



Company: Noble Energy
Rig: Production/VES
API # 05-123-32788

Date: 6/25/13
Surveyor: Levi Sheldon

VS: 0.000
Lat : 40.2185
Long: -104.532

Well: Gutteresen D22-27
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid north is -0.63 of True North
Declination: 8.45

Depth Reference: Ground Level

Elevation: 4,817 Feet

Total Depth as Drilled: 7,150 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	0.831	316.986	0.530	-0.495	99.996	0.831	0.530	0.725	316.986
200.000	0.682	323.476	1.539	-1.344	199.988	0.171	1.539	2.043	318.874
300.000	0.107	31.556	2.097	-1.649	299.985	0.650	2.097	2.668	321.814
400.000	0.273	309.496	2.328	-1.784	399.985	0.279	2.328	2.933	322.532
500.000	0.519	312.185	2.783	-2.303	499.982	0.247	2.783	3.613	320.390
600.000	0.449	339.196	3.454	-2.778	599.979	0.236	3.454	4.433	321.188
700.000	0.434	33.635	4.136	-2.708	699.976	0.404	4.136	4.944	326.790
800.000	0.558	1.539	4.938	-2.485	799.973	0.299	4.938	5.528	333.290
900.000	0.921	16.100	6.197	-2.249	899.964	0.406	6.197	6.593	340.055
1000.000	0.662	38.882	7.419	-1.663	999.955	0.403	7.419	7.603	347.363
1100.000	0.981	34.392	8.575	-0.818	1099.945	0.325	8.575	8.614	354.554
1200.000	0.933	33.317	9.961	0.113	1199.931	0.051	9.961	9.962	0.650
1300.000	0.771	53.753	11.040	1.103	1299.920	0.342	11.040	11.094	5.705
1400.000	0.473	45.716	11.726	1.941	1399.914	0.310	11.726	11.885	9.399
1500.000	0.698	11.994	12.609	2.363	1499.909	0.402	12.609	12.829	10.614
1600.000	0.679	7.210	13.793	2.564	1599.902	0.060	13.793	14.029	10.531
1700.000	1.170	26.165	15.296	3.088	1699.888	0.572	15.296	15.605	11.414
1800.000	1.437	27.868	17.321	4.124	1799.862	0.270	17.321	17.805	13.394
1900.000	1.434	18.256	19.617	5.103	1899.831	0.241	19.617	20.270	14.580
2000.000	1.409	4.675	22.031	5.595	1999.801	0.337	22.031	22.730	14.249
2100.000	0.981	13.565	24.089	5.896	2099.779	0.466	24.089	24.800	13.753
2200.000	1.358	354.068	26.100	5.974	2199.758	0.543	26.100	26.775	12.892
2300.000	1.374	335.801	28.373	5.360	2299.730	0.434	28.373	28.875	10.698
2400.000	1.269	330.711	30.432	4.327	2399.704	0.158	30.432	30.738	8.092
2500.000	1.813	320.689	32.621	2.783	2499.667	0.605	32.621	32.740	4.877
2600.000	2.176	311.477	35.102	0.359	2599.607	0.483	35.102	35.104	0.586
2700.000	2.508	301.660	37.508	-2.926	2699.524	0.520	37.508	37.622	355.540
2800.000	2.362	297.636	39.612	-6.614	2799.433	0.225	39.612	40.161	350.521
2900.000	2.834	299.729	41.794	-10.586	2899.330	0.481	41.794	43.114	345.786
3000.000	3.004	305.758	44.551	-14.859	2999.201	0.351	44.551	46.964	341.555
3100.000	2.377	312.314	47.478	-18.519	3099.090	0.698	47.478	50.962	338.692
3200.000	1.596	308.579	49.743	-21.141	3199.029	0.791	49.743	54.049	336.974
3300.000	1.286	297.365	51.127	-23.226	3298.998	0.418	51.127	56.155	335.569
3400.000	1.061	326.254	52.413	-24.737	3398.978	0.625	52.413	57.957	334.734
3500.000	1.937	344.208	54.809	-25.711	3498.943	0.984	54.809	60.540	334.868

3600.000	2.093	10.388	58.231	-25.842	3598.883	0.925	58.231	63.708	336.069
3700.000	1.826	354.796	61.614	-25.657	3698.825	0.594	61.614	66.743	337.392
3800.000	2.100	349.570	65.002	-26.134	3798.767	0.327	65.002	70.059	338.098
3900.000	2.102	349.973	68.610	-26.785	3898.699	0.015	68.610	73.653	338.675
4000.000	2.030	357.062	72.185	-27.195	3998.635	0.265	72.185	77.138	339.357
4100.000	1.803	340.622	75.437	-27.808	4098.579	0.592	75.437	80.399	339.765
4200.000	2.213	345.976	78.795	-28.797	4198.518	0.450	78.795	83.892	339.924
4300.000	1.918	336.190	82.199	-29.941	4298.453	0.458	82.199	87.482	339.986
4400.000	2.100	345.347	85.502	-31.080	4398.392	0.368	85.502	90.976	340.024
4500.000	1.850	358.972	88.888	-31.572	4498.333	0.530	88.888	94.328	340.445
4600.000	0.930	11.486	91.297	-31.440	4598.303	0.963	91.297	96.559	340.998
4700.000	0.367	85.189	92.119	-30.958	4698.297	0.899	92.119	97.182	341.424
4800.000	0.622	300.383	92.421	-31.107	4798.295	0.946	92.421	97.515	341.398
4900.000	1.383	324.926	93.683	-32.269	4898.280	0.857	93.683	99.084	340.994
5000.000	1.674	334.991	95.994	-33.579	4998.244	0.395	95.994	101.698	340.720
5100.000	0.951	349.439	98.133	-34.349	5098.218	0.790	98.133	103.971	340.709
5200.000	1.143	334.140	99.846	-34.936	5198.201	0.338	99.846	105.782	340.715
5300.000	0.846	7.387	101.476	-35.276	5298.187	0.636	101.476	107.432	340.831
5400.000	0.681	341.736	102.771	-35.367	5398.178	0.375	102.771	108.687	341.010
5500.000	1.029	328.767	104.103	-36.019	5498.167	0.397	104.103	110.159	340.915
5600.000	0.938	331.777	105.593	-36.872	5598.152	0.105	105.593	111.845	340.751
5700.000	0.946	339.881	107.089	-37.543	5698.139	0.133	107.089	113.480	340.680
5800.000	1.003	346.182	108.715	-38.036	5798.124	0.121	108.715	115.177	340.716
5900.000	0.901	321.704	110.182	-38.733	5898.111	0.416	110.182	116.791	340.632
6000.000	1.133	332.128	111.673	-39.682	5998.095	0.296	111.673	118.513	340.438
6100.000	0.816	313.381	113.035	-40.662	6098.081	0.445	113.035	120.127	340.215
6200.000	1.170	324.478	114.356	-41.772	6198.066	0.401	114.356	121.746	339.933
6300.000	0.891	299.450	115.569	-43.043	6298.050	0.523	115.569	123.324	339.573
6400.000	1.128	301.729	116.469	-44.556	6398.034	0.241	116.469	124.700	339.065
6500.000	1.326	323.861	117.920	-46.076	6498.012	0.509	117.920	126.602	338.658
6600.000	0.888	299.467	119.236	-47.432	6597.994	0.634	119.236	128.324	338.307
6700.000	0.687	343.170	120.191	-48.281	6697.985	0.615	120.191	129.526	338.115
6800.000	0.416	95.307	120.732	-48.093	6797.982	0.928	120.732	129.958	338.280
6900.000	0.626	138.482	120.289	-47.369	6897.978	0.431	120.289	129.280	338.506