



Company: Noble Energy Inc.

Rig: Production/V.E.S.

Latitude: 40.17641

Longitude: -104.65664

API # 05-123-29729

Date: 2/9/13

Well: Cannon X03-30D

Location: Weld County, Colorado

Grid North is: .54 Degrees East of True

Depth Reference: KB= Ground Level

Surveyor: Jay Hinman

VS: 0.000

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	0.824	350.869	0.710	-0.114	99.997	0.824	0.710	0.719
200.000	0.614	353.781	1.953	-0.286	199.989	0.214	1.953	1.974
300.000	0.643	347.456	3.033	-0.466	299.983	0.075	3.033	3.068
400.000	0.291	306.459	3.731	-0.792	399.979	0.464	3.731	3.814
500.000	0.394	348.019	4.218	-1.068	499.978	0.261	4.218	4.351
600.000	0.370	302.647	4.729	-1.411	599.976	0.295	4.729	4.935
700.000	1.140	56.538	5.451	-0.852	699.969	1.333	5.451	5.517
800.000	1.539	63.376	6.601	1.178	799.942	0.429	6.601	6.705
900.000	1.280	71.108	7.565	3.435	899.912	0.320	7.565	8.308
1000.000	1.004	94.198	7.862	5.366	999.892	0.531	7.862	9.519
1100.000	1.124	123.133	7.262	7.061	1099.876	0.544	7.262	10.129
1200.000	1.571	205.713	5.491	7.287	1199.855	1.810	5.491	9.124
1300.000	3.103	217.518	2.109	5.044	1299.770	1.597	2.109	5.467
1400.000	5.163	221.937	-3.385	0.389	1399.505	2.083	-3.385	3.408
1500.000	7.184	222.718	-11.327	-6.861	1498.920	2.023	-11.327	13.243
1600.000	9.206	224.326	-21.645	-16.693	1597.894	2.035	-21.645	27.334
1700.000	10.695	223.585	-34.089	-28.681	1696.387	1.494	-34.089	44.549
1800.000	11.995	225.059	-48.151	-42.434	1794.431	1.332	-48.151	64.180
1900.000	14.279	229.501	-63.503	-59.169	1891.810	2.496	-63.503	86.796
2000.000	15.255	230.421	-79.894	-78.687	1988.506	1.003	-79.894	112.137
2100.000	16.228	228.642	-97.509	-99.316	2084.755	1.086	-97.509	139.182
2200.000	15.780	227.369	-115.951	-119.808	2180.879	0.569	-115.951	166.729
2300.000	15.661	228.859	-134.041	-139.977	2277.139	0.421	-134.041	193.805
2400.000	15.640	229.299	-151.710	-160.360	2373.432	0.121	-151.710	220.752
2500.000	15.876	230.491	-169.202	-181.132	2469.674	0.401	-169.202	247.867
2600.000	15.694	231.470	-186.329	-202.265	2565.903	0.323	-186.329	275.008
2700.000	16.008	233.986	-202.861	-223.998	2662.101	0.756	-202.861	302.205
2800.000	16.000	232.267	-219.403	-246.051	2758.226	0.474	-219.403	329.665
2900.000	16.464	231.001	-236.754	-267.964	2854.240	0.584	-236.754	357.571
3000.000	16.160	232.588	-254.127	-290.030	2950.215	0.540	-254.127	385.613
3100.000	15.423	232.922	-270.598	-311.692	3046.441	0.743	-270.598	412.765
3200.000	15.430	229.197	-287.308	-332.371	3142.840	0.991	-287.308	439.336
3300.000	15.932	226.941	-305.372	-352.469	3239.119	0.790	-305.372	466.355
3400.000	14.723	223.247	-324.000	-371.205	3335.563	1.553	-324.000	492.716
3500.000	14.354	226.030	-341.863	-388.833	3432.361	0.790	-341.863	517.746
3600.000	15.323	226.496	-359.565	-407.338	3529.026	0.977	-359.565	543.334
3700.000	14.649	229.815	-376.821	-426.583	3625.626	1.091	-376.821	569.181

3800.000	14.476	230.776	-392.884	-445.926	3722.413	0.297	-392.884	594.313
3900.000	15.459	230.454	-409.273	-465.886	3819.019	0.986	-409.273	620.124
4000.000	15.803	231.408	-426.252	-486.805	3915.321	0.429	-426.252	647.047
4100.000	16.904	231.239	-443.848	-508.785	4011.274	1.103	-443.848	675.177
4200.000	15.806	233.558	-461.041	-531.078	4107.227	1.278	-461.041	703.280
4300.000	13.491	232.891	-476.170	-551.339	4203.970	2.321	-476.170	728.501
4400.000	12.589	233.403	-489.705	-569.391	4301.390	0.910	-489.705	751.011
4500.000	11.124	231.958	-502.147	-585.739	4399.255	1.495	-502.147	771.519
4600.000	10.260	231.772	-513.603	-600.332	4497.518	0.864	-513.603	790.055
4700.000	7.892	231.984	-523.343	-612.739	4596.259	2.368	-523.343	805.814
4800.000	6.192	230.297	-531.017	-622.297	4695.501	1.713	-531.017	818.067
4900.000	4.668	230.831	-537.033	-629.601	4795.049	1.525	-537.033	827.528
5000.000	3.618	233.976	-541.458	-635.308	4894.787	1.074	-541.458	834.741
5100.000	2.051	238.518	-544.249	-639.386	4994.661	1.581	-544.249	839.655
5200.000	1.385	276.241	-545.052	-642.113	5094.619	1.277	-545.052	842.253
5300.000	0.768	324.474	-544.375	-643.704	5194.602	1.045	-544.375	843.030
5400.000	1.256	28.682	-542.869	-643.567	5294.589	1.152	-542.869	841.953
5500.000	1.354	27.405	-540.858	-642.497	5394.563	0.103	-540.858	839.840
5600.000	1.020	82.488	-539.693	-641.071	5494.545	1.137	-539.693	837.998
5700.000	0.589	69.072	-539.393	-639.708	5594.535	0.467	-539.393	836.763
5800.000	1.296	81.991	-539.052	-638.108	5694.521	0.734	-539.052	835.319
5900.000	1.458	114.339	-539.418	-635.829	5794.493	0.783	-539.418	833.817
6000.000	1.437	116.960	-540.511	-633.552	5894.461	0.069	-540.511	832.791
6100.000	1.248	104.379	-541.350	-631.379	5994.434	0.349	-541.350	831.684
6200.000	1.443	109.921	-542.050	-629.140	6094.406	0.234	-542.050	830.442
6300.000	1.377	112.142	-542.932	-626.843	6194.376	0.085	-542.932	829.281
6400.000	1.439	102.817	-543.663	-624.505	6294.346	0.237	-543.663	827.995
6500.000	1.246	89.442	-543.931	-622.193	6394.319	0.367	-543.931	826.429
6600.000	1.798	97.398	-544.123	-619.550	6494.283	0.590	-544.123	824.568
6700.000	1.389	119.726	-544.926	-616.941	6594.245	0.736	-544.926	823.141
6800.000	1.473	123.463	-546.236	-614.817	6694.214	0.126	-546.236	822.419
6900.000	1.119	147.109	-547.765	-613.214	6794.189	0.634	-547.765	822.239
7000.000	1.282	177.231	-549.702	-612.629	6894.168	0.643	-549.702	823.096
7100.000	1.409	107.177	-551.182	-611.400	6994.146	1.548	-551.182	823.172
7200.000	1.426	86.627	-551.472	-608.984	7094.117	0.506	-551.472	821.573
7300.000	1.528	63.505	-550.804	-606.548	7194.084	0.601	-550.804	819.320
7400.000	1.650	60.892	-549.508	-604.096	7294.046	0.142	-549.508	816.634
7500.000	2.026	55.248	-547.800	-601.386	7393.994	0.416	-547.800	813.480
7600.000	2.021	56.620	-545.823	-598.461	7493.932	0.049	-545.823	809.987

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