



Company: Noble Energy

Rig: Production/Core-Tech

API # 05-123-22976

Date: 4/7/2014

Surveyor: Nick Kula

VS: 0.000

Lat : 40.096

Long: -104.545

Well: Fritzier 12-34

Location: Weld County, Colorado

North Reference: GRID

Convergence: GRID North is 0.620 Degrees East

Declination: 8.35

Depth Reference: Ground Level

Elevation: 5060'

Total Depth as Drilled: 7785'

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	0.000
100.000	0.903	173.133	-0.782	0.094	99.996	0.903	-0.782	0.788	173.133
200.000	0.743	143.785	-2.087	0.571	199.986	0.445	-2.087	2.164	164.690
300.000	0.342	151.633	-2.873	1.096	299.981	0.407	-2.873	3.075	159.115
400.000	0.176	147.675	-3.265	1.320	399.980	0.166	-3.265	3.521	157.988
500.000	0.310	182.844	-3.665	1.389	499.979	0.195	-3.665	3.919	159.249
600.000	0.335	136.940	-4.149	1.575	599.978	0.252	-4.149	4.438	159.218
700.000	0.292	110.821	-4.453	2.012	699.976	0.148	-4.453	4.886	155.684
800.000	0.272	199.755	-4.766	2.170	799.976	0.395	-4.766	5.237	155.521
900.000	0.404	208.875	-5.299	1.920	899.974	0.143	-5.299	5.636	160.085
1000.000	1.024	238.582	-6.073	0.987	999.966	0.702	-6.073	6.153	170.769
1100.000	1.179	258.405	-6.745	-0.783	1099.948	0.409	-6.745	6.791	186.622
1200.000	0.706	263.869	-7.018	-2.404	1199.934	0.481	-7.018	7.418	198.908
1300.000	0.927	257.468	-7.259	-3.806	1299.924	0.238	-7.259	8.197	207.670
1400.000	0.395	247.185	-7.569	-4.914	1399.917	0.543	-7.569	9.024	212.995
1500.000	0.444	269.407	-7.707	-5.619	1499.914	0.169	-7.707	9.538	216.099
1600.000	0.595	250.418	-7.885	-6.496	1599.910	0.227	-7.885	10.216	219.485
1700.000	0.786	281.181	-7.926	-7.658	1699.903	0.410	-7.926	11.021	224.017
1800.000	0.789	251.735	-8.009	-8.985	1799.894	0.400	-8.009	12.036	228.289
1900.000	0.655	249.091	-8.428	-10.173	1899.886	0.138	-8.428	13.211	230.358
2000.000	0.648	284.420	-8.491	-11.254	1999.880	0.395	-8.491	14.098	232.965
2100.000	0.832	260.277	-8.473	-12.518	2099.872	0.358	-8.473	15.116	235.906
2200.000	0.670	241.588	-8.874	-13.748	2199.863	0.292	-8.874	16.363	237.158
2300.000	0.604	254.213	-9.296	-14.769	2299.857	0.155	-9.296	17.451	237.814
2400.000	0.711	281.778	-9.312	-15.884	2399.851	0.330	-9.312	18.413	239.618
2500.000	0.954	301.716	-8.748	-17.200	2499.841	0.374	-8.748	19.297	243.041
2600.000	1.065	319.848	-7.600	-18.507	2599.825	0.337	-7.600	20.007	247.673
2700.000	1.078	325.536	-6.114	-19.639	2699.808	0.107	-6.114	20.568	252.707
2800.000	1.176	330.731	-4.443	-20.673	2799.788	0.141	-4.443	21.145	257.871
2900.000	1.181	350.481	-2.531	-21.345	2899.768	0.404	-2.531	21.495	263.238
3000.000	1.200	2.560	-0.468	-21.469	2999.746	0.251	-0.468	21.474	268.751
3100.000	1.132	347.510	1.543	-21.636	3099.726	0.313	1.543	21.691	274.078
3200.000	1.149	358.758	3.510	-21.871	3199.706	0.224	3.510	22.151	279.116
3300.000	1.119	8.670	5.477	-21.746	3299.687	0.198	5.477	22.425	284.138
3400.000	1.293	2.013	7.571	-21.559	3399.664	0.223	7.571	22.850	289.349
3500.000	0.935	10.288	9.501	-21.374	3499.645	0.392	9.501	23.390	293.966

3600.000	0.936	356.191	11.119	-21.282	3599.632	0.230	11.119	24.012	297.584
3700.000	0.199	22.686	12.094	-21.269	3699.627	0.763	12.094	24.467	299.623
3800.000	0.130	287.523	12.289	-21.311	3799.627	0.248	12.289	24.600	299.970
3900.000	0.495	196.360	11.908	-21.541	3899.625	0.515	11.908	24.613	298.935
4000.000	0.819	174.027	10.783	-21.588	3999.619	0.407	10.783	24.131	296.542
4100.000	0.836	183.684	9.344	-21.561	4099.608	0.140	9.344	23.498	293.431
4200.000	0.875	204.523	7.921	-21.924	4199.597	0.312	7.921	23.312	289.865
4300.000	0.889	215.942	6.598	-22.697	4299.586	0.176	6.598	23.637	286.210
4400.000	1.121	231.044	5.355	-23.913	4399.570	0.350	5.355	24.505	282.623
4500.000	1.109	240.702	4.267	-25.517	4499.551	0.188	4.267	25.872	279.493
4600.000	1.114	234.643	3.231	-27.154	4599.533	0.118	3.231	27.346	276.785
4700.000	0.893	252.933	2.440	-28.692	4699.518	0.386	2.440	28.795	274.860
4800.000	1.097	248.906	1.866	-30.330	4799.502	0.215	1.866	30.388	273.521
4900.000	1.166	220.834	0.752	-31.888	4899.484	0.553	0.752	31.897	271.351
5000.000	1.038	209.421	-0.807	-32.999	4999.465	0.254	-0.807	33.008	268.600
5100.000	0.878	195.406	-2.334	-33.647	5099.451	0.283	-2.334	33.728	266.032
5200.000	0.296	185.915	-3.329	-33.877	5199.446	0.588	-3.329	34.040	264.387
5300.000	0.454	177.196	-3.982	-33.884	5299.444	0.168	-3.982	34.117	263.297
5400.000	0.361	122.922	-4.549	-33.600	5399.441	0.381	-4.549	33.907	262.289
5500.000	1.040	110.052	-5.032	-32.484	5499.433	0.693	-5.032	32.871	261.195
5600.000	1.180	89.525	-5.334	-30.601	5599.415	0.419	-5.334	31.063	260.112
5700.000	1.663	78.124	-5.027	-28.151	5699.384	0.557	-5.027	28.597	259.876
5800.000	1.684	79.771	-4.467	-25.285	5799.341	0.053	-4.467	25.676	259.981
5900.000	1.895	63.989	-3.481	-22.352	5899.293	0.534	-3.481	22.622	261.148
6000.000	1.884	55.978	-1.836	-19.504	5999.239	0.264	-1.836	19.590	264.622
6100.000	1.407	48.189	-0.098	-17.226	6099.198	0.526	-0.098	17.226	269.674
6200.000	1.168	44.486	1.448	-15.597	6199.172	0.253	1.448	15.664	275.303
6300.000	0.918	35.893	2.824	-14.413	6299.156	0.294	2.824	14.687	281.087
6400.000	0.800	37.397	4.028	-13.519	6399.144	0.120	4.028	14.106	286.592
6500.000	0.503	86.579	4.609	-12.656	6499.139	0.606	4.609	13.469	290.010
6600.000	0.865	134.968	4.102	-11.684	6599.132	0.650	4.102	12.383	289.346
6700.000	1.575	150.318	2.375	-10.469	6699.109	0.776	2.375	10.735	282.780
6800.000	1.999	157.394	-0.429	-9.118	6799.060	0.477	-0.429	9.129	267.304
6900.000	1.700	136.838	-3.121	-7.433	6899.009	0.722	-3.121	8.062	247.222
7000.000	1.289	119.166	-4.751	-5.437	6998.975	0.613	-4.751	7.220	228.849
7100.000	1.397	124.595	-5.991	-3.451	7098.948	0.167	-5.991	6.914	209.944
7200.000	1.587	135.990	-7.680	-1.486	7198.914	0.352	-7.680	7.822	190.949
7300.000	1.018	106.675	-8.931	0.328	7298.889	0.859	-8.931	8.937	177.899
7400.000	0.803	101.303	-9.323	1.866	7398.876	0.231	-9.323	9.508	168.682
7500.000	0.990	97.728	-9.577	3.409	7498.864	0.195	-9.577	10.165	160.405

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