



Company: Noble Energy
Rig: Production/VES
API # 05-123-23161
Date: 5/2/13
Surveyor: Levi Sheldon
VS: 0.000
Lat : 40.45258
Long: -104.417

Well: Wells Ranch 44-27
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid North is 0.7 Degrees East of T
Declination: 8.43
Depth Reference: Ground Level
Elevation: 4,840 Feet
Total Depth as Drilled: 7,074 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	0.766	138.738	-0.502	0.441	99.997	0.766	-0.502	0.668	138.738
200.000	0.214	170.917	-1.189	0.911	199.993	0.596	-1.189	1.498	142.544
300.000	0.442	168.954	-1.752	1.014	299.991	0.228	-1.752	2.024	149.927
400.000	0.757	82.368	-2.042	1.743	399.987	0.853	-2.042	2.685	139.525
500.000	0.069	301.789	-1.923	2.346	499.985	0.812	-1.923	3.033	129.339
600.000	0.786	58.626	-1.534	2.880	599.982	0.819	-1.534	3.263	118.044
700.000	0.118	164.060	-1.276	3.493	699.979	0.825	-1.276	3.719	110.065
800.000	0.859	98.747	-1.489	4.262	799.975	0.817	-1.489	4.515	109.253
900.000	0.086	193.428	-1.675	4.986	899.971	0.870	-1.675	5.260	108.573
1000.000	0.699	95.947	-1.811	5.576	999.968	0.716	-1.811	5.863	107.997
1100.000	0.188	210.943	-2.015	6.098	1099.966	0.797	-2.015	6.423	108.288
1200.000	0.440	58.866	-1.958	6.343	1199.965	0.613	-1.958	6.638	107.153
1300.000	0.818	94.008	-1.809	7.383	1299.959	0.523	-1.809	7.602	103.767
1400.000	0.878	141.632	-2.459	8.570	1399.949	0.687	-2.459	8.916	106.012
1500.000	0.465	157.258	-3.434	9.203	1499.942	0.448	-3.434	9.823	110.463
1600.000	0.882	74.561	-3.603	10.101	1599.937	0.943	-3.603	10.725	109.632
1700.000	0.305	160.453	-3.649	10.932	1699.933	0.912	-3.649	11.525	108.459
1800.000	0.522	140.461	-4.251	11.311	1799.930	0.258	-4.251	12.083	110.598
1900.000	0.608	105.755	-4.747	12.111	1899.925	0.347	-4.747	13.008	111.401
2000.000	0.510	100.052	-4.968	13.060	1999.921	0.113	-4.968	13.973	110.828
2100.000	0.769	186.715	-5.712	13.419	2099.916	0.897	-5.712	14.585	113.058
2200.000	0.882	255.834	-6.567	12.595	2199.908	0.941	-6.567	14.204	117.537
2300.000	0.489	207.981	-7.132	11.648	2299.901	0.662	-7.132	13.658	121.478
2400.000	1.386	238.899	-8.134	10.412	2399.888	0.999	-8.134	13.213	127.995
2500.000	1.590	253.449	-9.154	8.047	2499.854	0.428	-9.154	12.188	138.683
2600.000	1.841	249.859	-10.102	5.209	2599.809	0.273	-10.102	11.366	152.725
2700.000	1.876	240.134	-11.470	2.281	2699.757	0.317	-11.470	11.695	168.753
2800.000	1.327	209.539	-13.292	0.291	2799.719	0.997	-13.292	13.296	178.745
2900.000	1.243	219.191	-15.140	-0.965	2899.694	0.232	-15.140	15.171	183.646
3000.000	1.958	228.248	-17.118	-2.924	2999.655	0.756	-17.118	17.366	189.695
3100.000	1.812	215.846	-19.537	-5.125	3099.601	0.432	-19.537	20.198	194.698
3200.000	1.437	226.672	-21.680	-6.963	3199.561	0.483	-21.680	22.770	197.806
3300.000	1.249	213.557	-23.448	-8.478	3299.534	0.359	-23.448	24.934	199.877
3400.000	1.576	238.937	-25.066	-10.258	3399.504	0.698	-25.066	27.084	202.256

3500.000	1.253	217.150	-26.647	-12.096	3499.474	0.621	-26.647	29.264	204.415
3600.000	1.304	259.830	-27.719	-13.876	3599.451	0.932	-27.719	30.999	206.592
3700.000	0.987	233.289	-28.435	-15.686	3699.432	0.610	-28.435	32.474	208.883
3800.000	1.491	240.085	-29.598	-17.503	3799.408	0.524	-29.598	34.386	210.599
3900.000	1.918	256.243	-30.645	-20.256	3899.364	0.639	-30.645	36.734	213.464
4000.000	1.567	254.484	-31.408	-23.198	3999.318	0.355	-31.408	39.046	216.449
4100.000	1.733	243.852	-32.440	-25.873	4099.277	0.348	-32.440	41.494	218.574
4200.000	1.630	253.697	-33.506	-28.595	4199.234	0.306	-33.506	44.049	220.479
4300.000	1.634	279.587	-33.668	-31.366	4299.195	0.731	-33.668	46.015	222.973
4400.000	2.549	287.867	-32.748	-34.888	4399.127	0.961	-32.748	47.850	226.813
4500.000	2.199	293.682	-31.295	-38.762	4499.042	0.424	-31.295	49.818	231.083
4600.000	2.706	303.386	-29.226	-42.490	4598.950	0.654	-29.226	51.571	235.479
4700.000	2.413	305.576	-26.702	-46.173	4698.850	0.309	-26.702	53.338	239.959
4800.000	1.793	306.386	-24.550	-49.144	4798.782	0.621	-24.550	54.935	243.456
4900.000	2.132	287.597	-23.059	-52.176	4898.725	0.723	-23.059	57.045	246.157
5000.000	1.917	291.667	-21.880	-55.504	4998.662	0.259	-21.880	59.661	248.486
5100.000	2.302	281.843	-20.850	-59.024	5098.595	0.527	-20.850	62.599	250.545
5200.000	1.926	272.892	-20.353	-62.669	5198.527	0.499	-20.353	65.891	252.008
5300.000	1.201	292.121	-19.873	-65.319	5298.489	0.886	-19.873	68.275	253.078
5400.000	1.917	298.081	-18.691	-67.765	5398.452	0.733	-18.691	70.296	254.580
5500.000	1.081	299.056	-17.446	-70.066	5498.417	0.836	-17.446	72.205	256.018
5600.000	1.245	318.382	-16.175	-71.612	5598.396	0.422	-16.175	73.416	257.272
5700.000	1.655	293.418	-14.789	-73.659	5698.365	0.744	-14.789	75.129	258.647
5800.000	1.730	302.166	-13.412	-76.262	5798.322	0.269	-13.412	77.432	260.025
5900.000	1.804	309.275	-11.612	-78.757	5898.274	0.231	-11.612	79.609	261.613
6000.000	1.659	309.892	-9.688	-81.086	5998.228	0.146	-9.688	81.663	263.187
6100.000	2.086	318.493	-7.397	-83.403	6098.175	0.510	-7.397	83.730	264.932
6200.000	2.607	320.696	-4.274	-86.049	6198.091	0.529	-4.274	86.155	267.157
6300.000	2.406	311.528	-1.123	-89.061	6297.996	0.448	-1.123	89.068	269.278
6400.000	2.257	287.947	0.876	-92.506	6397.915	0.964	0.876	92.510	270.542
6500.000	2.095	270.819	1.508	-96.207	6497.844	0.667	1.508	96.218	270.898
6600.000	1.703	245.227	0.912	-99.384	6597.791	0.924	0.912	99.388	270.526
6700.000	0.785	227.019	-0.178	-101.234	6697.766	0.987	-0.178	101.234	269.899
6780.000	1.057	229.518	-1.030	-102.196	6777.756	0.342	-1.030	102.201	269.422

True North