



Company: Noble Energy
Rig: Production/VES
API # 05-123-30673

Date: 5/8/13
Surveyor: Levi Sheldon

VS: 0.000
Lat : 40.45206

Long: -104.411

Well: Wells Ranch AA26-13X
Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is -0.7 of True North
Declination: 8.42

Depth Reference: Ground Level

Elevation: 4,820 Feet

Total Depth as Drilled: 6,968 Feet

Lat & Long obtained by handheld GPS at wellhead

HA 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	0.599	244.920	-0.222	-0.474	99.998	0.599	-0.222	0.523	244.920
200.000	0.236	1.662	-0.237	-0.942	199.996	0.737	-0.237	0.971	255.849
300.000	0.316	358.785	0.245	-0.941	299.995	0.081	0.245	0.973	284.558
400.000	0.661	254.184	0.363	-1.502	399.993	0.801	0.363	1.545	283.591
500.000	0.277	251.169	0.128	-2.286	499.989	0.384	0.128	2.289	273.205
600.000	0.420	279.621	0.111	-2.876	599.987	0.221	0.111	2.878	272.215
700.000	0.468	341.023	0.559	-3.371	699.985	0.455	0.559	3.417	279.413
800.000	0.948	312.003	1.498	-4.118	799.977	0.584	1.498	4.382	289.994
900.000	0.877	304.067	2.481	-5.367	899.965	0.144	2.481	5.912	294.807
1000.000	0.901	320.202	3.513	-6.504	999.953	0.251	3.513	7.392	298.378
1100.000	0.235	21.054	4.309	-6.934	1099.948	0.813	4.309	8.164	301.860
1200.000	0.983	294.841	4.861	-7.638	1199.943	0.995	4.861	9.054	302.473
1300.000	0.971	320.721	5.877	-8.953	1299.929	0.438	5.877	10.709	303.283
1400.000	0.514	17.238	6.961	-9.356	1399.921	0.810	6.961	11.661	306.648
1500.000	0.219	34.246	7.547	-9.116	1499.919	0.311	7.547	11.834	309.620
1600.000	0.449	220.418	7.406	-9.262	1599.918	0.667	7.406	11.859	308.646
1700.000	0.604	354.389	7.632	-9.568	1699.916	0.971	7.632	12.239	308.580
1800.000	0.545	253.556	8.022	-10.075	1799.913	0.886	8.022	12.879	308.527
1900.000	0.416	227.988	7.645	-10.801	1899.910	0.247	7.645	13.232	305.290
2000.000	0.414	9.434	7.758	-11.011	1999.909	0.784	7.758	13.470	305.167
2100.000	0.489	357.248	8.541	-10.973	2099.906	0.121	8.541	13.905	307.898
2200.000	0.448	11.806	9.350	-10.913	2199.902	0.125	9.350	14.371	310.590
2300.000	0.629	85.094	9.780	-10.286	2299.899	0.659	9.780	14.193	313.556
2400.000	1.157	98.309	9.681	-8.740	2399.886	0.563	9.681	13.042	317.926
2500.000	1.480	79.788	9.764	-6.469	2499.860	0.531	9.764	11.713	326.474
2600.000	1.024	74.599	10.231	-4.336	2599.836	0.470	10.231	11.112	337.031
2700.000	1.514	93.301	10.392	-2.156	2699.812	0.635	10.392	10.613	348.279
2800.000	1.257	116.370	9.828	0.146	2799.783	0.608	9.828	9.830	0.849
2900.000	0.723	118.126	9.044	1.685	2899.768	0.535	9.044	9.199	10.555
3000.000	0.880	113.646	8.438	2.945	2999.758	0.169	8.438	8.937	19.240
3100.000	1.256	128.256	7.451	4.510	3099.741	0.462	7.451	8.710	31.182
3200.000	0.808	107.023	6.566	6.044	3199.725	0.582	6.566	8.925	42.630
3300.000	0.957	90.381	6.354	7.553	3299.713	0.295	6.354	9.871	49.928
3400.000	0.541	117.548	6.131	8.807	3399.704	0.536	6.131	10.730	55.157
3500.000	0.474	52.087	6.166	9.551	3499.701	0.551	6.166	11.369	57.153

3600.000	0.694	41.914	6.871	10.282	3599.696	0.243	6.871	12.366	56.246
3700.000	1.074	66.799	7.691	11.548	3699.684	0.532	7.691	13.875	56.336
3800.000	0.590	113.747	7.853	12.881	3799.674	0.798	7.853	15.086	58.630
3900.000	0.387	77.867	7.717	13.682	3899.671	0.357	7.717	15.709	60.577
4000.000	0.672	83.461	7.855	14.595	3999.667	0.289	7.855	16.575	61.712
4100.000	0.705	175.405	7.308	15.227	4099.662	0.991	7.308	16.890	64.363
4200.000	1.190	230.644	6.035	14.473	4199.650	0.978	6.035	15.681	67.364
4300.000	2.076	226.397	4.128	12.358	4299.608	0.893	4.128	13.029	71.531
4400.000	2.483	241.063	1.830	9.151	4399.530	0.708	1.830	9.333	78.689
4500.000	3.177	231.207	-0.953	5.096	4499.408	0.845	-0.953	5.185	100.597
4600.000	3.139	238.201	-4.132	0.610	4599.256	0.387	-4.132	4.177	171.601
4700.000	2.770	243.160	-6.665	-3.873	4699.123	0.448	-6.665	7.709	210.156
4800.000	2.896	238.751	-9.067	-8.188	4799.001	0.252	-9.067	12.217	222.085
4900.000	2.231	250.723	-11.020	-12.185	4898.901	0.850	-11.020	16.429	227.875
5000.000	2.037	245.818	-12.390	-15.644	4998.832	0.266	-12.390	19.956	231.620
5100.000	2.304	249.518	-13.822	-19.148	5098.760	0.301	-13.822	23.616	234.177
5200.000	1.617	252.610	-14.947	-22.378	5198.701	0.695	-14.947	26.911	236.260
5300.000	1.505	268.732	-15.398	-25.038	5298.664	0.452	-15.398	29.393	238.409
5400.000	1.350	267.780	-15.472	-27.528	5398.633	0.157	-15.472	31.578	240.661
5500.000	0.742	271.330	-15.503	-29.352	5498.616	0.611	-15.503	33.194	242.158
5600.000	0.858	283.935	-15.308	-30.725	5598.607	0.210	-15.308	34.327	243.517
5700.000	0.497	357.581	-14.694	-31.470	5698.601	0.862	-14.694	34.731	244.970
5800.000	1.083	352.913	-13.323	-31.605	5798.591	0.589	-13.323	34.298	247.142
5900.000	0.819	349.068	-11.684	-31.857	5898.577	0.272	-11.684	33.932	249.859
6000.000	1.446	359.535	-9.721	-32.002	5998.557	0.658	-9.721	33.446	253.104
6100.000	1.850	6.125	-6.854	-31.840	6098.516	0.446	-6.854	32.570	257.852
6200.000	1.516	15.963	-3.977	-31.304	6198.473	0.441	-3.977	31.556	262.760
6300.000	1.607	2.651	-1.304	-30.876	6298.436	0.373	-1.304	30.903	267.581
6400.000	1.374	12.376	1.268	-30.554	6398.402	0.343	1.268	30.580	272.376
6500.000	2.248	17.469	4.310	-29.708	6498.351	0.887	4.310	30.019	278.254
6600.000	2.200	23.030	7.947	-28.369	6598.276	0.221	7.947	29.461	285.649
6700.000	2.251	20.158	11.557	-26.941	6698.201	0.123	11.557	29.315	293.217
6780.000	2.012	30.047	14.247	-25.697	6778.146	0.547	14.247	29.382	299.006