



Company: Noble Energy
Rig: Production/ V.E.S
API # 05-123-21845
Date: 1/26/2014
Surveyor: Jay Hinman
VS: 0.000
Lat : 40.180556
Long: -104.652042

Well: Cannon Land 11-34
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid North is 0.55 Deg
Declination: 8.43
Depth Reference: Ground Level
Elevation: 4834'
Total Depth as Drilled: 7781'

Lat & Long obtained by handheld GPS at wellhead

HA Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD
0.000	0.000	0.000	0.000	0.000	0.000	****	0.000	0.000
100.000	0.608	163.884	-0.510	0.147	99.998	0.608	-0.510	0.531
200.000	0.285	150.686	-1.236	0.416	199.995	0.337	-1.236	1.305
300.000	0.386	93.212	-1.472	0.874	299.994	0.335	-1.472	1.712
400.000	0.471	88.999	-1.484	1.621	399.991	0.090	-1.484	2.198
500.000	0.375	66.761	-1.347	2.333	499.988	0.188	-1.347	2.694
600.000	0.139	76.337	-1.190	2.751	599.987	0.239	-1.190	2.997
700.000	0.496	354.728	-0.730	2.829	699.986	0.495	-0.730	2.922
800.000	0.359	328.027	-0.034	2.624	799.983	0.238	-0.034	2.624
900.000	0.336	20.496	0.506	2.561	899.981	0.308	0.506	2.610
1000.000	0.348	329.035	1.041	2.507	999.980	0.297	1.041	2.714
1100.000	0.299	322.924	1.510	2.193	1099.978	0.060	1.510	2.663
1200.000	0.473	334.409	2.090	1.858	1199.976	0.190	2.090	2.796
1300.000	0.531	323.489	2.835	1.404	1299.972	0.111	2.835	3.163
1400.000	0.507	333.785	3.604	0.933	1399.968	0.096	3.604	3.723
1500.000	0.480	308.194	4.260	0.408	1499.964	0.220	4.260	4.280
1600.000	0.512	303.438	4.766	-0.295	1599.961	0.052	4.766	4.775
1700.000	0.589	318.149	5.395	-1.010	1699.956	0.160	5.395	5.489
1800.000	0.543	320.785	6.145	-1.653	1799.951	0.053	6.145	6.364
1900.000	0.456	312.252	6.780	-2.248	1899.947	0.114	6.780	7.143
2000.000	0.514	294.317	7.233	-2.951	1999.944	0.161	7.233	7.812
2100.000	0.378	248.127	7.294	-3.666	2099.941	0.371	7.294	8.164
2200.000	0.277	195.610	6.938	-4.037	2199.940	0.304	6.938	8.027
2300.000	0.908	190.936	5.928	-4.252	2299.934	0.632	5.928	7.295
2400.000	1.063	189.882	4.236	-4.562	2399.919	0.156	4.236	6.225
2500.000	1.284	194.555	2.238	-5.003	2499.898	0.241	2.238	5.480
2600.000	1.728	206.344	-0.198	-5.953	2599.863	0.540	-0.198	5.957
2700.000	1.865	217.617	-2.838	-7.616	2699.815	0.378	-2.838	8.127
2800.000	1.643	228.389	-5.078	-9.680	2799.768	0.396	-5.078	10.931
2900.000	1.296	247.930	-6.455	-11.800	2899.735	0.605	-6.455	13.450
3000.000	1.221	254.278	-7.168	-13.873	2999.711	0.158	-7.168	15.616
3100.000	1.244	260.657	-7.633	-15.970	3099.688	0.139	-7.633	17.701
3200.000	0.895	276.564	-7.720	-17.817	3199.671	0.455	-7.720	19.418
3300.000	0.856	298.300	-7.277	-19.250	3299.660	0.332	-7.277	20.580
3400.000	1.238	306.612	-6.278	-20.775	3399.643	0.410	-6.278	21.703
3500.000	1.345	294.445	-5.148	-22.711	3499.617	0.294	-5.148	23.288

3600.000	2.034	289.022	-4.084	-25.458	3599.573	0.706	-4.084	25.783
3700.000	2.023	293.043	-2.815	-28.760	3699.511	0.143	-2.815	28.897
3800.000	2.011	288.399	-1.570	-32.049	3799.449	0.164	-1.570	32.087
3900.000	2.084	289.659	-0.405	-35.425	3899.385	0.086	-0.405	35.428
4000.000	2.131	287.916	0.779	-38.907	3999.317	0.080	0.779	38.915
4100.000	2.129	279.052	1.643	-42.511	4099.249	0.329	1.643	42.543
4200.000	2.165	286.540	2.473	-46.156	4199.179	0.283	2.473	46.223
4300.000	2.438	276.063	3.236	-50.083	4299.098	0.500	3.236	50.187
4400.000	2.054	287.068	3.986	-53.911	4399.022	0.576	3.986	54.058
4500.000	2.260	276.608	4.739	-57.583	4498.951	0.444	4.739	57.778
4600.000	1.881	264.432	4.807	-61.175	4598.886	0.579	4.807	61.364
4700.000	2.115	252.350	4.088	-64.567	4698.826	0.481	4.088	64.696
4800.000	1.968	261.449	3.274	-68.023	4798.763	0.355	3.274	68.102
4900.000	1.100	247.585	2.652	-70.609	4898.726	0.938	2.652	70.659
5000.000	0.631	185.275	1.738	-71.547	4998.716	0.982	1.738	71.569
5100.000	0.647	184.151	0.627	-71.639	5098.710	0.020	0.627	71.642
5200.000	0.678	194.982	-0.508	-71.833	5198.703	0.129	-0.508	71.835
5300.000	0.435	190.404	-1.453	-72.054	5298.699	0.247	-1.453	72.069
5400.000	0.567	210.652	-2.252	-72.375	5398.695	0.219	-2.252	72.410
5500.000	0.810	205.412	-3.316	-72.931	5498.688	0.251	-3.316	73.006
5600.000	1.092	207.185	-4.802	-73.669	5598.674	0.284	-4.802	73.826
5700.000	1.579	195.279	-6.979	-74.468	5698.646	0.558	-6.979	74.794
5800.000	1.945	199.626	-9.907	-75.401	5798.599	0.389	-9.907	76.049
5900.000	1.283	219.338	-12.371	-76.680	5898.560	0.855	-12.371	77.672
6000.000	0.892	232.725	-13.708	-78.009	5998.542	0.463	-13.708	79.204
6100.000	1.002	236.849	-14.658	-79.361	6098.528	0.130	-14.658	80.703
6200.000	1.123	245.642	-15.540	-80.986	6198.511	0.203	-15.540	82.464
6300.000	1.248	258.473	-16.162	-82.947	6298.489	0.293	-16.162	84.507
6400.000	1.316	257.009	-16.638	-85.133	6398.464	0.075	-16.638	86.744
6500.000	1.651	252.834	-17.322	-87.629	6498.431	0.352	-17.322	89.325
6600.000	1.603	267.892	-17.798	-90.403	6598.391	0.429	-17.798	92.139
6700.000	2.005	259.541	-18.167	-93.521	6698.341	0.480	-18.167	95.270
6800.000	1.617	259.004	-18.754	-96.627	6798.291	0.388	-18.754	98.430
6900.000	1.271	247.748	-19.443	-99.039	6898.259	0.447	-19.443	100.929
7000.000	1.385	233.157	-20.588	-101.033	6998.233	0.356	-20.588	103.109
7100.000	0.988	236.326	-21.791	-102.718	7098.211	0.403	-21.791	105.003
7200.000	0.876	241.498	-22.634	-104.107	7198.198	0.140	-22.634	106.539
7300.000	1.279	254.556	-23.296	-105.855	7298.180	0.470	-23.296	108.388
7400.000	1.518	252.159	-23.999	-108.192	7398.150	0.246	-23.999	110.821
7500.000	0.892	223.979	-24.965	-109.994	7498.129	0.844	-24.965	112.791

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