26235  
 Date: 12/2/2013  
 Surveyor: Nick Kula  
 VS: 0.000  
 Lat : 40.482  
 Long: -104.848

Well: Stromberger 13-35  
 Location: Weld County, Colorado  
 North Reference: GRID  
 Convergence: GRID North is 0.420 Degrees East  
 Declination: 8.59  
 Depth Reference: Ground Level  
 Elevation: 4809'  
 Total Depth as Drilled: 7358'

**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	0.914	241.288	-0.383	-0.700	99.996	0.914	-0.383	0.798	241.288
200.000	1.036	277.782	-0.644	-2.295	199.982	0.621	-0.644	2.383	254.324
300.000	1.062	262.016	-0.650	-4.108	299.966	0.289	-0.650	4.159	261.004
400.000	1.078	268.202	-0.809	-5.966	399.948	0.117	-0.809	6.021	262.282
500.000	1.059	255.881	-1.064	-7.803	499.931	0.230	-1.064	7.875	262.238
600.000	1.200	275.478	-1.189	-9.742	599.912	0.409	-1.189	9.814	263.041
700.000	1.724	281.918	-0.779	-12.256	699.879	0.548	-0.779	12.281	266.365
800.000	1.861	288.631	0.051	-15.267	799.830	0.251	0.051	15.267	270.191
900.000	2.103	284.366	1.025	-18.583	899.770	0.283	1.025	18.611	273.157
1000.000	2.179	276.749	1.704	-22.248	999.701	0.294	1.704	22.313	274.379
1100.000	2.346	278.797	2.240	-26.158	1099.623	0.186	2.240	26.254	274.895
1200.000	2.230	277.655	2.812	-30.109	1199.543	0.124	2.812	30.240	275.336
1300.000	2.050	284.944	3.533	-33.766	1299.473	0.326	3.533	33.951	275.973
1400.000	2.078	291.653	4.663	-37.180	1399.409	0.243	4.663	37.471	277.149
1500.000	1.686	281.843	5.634	-40.306	1499.355	0.506	5.634	40.698	277.958
1600.000	1.601	278.748	6.149	-43.126	1599.314	0.123	6.149	43.562	278.114
1700.000	1.607	295.090	6.956	-45.777	1699.275	0.456	6.956	46.303	278.640
1800.000	1.441	276.555	7.694	-48.296	1799.240	0.518	7.694	48.905	279.052
1900.000	1.391	256.778	7.560	-50.727	1899.210	0.489	7.560	51.287	278.477
2000.000	1.540	255.754	6.952	-53.211	1999.178	0.152	6.952	53.663	277.443
2100.000	1.492	250.164	6.179	-55.738	2099.143	0.155	6.179	56.080	276.326
2200.000	1.605	250.368	5.267	-58.283	2199.106	0.113	5.267	58.520	275.163
2300.000	1.558	255.246	4.450	-60.916	2299.068	0.143	4.450	61.079	274.178
2400.000	1.572	241.994	3.460	-63.442	2399.031	0.361	3.460	63.536	273.121
2500.000	1.627	247.692	2.276	-65.967	2498.992	0.168	2.276	66.006	271.976
2600.000	1.664	237.474	0.957	-68.504	2598.951	0.295	0.957	68.511	270.800
2700.000	1.652	228.519	-0.779	-70.808	2698.909	0.259	-0.779	70.813	269.370
2800.000	1.821	233.679	-2.675	-73.169	2798.863	0.230	-2.675	73.218	267.906
2900.000	1.699	238.424	-4.392	-75.712	2898.816	0.190	-4.392	75.839	266.680
3000.000	1.592	241.112	-5.840	-78.191	2998.775	0.132	-5.840	78.409	265.729
3100.000	1.597	239.827	-7.211	-80.612	3098.736	0.036	-7.211	80.933	264.888
3200.000	1.489	219.644	-8.911	-82.645	3198.701	0.551	-8.911	83.124	263.846
3300.000	1.348	222.794	-10.775	-84.273	3298.670	0.161	-10.775	84.959	262.714
3400.000	0.700	244.866	-11.897	-85.625	3398.654	0.747	-11.897	86.447	262.090

3500.000	0.493	218.424	-12.494	-86.445	3498.649	0.339	-12.494	87.343	261.776
3600.000	0.100	204.180	-12.911	-86.748	3598.647	0.397	-12.911	87.704	261.535
3700.000	0.196	198.411	-13.153	-86.838	3698.647	0.097	-13.153	87.829	261.387
3800.000	0.129	202.389	-13.419	-86.935	3798.646	0.069	-13.419	87.965	261.225
3900.000	0.242	303.605	-13.407	-87.154	3898.646	0.295	-13.407	88.179	261.255
4000.000	0.181	203.811	-13.434	-87.393	3998.646	0.326	-13.434	88.420	261.261
4100.000	0.546	211.598	-13.984	-87.707	4098.643	0.368	-13.984	88.814	260.941
4200.000	0.591	190.593	-14.897	-88.051	4198.639	0.212	-14.897	89.302	260.397
4300.000	0.817	214.769	-15.989	-88.552	4298.631	0.369	-15.989	89.984	259.765
4400.000	0.829	219.810	-17.131	-89.422	4398.621	0.073	-17.131	91.048	259.155
4500.000	0.526	278.332	-17.620	-90.340	4498.615	0.713	-17.620	92.042	258.964
4600.000	0.689	284.929	-17.398	-91.375	4598.609	0.177	-17.398	93.017	259.220
4700.000	0.597	272.439	-17.221	-92.476	4698.603	0.167	-17.221	94.066	259.451
4800.000	0.579	273.092	-17.172	-93.501	4798.598	0.019	-17.172	95.064	259.593
4900.000	0.719	298.896	-16.842	-94.554	4898.592	0.320	-16.842	96.042	259.901
5000.000	0.891	267.724	-16.569	-95.880	4998.582	0.463	-16.569	97.301	260.195
5100.000	0.791	289.010	-16.375	-97.310	5098.572	0.326	-16.375	98.678	260.448
5200.000	0.773	325.079	-15.598	-98.348	5198.563	0.484	-15.598	99.578	260.988
5300.000	1.202	336.025	-14.086	-99.161	5298.548	0.467	-14.086	100.156	261.915
5400.000	1.474	306.973	-12.354	-100.614	5398.522	0.721	-12.354	101.370	263.000
5500.000	1.529	336.333	-10.359	-102.177	5498.489	0.763	-10.359	102.701	264.211
5600.000	0.739	330.156	-8.578	-103.033	5598.468	0.798	-8.578	103.390	265.241
5700.000	0.675	305.772	-7.675	-103.832	5698.461	0.305	-7.675	104.115	265.773
5800.000	0.187	242.442	-7.406	-104.455	5798.458	0.615	-7.406	104.717	265.944
5900.000	0.375	244.790	-7.621	-104.895	5898.457	0.188	-7.621	105.171	265.845
6000.000	0.358	276.474	-7.725	-105.501	5998.455	0.201	-7.725	105.783	265.812
6100.000	0.290	195.582	-7.933	-105.879	6098.454	0.423	-7.933	106.175	265.715
6200.000	0.135	189.607	-8.293	-105.966	6198.453	0.157	-8.293	106.290	265.525
6300.000	0.241	89.158	-8.405	-105.776	6298.453	0.296	-8.405	106.109	265.457
6400.000	0.243	99.866	-8.439	-105.358	6398.452	0.045	-8.439	105.695	265.421
6500.000	0.210	125.865	-8.582	-105.001	6498.451	0.107	-8.582	105.351	265.327
6600.000	0.249	196.314	-8.898	-104.913	6598.451	0.266	-8.898	105.290	265.152
6700.000	0.387	166.054	-9.434	-104.892	6698.449	0.213	-9.434	105.316	264.861
6800.000	0.104	227.145	-9.823	-104.878	6798.448	0.349	-9.823	105.337	264.649
6900.000	0.136	259.998	-9.906	-105.061	6898.448	0.075	-9.906	105.527	264.614
7000.000	0.095	49.920	-9.873	-105.115	6998.448	0.223	-9.873	105.578	264.634

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