



Company: Noble Energy  
 Rig: Production/VES  
 API # 05-123-19238  
 Date: 4/3/13  
 Surveyor: Levi Sheldon  
 VS:  
 Lat : 40.41664  
 Long: -104.82

Well: Stephens 07-13  
 Location: Weld County, Colorado  
 North Reference: GRID  
 Convergence: Grid north is -0.44 of True North  
 Declination: 8.66  
 Depth Reference: Ground Level  
 Elevation: 4,839 Feet  
 Total Depth as Drilled: 7,465 Feet

Lat & Long obtained by handheld GPS at wellhead

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	0.282	85.847	0.018	0.245	100.000	0.282	0.018	0.246	85.847
200.000	0.223	144.110	-0.122	0.605	199.999	0.251	-0.122	0.617	101.405
300.000	0.252	54.069	-0.151	0.897	299.998	0.336	-0.151	0.910	99.548
400.000	0.312	183.038	-0.294	1.060	399.998	0.509	-0.294	1.100	105.489
500.000	0.228	348.586	-0.371	1.007	499.997	0.536	-0.371	1.073	110.215
600.000	0.313	183.989	-0.448	0.948	599.997	0.536	-0.448	1.049	115.299
700.000	0.461	253.239	-0.837	0.544	699.995	0.456	-0.837	0.998	146.965
800.000	0.395	321.103	-0.685	-0.057	799.993	0.481	-0.685	0.687	184.772
900.000	0.530	207.955	-0.825	-0.490	899.991	0.775	-0.825	0.960	210.713
1000.000	0.797	242.317	-1.557	-1.323	999.985	0.468	-1.557	2.043	220.355
1100.000	0.752	300.141	-1.551	-2.506	1099.977	0.750	-1.551	2.947	238.258
1200.000	0.938	288.398	-0.963	-3.850	1199.966	0.253	-0.963	3.969	255.960
1300.000	0.933	282.151	-0.533	-5.423	1299.953	0.102	-0.533	5.449	264.385
1400.000	1.084	279.337	-0.208	-7.152	1399.937	0.159	-0.208	7.155	268.333
1500.000	0.750	301.192	0.284	-8.646	1499.925	0.478	0.284	8.650	271.883
1600.000	1.417	289.641	1.039	-10.371	1599.906	0.699	1.039	10.422	275.721
1700.000	1.436	296.150	2.007	-12.660	1699.875	0.163	2.007	12.818	279.008
1800.000	1.496	307.589	3.355	-14.819	1799.843	0.298	3.355	15.194	282.758
1900.000	1.561	318.848	5.177	-16.749	1899.807	0.307	5.177	17.531	287.175
2000.000	1.856	332.739	7.642	-18.387	1999.763	0.507	7.642	19.912	292.568
2100.000	1.955	345.302	10.732	-19.562	2099.708	0.428	10.732	22.313	298.749
2200.000	1.325	1.164	13.538	-19.972	2199.667	0.771	13.538	24.127	304.131
2300.000	1.551	339.700	15.963	-20.418	2299.637	0.580	15.963	25.917	308.019
2400.000	2.042	332.060	18.806	-21.722	2399.587	0.545	18.806	28.732	310.885
2500.000	1.612	323.659	21.513	-23.390	2499.536	0.506	21.513	31.779	312.606
2600.000	2.250	321.657	24.186	-25.442	2599.479	0.642	24.186	35.103	313.550
2700.000	2.183	310.861	26.972	-28.100	2699.405	0.422	26.972	38.950	313.826
2800.000	2.452	314.861	29.727	-31.057	2799.323	0.314	29.727	42.992	313.746
2900.000	1.590	309.709	32.123	-33.642	2899.260	0.880	32.123	46.515	313.677
3000.000	1.968	303.430	33.956	-36.142	2999.211	0.424	33.956	49.591	313.213
3100.000	2.275	295.742	35.763	-39.362	3099.143	0.418	35.763	53.183	312.257
3200.000	2.399	305.508	37.841	-42.853	3199.060	0.416	37.841	57.169	311.445
3300.000	2.638	302.545	40.294	-46.497	3298.964	0.273	40.294	61.527	310.912
3400.000	2.387	295.957	42.443	-50.309	3398.868	0.382	42.443	65.821	310.153
3500.000	2.260	276.455	43.577	-54.141	3498.787	0.797	43.577	69.499	308.830

3600.000	2.684	290.050	44.601	-58.300	3598.694	0.721	44.601	73.404	307.417
3700.000	2.750	309.378	46.926	-62.353	3698.584	0.914	46.926	78.038	306.964
3800.000	2.997	307.911	50.054	-66.270	3798.458	0.258	50.054	83.048	307.064
3900.000	2.907	299.782	52.919	-70.533	3898.326	0.428	52.919	88.178	306.880
4000.000	2.509	292.433	55.014	-74.757	3998.215	0.528	55.014	92.818	306.349
4100.000	2.307	318.263	57.351	-78.120	4098.129	1.094	57.351	96.912	306.284
4200.000	2.434	338.940	60.834	-80.223	4198.045	0.860	60.834	100.680	307.174
4300.000	2.538	337.774	64.865	-81.823	4297.951	0.116	64.865	104.415	308.405
4400.000	2.354	316.284	68.399	-84.080	4397.862	0.929	68.399	108.388	309.128
4500.000	2.315	307.721	71.120	-87.098	4497.780	0.351	71.120	112.446	309.233
4600.000	3.383	322.701	74.703	-90.484	4597.656	1.293	74.703	117.337	309.543
4700.000	3.305	335.508	79.673	-93.467	4697.487	0.750	79.673	122.817	310.445
4800.000	3.336	321.490	84.573	-96.474	4797.321	0.811	84.573	128.296	311.239
4900.000	3.376	326.680	89.311	-99.903	4897.149	0.306	89.311	134.004	311.796
5000.000	2.607	331.487	93.770	-102.606	4997.013	0.808	93.770	138.999	312.424
5100.000	2.923	321.846	97.773	-105.267	5096.897	0.561	97.773	143.669	312.886
5200.000	3.075	315.346	101.686	-108.727	5196.760	0.372	101.686	148.867	313.083
5300.000	3.167	293.160	104.680	-113.151	5296.615	1.204	104.680	154.146	312.773
5400.000	3.114	318.718	107.808	-117.483	5396.470	1.390	107.808	159.452	312.541
5500.000	2.979	310.300	111.530	-121.257	5496.329	0.467	111.530	164.748	312.607
5600.000	2.667	328.332	115.190	-124.460	5596.210	0.936	115.190	169.585	312.785
5700.000	3.809	319.015	119.677	-127.859	5696.049	1.254	119.677	175.130	313.107
5800.000	3.451	301.418	123.754	-132.607	5795.851	1.165	123.754	181.382	313.022
5900.000	3.917	305.481	127.305	-137.957	5895.645	0.534	127.305	187.720	312.701
6000.000	3.704	319.601	131.748	-142.832	5995.426	0.960	131.748	194.316	312.688
6100.000	3.902	318.312	136.749	-147.189	6095.205	0.215	136.749	200.910	312.894
6200.000	4.189	309.737	141.625	-152.261	6194.957	0.669	141.625	207.945	312.927
6300.000	4.914	309.154	146.665	-158.391	6294.641	0.726	146.665	215.866	312.799
6400.000	4.652	317.106	152.339	-164.472	6394.294	0.712	152.339	224.184	312.807
6500.000	3.779	305.763	157.236	-169.906	6494.024	1.203	157.236	231.498	312.782
6600.000	4.459	301.939	161.219	-175.879	6593.765	0.733	161.219	238.589	312.510
6700.000	4.458	287.321	164.432	-182.888	6693.466	1.133	164.432	245.939	311.958
6800.000	4.248	280.057	166.236	-190.245	6793.178	0.590	166.236	252.641	311.147
6900.000	4.383	279.838	167.536	-197.657	6892.895	0.136	167.536	259.107	310.285
7000.000	3.892	290.419	169.373	-204.602	6992.635	0.906	169.373	265.611	309.618
7100.000	4.321	294.754	172.134	-211.204	7092.379	0.529	172.134	272.465	309.181
7200.000	4.730	289.635	175.097	-218.509	7192.067	0.574	175.097	280.009	308.706
7250.000	4.334	293.894	176.555	-222.178	7241.911	1.039	176.555	283.787	308.473