



Company: Noble Energy

Rig: Production/Core-Tech

API # 05-123-25078

Date: 7-24-13

Surveyor: Justin Williams

VS: 0.000

Lat : 40.44693

Long: -104.408

Well: Wells Ranch USX AA 35-19

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid North is .710 Degrees East of

Declination: 8.39

Depth Reference: RKB = Ground Level

Elevation: 4786

Total Depth as Drilled: 6940

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	0.323	61.430	0.135	0.248	99.999	0.323	0.135	0.282	61.430
200.000	0.234	51.408	0.397	0.655	199.998	0.101	0.397	0.765	58.773
300.000	0.399	132.371	0.289	1.071	299.997	0.430	0.289	1.110	74.901
400.000	0.426	141.658	-0.237	1.560	399.995	0.072	-0.237	1.578	98.653
500.000	0.736	178.789	-1.171	1.804	499.990	0.473	-1.171	2.150	122.991
600.000	0.714	165.132	-2.415	1.977	599.982	0.174	-2.415	3.121	140.694
700.000	0.803	190.326	-3.707	2.011	699.973	0.342	-3.707	4.217	151.517
800.000	1.091	189.095	-5.337	1.735	799.959	0.289	-5.337	5.612	161.991
900.000	0.965	177.424	-7.118	1.622	899.943	0.244	-7.118	7.301	167.162
1000.000	1.112	185.862	-8.925	1.561	999.927	0.211	-8.925	9.060	170.079
1100.000	1.012	203.135	-10.702	1.115	1099.910	0.334	-10.702	10.760	174.052
1200.000	1.027	201.591	-12.348	0.438	1199.894	0.031	-12.348	12.355	177.968
1300.000	1.035	193.793	-14.059	-0.107	1299.878	0.140	-14.059	14.059	180.437
1400.000	1.070	187.651	-15.861	-0.447	1399.861	0.118	-15.861	15.868	181.614
1500.000	1.099	189.043	-17.734	-0.722	1499.843	0.039	-17.734	17.748	182.332
1600.000	1.118	188.242	-19.646	-1.013	1599.825	0.024	-19.646	19.672	182.950
1700.000	1.067	174.239	-21.538	-1.059	1699.807	0.271	-21.538	21.564	182.815
1800.000	0.852	154.448	-23.136	-0.645	1799.793	0.392	-23.136	23.145	181.596
1900.000	0.897	147.972	-24.470	0.091	1899.781	0.109	-24.470	24.470	179.787
2000.000	0.670	114.494	-25.376	1.038	1999.772	0.501	-25.376	25.397	177.657
2100.000	0.068	70.190	-25.599	1.626	2099.770	0.624	-25.599	25.650	176.366
2200.000	0.299	353.569	-25.320	1.652	2199.769	0.290	-25.320	25.374	176.267
2300.000	0.897	297.905	-24.694	0.931	2299.764	0.770	-24.694	24.712	177.841
2400.000	1.319	281.965	-24.089	-0.887	2399.745	0.518	-24.089	24.106	182.108
2500.000	1.399	279.645	-23.646	-3.216	2499.717	0.098	-23.646	23.864	187.746
2600.000	1.273	263.689	-23.564	-5.524	2599.690	0.391	-23.564	24.203	193.194
2700.000	1.135	268.960	-23.704	-7.619	2699.668	0.177	-23.704	24.898	197.818
2800.000	1.299	278.926	-23.546	-9.729	2799.646	0.267	-23.546	25.477	202.449
2900.000	1.393	274.042	-23.284	-12.061	2899.618	0.149	-23.284	26.223	207.383
3000.000	1.252	275.380	-23.096	-14.361	2999.592	0.145	-23.096	27.197	211.874
3100.000	1.256	277.644	-22.848	-16.535	3099.568	0.050	-22.848	28.204	215.894
3200.000	1.217	266.517	-22.767	-18.682	3199.544	0.243	-22.767	29.450	219.371
3300.000	0.657	219.966	-23.270	-20.110	3299.532	0.902	-23.270	30.756	220.833
3400.000	0.821	140.234	-24.260	-20.019	3399.526	0.956	-24.260	31.454	219.529

3500.000	1.660	119.415	-25.523	-18.299	3499.502	0.939	-25.523	31.405	215.640
3600.000	1.722	113.652	-26.836	-15.662	3599.458	0.181	-26.836	31.072	210.268
3700.000	1.886	112.547	-28.070	-12.766	3699.409	0.169	-28.070	30.837	204.455
3800.000	2.611	100.617	-29.121	-9.007	3799.332	0.859	-29.121	30.482	197.186
3900.000	2.689	89.536	-29.522	-4.422	3899.225	0.517	-29.522	29.851	188.519
4000.000	2.136	102.711	-29.913	-0.258	3999.137	0.780	-29.913	29.914	180.495
4100.000	1.553	82.572	-30.148	2.904	4099.086	0.863	-30.148	30.287	174.498
4200.000	0.632	66.706	-29.754	4.754	4199.067	0.961	-29.754	30.132	170.922
4300.000	0.949	351.896	-28.716	5.144	4299.059	0.993	-28.716	29.173	169.844
4400.000	0.919	321.535	-27.268	4.528	4399.047	0.490	-27.268	27.641	170.571
4500.000	1.190	337.540	-25.680	3.633	4499.030	0.397	-25.680	25.936	171.948
4600.000	1.748	309.857	-23.743	2.065	4598.998	0.888	-23.743	23.833	175.029
4700.000	2.399	297.035	-21.814	-0.970	4698.932	0.795	-21.814	21.836	182.546
4800.000	2.698	316.578	-19.154	-4.452	4798.835	0.914	-19.154	19.664	193.085
4900.000	2.692	312.276	-15.864	-7.808	4898.725	0.202	-15.864	17.681	206.205
5000.000	2.147	307.953	-13.132	-11.022	4998.635	0.575	-13.132	17.145	220.009
5100.000	1.334	293.447	-11.517	-13.567	5098.589	0.918	-11.517	17.796	229.673
5200.000	0.918	250.305	-11.324	-15.390	5198.571	0.914	-11.324	19.107	233.655
5300.000	0.799	230.228	-12.039	-16.680	5298.560	0.321	-12.039	20.571	234.178
5400.000	0.828	201.552	-13.157	-17.481	5398.550	0.404	-13.157	21.879	233.033
5500.000	1.013	201.700	-14.650	-18.073	5498.537	0.186	-14.650	23.265	230.971
5600.000	0.730	194.206	-16.089	-18.556	5598.526	0.304	-16.089	24.560	229.072
5700.000	0.851	215.929	-17.309	-19.148	5698.516	0.321	-17.309	25.812	227.888
5800.000	0.816	155.815	-18.560	-19.293	5798.508	0.836	-18.560	26.771	226.108
5900.000	0.583	213.478	-19.634	-19.281	5898.501	0.705	-19.634	27.519	224.481
6000.000	0.436	230.387	-20.301	-19.855	5998.497	0.209	-20.301	28.397	224.364
6100.000	0.513	227.057	-20.849	-20.476	6098.494	0.082	-20.849	29.222	224.483
6200.000	0.551	261.791	-21.222	-21.279	6198.490	0.319	-21.222	30.053	225.077
6300.000	0.360	293.824	-21.164	-22.042	6298.487	0.311	-21.164	30.557	226.164
6400.000	0.326	277.645	-20.999	-22.611	6398.485	0.102	-20.999	30.858	227.116
6500.000	0.346	253.368	-21.048	-23.182	6498.483	0.143	-21.048	31.311	227.762
6600.000	0.458	217.092	-21.453	-23.712	6598.481	0.272	-21.453	31.977	227.863
6700.000	0.510	207.540	-22.167	-24.159	6698.477	0.096	-22.167	32.788	227.462

True North