



Company: Noble Energy

Rig: Production/Coretech

API # 05-123-27007

Date: 7/9/2014

Surveyor: Kevin McDowell

VS: 0.000

Lat : 40.503

Long: -104.406

Well: Wells Ranch USX AA #11-6

Location: Weld County Colorado

North Reference: GRID

Convergence: GRID North is 0.71 Degrees East o

Declination: 8.27

Depth Reference: Ground Level

Elevation: 4801 Feet

Total Depth as Drilled: 6998 Feet

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	0.874	0.129	0.763	0.002	99.996	0.874	0.763	0.763	0.129
200.000	0.632	311.445	1.891	-0.410	199.988	0.659	1.891	1.935	347.777
300.000	0.550	325.113	2.649	-1.097	299.983	0.162	2.649	2.867	337.504
400.000	0.328	239.368	2.897	-1.617	399.981	0.619	2.897	3.318	330.826
500.000	0.279	242.414	2.639	-2.079	499.980	0.051	2.639	3.359	321.764
600.000	0.235	247.890	2.449	-2.485	599.979	0.050	2.449	3.489	314.581
700.000	0.300	266.665	2.356	-2.936	699.977	0.108	2.356	3.765	308.752
800.000	0.488	269.727	2.339	-3.623	799.975	0.190	2.339	4.312	302.849
900.000	0.548	268.141	2.322	-4.527	899.971	0.061	2.322	5.087	297.152
1000.000	0.452	254.275	2.199	-5.385	999.967	0.154	2.199	5.816	292.216
1100.000	0.639	242.416	1.834	-6.259	1099.963	0.217	1.834	6.522	286.333
1200.000	0.838	251.849	1.348	-7.448	1199.954	0.233	1.348	7.569	280.260
1300.000	0.584	265.484	1.080	-8.650	1299.947	0.304	1.080	8.717	277.118
1400.000	0.716	240.628	0.733	-9.703	1399.940	0.308	0.733	9.730	274.323
1500.000	0.473	266.276	0.400	-10.660	1499.935	0.355	0.400	10.667	272.149
1600.000	0.786	268.320	0.353	-11.757	1599.929	0.313	0.353	11.762	271.720
1700.000	0.450	235.953	0.113	-12.768	1699.923	0.472	0.113	12.768	270.507
1800.000	0.296	185.011	-0.364	-13.116	1799.921	0.350	-0.364	13.121	268.410
1900.000	0.554	171.435	-1.100	-13.066	1899.918	0.276	-1.100	13.112	265.188
2000.000	0.068	234.485	-1.613	-13.042	1999.917	0.527	-1.613	13.141	262.951
2100.000	0.532	325.705	-1.263	-13.352	2099.915	0.538	-1.263	13.412	264.595
2200.000	0.720	311.824	-0.461	-14.082	2199.909	0.240	-0.461	14.089	268.126
2300.000	1.243	308.847	0.638	-15.394	2299.894	0.525	0.638	15.407	272.374
2400.000	1.675	302.657	2.107	-17.469	2399.862	0.459	2.107	17.596	276.877
2500.000	1.815	309.602	3.905	-19.919	2499.816	0.253	3.905	20.298	281.091
2600.000	1.870	312.125	6.008	-22.349	2599.764	0.098	6.008	23.143	285.047
2700.000	1.815	313.469	8.192	-24.708	2699.712	0.069	8.192	26.031	288.343
2800.000	1.448	310.107	10.096	-26.824	2799.671	0.380	10.096	28.661	290.624
2900.000	1.235	309.375	11.593	-28.623	2899.644	0.214	11.593	30.882	292.049
3000.000	1.188	294.438	12.705	-30.400	2999.622	0.318	12.705	32.948	292.682
3100.000	0.817	281.773	13.280	-32.042	3099.607	0.430	13.280	34.684	292.511
3200.000	0.412	287.482	13.533	-33.083	3199.601	0.409	13.533	35.744	292.248
3300.000	0.419	305.187	13.852	-33.725	3299.598	0.128	13.852	36.459	292.330
3400.000	0.294	252.702	13.986	-34.268	3399.596	0.335	13.986	37.013	292.202
3500.000	0.178	84.719	13.924	-34.359	3499.596	0.469	13.924	37.073	292.061

3600.000	0.755	125.170	13.559	-33.666	3599.592	0.630	13.559	36.294	291.938
3700.000	0.779	104.385	13.011	-32.469	3699.584	0.278	13.011	34.979	291.837
3800.000	1.144	87.276	12.890	-30.814	3799.570	0.461	12.890	33.401	292.700
3900.000	1.024	93.921	12.876	-28.925	3899.552	0.173	12.876	31.662	293.996
4000.000	1.123	71.378	13.128	-27.105	3999.535	0.431	13.128	30.117	295.842
4100.000	0.849	74.641	13.637	-25.462	4099.520	0.279	13.637	28.884	298.173
4200.000	0.982	71.630	14.103	-23.934	4199.507	0.141	14.103	27.780	300.509
4300.000	0.864	66.718	14.672	-22.428	4299.494	0.142	14.672	26.801	303.191
4400.000	0.812	46.086	15.461	-21.225	4399.483	0.305	15.461	26.259	306.071
4500.000	0.701	55.674	16.297	-20.209	4499.475	0.168	16.297	25.962	308.884
4600.000	0.732	40.203	17.130	-19.292	4599.467	0.195	17.130	25.800	311.603
4700.000	0.801	38.938	18.162	-18.440	4699.458	0.071	18.162	25.882	314.563
4800.000	1.524	71.784	19.121	-16.738	4799.438	0.956	19.121	25.412	318.802
4900.000	1.880	81.929	19.767	-13.851	4899.394	0.464	19.767	24.137	324.981
5000.000	1.720	90.122	19.994	-10.726	4999.345	0.302	19.994	22.689	331.789
5100.000	1.654	94.060	19.889	-7.785	5099.301	0.134	19.889	21.358	338.622
5200.000	0.928	73.488	20.017	-5.570	5199.276	0.850	20.017	20.777	344.450
5300.000	1.014	61.154	20.673	-4.019	5299.261	0.225	20.673	21.060	348.999
5400.000	1.170	58.116	21.639	-2.377	5399.243	0.166	21.639	21.770	353.731
5500.000	0.720	58.400	22.508	-0.975	5499.229	0.450	22.508	22.529	357.519
5600.000	0.304	116.809	22.717	-0.203	5599.226	0.617	22.717	22.718	359.487
5700.000	0.497	185.092	22.166	-0.005	5699.224	0.477	22.166	22.166	359.987
5800.000	0.460	181.617	21.333	-0.055	5799.220	0.047	21.333	21.333	359.853
5900.000	0.917	207.625	20.222	-0.437	5899.213	0.543	20.222	20.227	358.761
6000.000	1.009	187.716	18.640	-0.927	5999.199	0.345	18.640	18.663	357.154
6100.000	1.225	216.401	16.907	-1.679	6099.181	0.592	16.907	16.991	354.328
6200.000	1.405	219.427	15.100	-3.093	6199.154	0.193	15.100	15.413	348.425
6300.000	1.641	230.617	13.244	-4.978	6299.119	0.379	13.244	14.149	339.400
6400.000	1.816	259.147	12.037	-7.641	6399.076	0.869	12.037	14.258	327.592
6500.000	2.726	293.950	12.704	-11.371	6499.000	1.612	12.704	17.050	318.170
6600.000	1.458	220.578	12.703	-14.372	6598.946	2.698	12.703	19.181	311.472
6700.000	1.199	172.177	10.700	-15.058	6698.922	1.115	10.700	18.472	305.397
6800.000	1.018	181.345	8.775	-14.936	6798.904	0.253	8.775	17.323	300.436
6900.000	0.754	174.883	7.233	-14.898	6898.892	0.282	7.233	16.561	295.895

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