



Company: Noble Energy

Rig: Production/Core Tech

API # 05-123-29490

Date: 3/15/2013

Surveyor: Brian Brewbaker

VS: NA

Lat : 40.46663

Long: -104.412

Well: Wells Ranch USX AA 23-13

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.70 East of True Noi

Declination: 8.44

Depth Reference: Ground Level

Elevation: 4810

Total Depth as Drilled: 6801.8

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	0.337	263.971	-0.031	-0.292	99.999	0.337	-0.031	0.294	263.971
200.000	0.415	306.485	0.153	-0.876	199.997	0.282	0.153	0.889	279.932
300.000	0.696	296.295	0.637	-1.711	299.993	0.297	0.637	1.825	290.433
400.000	0.482	256.490	0.808	-2.664	399.988	0.448	0.808	2.784	286.873
500.000	0.462	271.585	0.721	-3.476	499.984	0.126	0.721	3.550	281.716
600.000	0.179	14.549	0.883	-3.840	599.983	0.532	0.883	3.940	282.955
700.000	0.287	71.760	1.113	-3.563	699.983	0.242	1.113	3.733	287.346
800.000	0.565	79.295	1.283	-2.841	799.980	0.283	1.283	3.117	294.298
900.000	1.011	86.103	1.434	-1.477	899.970	0.455	1.434	2.059	314.160
1000.000	1.369	80.914	1.683	0.583	999.948	0.374	1.683	1.781	19.095
1100.000	1.692	80.657	2.111	3.219	1099.912	0.324	2.111	3.849	56.743
1200.000	2.076	80.633	2.646	6.463	1199.858	0.384	2.646	6.984	67.739
1300.000	2.330	82.314	3.212	10.265	1299.784	0.262	3.212	10.756	72.623
1400.000	2.317	81.469	3.784	14.278	1399.702	0.037	3.784	14.771	75.157
1500.000	2.512	80.286	4.454	18.437	1499.613	0.202	4.454	18.968	76.420
1600.000	2.416	77.461	5.281	22.655	1599.521	0.155	5.281	23.262	76.878
1700.000	2.202	74.301	6.258	26.561	1699.440	0.249	6.258	27.289	76.742
1800.000	2.075	74.222	7.270	30.152	1799.370	0.127	7.270	31.017	76.444
1900.000	1.920	71.191	8.303	33.481	1899.309	0.187	8.303	34.495	76.072
2000.000	1.474	67.124	9.343	36.251	1999.265	0.463	9.343	37.436	75.548
2100.000	0.925	86.213	9.896	38.242	2099.243	0.671	9.896	39.501	75.492
2200.000	0.760	141.677	9.429	39.459	2199.234	0.798	9.429	40.570	76.561
2300.000	0.915	172.873	8.116	39.969	2299.224	0.475	8.116	40.785	78.522
2400.000	1.118	189.198	6.361	39.912	2399.208	0.351	6.361	40.416	80.945
2500.000	1.645	194.589	4.008	39.395	2499.179	0.543	4.008	39.598	84.190
2600.000	1.554	202.628	1.368	38.511	2599.140	0.242	1.368	38.536	87.966
2700.000	1.269	205.235	-0.886	37.518	2699.109	0.292	-0.886	37.528	91.352
2800.000	0.958	230.791	-2.416	36.398	2799.091	0.578	-2.416	36.478	93.797
2900.000	0.856	234.483	-3.378	35.142	2899.078	0.117	-3.378	35.304	95.491
3000.000	0.997	256.861	-4.010	33.687	2999.066	0.385	-4.010	33.925	96.788
3100.000	0.453	305.270	-3.979	32.518	3099.058	0.774	-3.979	32.760	96.976
3200.000	0.470	317.505	-3.448	31.918	3199.055	0.100	-3.448	32.104	96.166
3300.000	0.645	332.797	-2.645	31.383	3299.050	0.228	-2.645	31.494	94.817
3400.000	0.164	316.041	-2.041	31.027	3399.047	0.491	-2.041	31.094	93.764
3500.000	0.540	140.265	-2.301	31.229	3499.046	0.703	-2.301	31.313	94.213

3600.000	0.891	120.332	-3.055	32.201	3599.038	0.426	-3.055	32.345	95.420
3700.000	0.785	123.121	-3.822	33.445	3699.028	0.114	-3.822	33.663	96.520
3800.000	1.011	120.789	-4.648	34.776	3799.015	0.229	-4.648	35.086	97.612
3900.000	1.205	130.267	-5.779	36.336	3898.997	0.267	-5.779	36.793	99.037
4000.000	1.063	143.820	-7.208	37.687	3998.977	0.303	-7.208	38.370	100.827
4100.000	0.349	187.479	-8.259	38.195	4098.970	0.846	-8.259	39.077	102.201
4200.000	0.671	268.000	-8.582	37.570	4198.966	0.703	-8.582	38.538	102.867
4300.000	0.919	299.001	-8.213	36.284	4298.957	0.487	-8.213	37.202	102.755
4400.000	0.851	311.719	-7.331	35.028	4398.945	0.207	-7.331	35.787	101.820
4500.000	0.708	345.839	-6.238	34.323	4498.937	0.477	-6.238	34.885	100.300
4600.000	0.964	57.240	-5.184	34.879	4598.928	0.997	-5.184	35.263	98.453
4700.000	1.068	110.914	-5.061	36.457	4698.915	0.922	-5.061	36.807	97.904
4800.000	0.920	100.043	-5.534	38.118	4798.900	0.239	-5.534	38.518	98.260
4900.000	0.870	61.723	-5.314	39.578	4898.888	0.590	-5.314	39.933	97.647
5000.000	0.466	73.433	-4.838	40.636	4998.881	0.425	-4.838	40.923	96.790
5100.000	0.127	267.694	-4.727	40.916	5098.880	0.590	-4.727	41.188	96.590
5200.000	0.587	274.411	-4.692	40.294	5198.878	0.461	-4.692	40.567	96.641
5300.000	1.028	254.604	-4.890	38.919	5298.868	0.516	-4.890	39.225	97.162
5400.000	0.710	251.968	-5.320	37.465	5398.857	0.320	-5.320	37.841	98.082
5500.000	0.678	264.446	-5.569	36.287	5498.849	0.154	-5.569	36.711	98.726
5600.000	0.853	273.287	-5.584	34.954	5598.840	0.211	-5.584	35.397	99.077
5700.000	0.811	270.183	-5.539	33.503	5698.830	0.062	-5.539	33.958	99.388
5800.000	0.567	283.223	-5.424	32.314	5798.823	0.289	-5.424	32.766	99.528
5900.000	0.856	354.674	-4.567	31.763	5898.817	0.863	-4.567	32.090	98.183
6000.000	1.172	10.852	-2.820	31.887	5998.801	0.424	-2.820	32.011	95.054
6100.000	2.143	13.223	0.004	32.507	6098.758	0.973	0.004	32.507	89.993
6200.000	2.134	353.932	3.675	32.738	6198.690	0.716	3.675	32.943	83.595
6300.000	2.100	333.710	7.169	31.729	6298.623	0.744	7.169	32.529	77.269
6400.000	1.896	307.924	9.828	29.613	6398.564	0.913	9.828	31.201	71.640
6500.000	1.213	287.416	11.162	27.298	6498.527	0.870	11.162	29.492	67.761
6600.000	0.551	253.897	11.345	25.825	6598.515	0.813	11.345	28.208	66.284
6700.000	0.223	243.955	11.126	25.188	6698.513	0.334	11.126	27.536	66.168
6750.000	0.218	148.824	11.002	25.150	6748.513	0.651	11.002	27.451	66.372

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