



Company: Noble Energy
Rig: Production/VES
API # 05-123-26529

Date: 3/29/13
Surveyor: Levi Sheldon

VS:
Lat : 40.43211

Long: -104.513

Well: Foemeyer B 2-17

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is -0.64 of True North

Declination: 8.49

Depth Reference: Ground Level

Elevation: 4,607 Feet

Total Depth as Drilled: 6,932 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	0.120	251.259	-0.034	-0.099	100.000	0.120	-0.034	0.104	251.259
200.000	0.032	195.052	-0.094	-0.205	200.000	0.105	-0.094	0.226	245.284
300.000	0.125	210.278	-0.216	-0.268	300.000	0.094	-0.216	0.344	231.095
400.000	0.074	200.037	-0.371	-0.345	400.000	0.053	-0.371	0.506	222.900
500.000	0.230	160.954	-0.622	-0.301	499.999	0.179	-0.622	0.691	205.844
600.000	0.310	179.180	-1.082	-0.232	599.998	0.116	-1.082	1.107	192.083
700.000	0.414	175.710	-1.714	-0.201	699.996	0.107	-1.714	1.725	186.684
800.000	0.447	177.584	-2.464	-0.157	799.993	0.036	-2.464	2.469	183.653
900.000	0.411	175.968	-3.212	-0.116	899.990	0.038	-3.212	3.214	182.063
1000.000	0.369	173.114	-3.889	-0.052	999.988	0.046	-3.889	3.889	180.764
1100.000	0.327	174.015	-4.492	0.017	1099.986	0.042	-4.492	4.492	179.789
1200.000	0.314	163.246	-5.039	0.125	1199.985	0.062	-5.039	5.040	178.576
1300.000	0.277	175.779	-5.542	0.222	1299.983	0.074	-5.542	5.546	177.706
1400.000	0.242	174.207	-5.993	0.261	1399.982	0.036	-5.993	5.999	177.505
1500.000	0.267	181.563	-6.436	0.276	1499.981	0.042	-6.436	6.442	177.544
1600.000	0.276	192.721	-6.905	0.217	1599.980	0.054	-6.905	6.908	178.203
1700.000	0.090	187.380	-7.217	0.153	1699.980	0.187	-7.217	7.219	178.782
1800.000	0.148	298.541	-7.234	0.030	1799.980	0.199	-7.234	7.234	179.760
1900.000	0.405	322.189	-6.893	-0.300	1899.978	0.276	-6.893	6.899	182.489
2000.000	0.628	304.196	-6.306	-0.969	1999.974	0.273	-6.306	6.380	188.740
2100.000	0.517	301.606	-5.761	-1.807	2099.969	0.113	-5.761	6.038	197.413
2200.000	0.611	305.484	-5.215	-2.625	2199.964	0.101	-5.215	5.839	206.722
2300.000	0.539	317.304	-4.560	-3.378	2299.959	0.138	-4.560	5.675	216.535
2400.000	0.359	311.371	-4.007	-3.932	2399.956	0.186	-4.007	5.614	224.460
2500.000	0.356	290.334	-3.692	-4.459	2499.954	0.131	-3.692	5.789	230.371
2600.000	0.361	272.838	-3.569	-5.065	2599.953	0.109	-3.569	6.196	234.830
2700.000	0.510	239.659	-3.778	-5.763	2699.950	0.287	-3.778	6.891	236.754
2800.000	0.649	259.285	-4.108	-6.704	2799.945	0.240	-4.108	7.862	238.500
2900.000	0.588	244.806	-4.432	-7.725	2899.939	0.167	-4.432	8.906	240.156
3000.000	0.684	262.680	-4.726	-8.781	2999.933	0.219	-4.726	9.972	241.708
3100.000	0.550	286.407	-4.667	-9.833	3099.927	0.285	-4.667	10.885	244.611
3200.000	0.682	302.162	-4.214	-10.798	3199.921	0.213	-4.214	11.591	248.680
3300.000	0.836	313.841	-3.392	-11.828	3299.913	0.217	-3.392	12.305	253.996
3400.000	1.123	304.962	-2.326	-13.157	3399.898	0.324	-2.326	13.361	259.976
3500.000	1.261	298.799	-1.234	-14.925	3499.876	0.188	-1.234	14.975	265.274

3600.000	1.403	296.607	-0.155	-16.984	3599.849	0.151	-0.155	16.984	269.475
3700.000	1.555	297.073	1.010	-19.286	3699.816	0.153	1.010	19.313	272.999
3800.000	1.619	289.944	2.110	-21.822	3799.778	0.207	2.110	21.924	275.522
3900.000	1.734	298.950	3.324	-24.474	3899.735	0.287	3.324	24.699	277.734
4000.000	1.611	291.400	4.569	-27.107	3999.693	0.252	4.569	27.489	279.568
4100.000	1.609	275.663	5.221	-29.812	4099.654	0.441	5.221	30.266	279.933
4200.000	1.759	267.115	5.282	-32.742	4199.611	0.292	5.282	33.165	279.164
4300.000	1.780	260.973	4.961	-35.808	4299.563	0.191	4.961	36.150	277.887
4400.000	1.963	266.687	4.618	-39.052	4399.510	0.261	4.618	39.325	276.744
4500.000	1.706	274.008	4.623	-42.248	4499.459	0.347	4.623	42.500	276.245
4600.000	1.343	282.125	4.973	-44.879	4599.423	0.422	4.973	45.154	276.324
4700.000	1.348	287.683	5.577	-47.145	4699.396	0.131	5.577	47.474	276.746
4800.000	1.227	288.788	6.279	-49.280	4799.370	0.123	6.279	49.678	277.261
4900.000	1.156	281.343	6.822	-51.282	4899.349	0.170	6.822	51.734	277.578
5000.000	1.124	284.015	7.258	-53.223	4999.329	0.062	7.258	53.715	277.766
5100.000	1.226	283.944	7.754	-55.213	5099.308	0.103	7.754	55.755	277.994
5200.000	1.401	260.120	7.802	-57.456	5199.282	0.569	7.802	57.983	277.733
5300.000	1.553	257.077	7.289	-59.981	5299.249	0.171	7.289	60.422	276.929
5400.000	1.404	251.714	6.601	-62.465	5399.216	0.203	6.601	62.813	276.033
5500.000	1.086	241.916	5.771	-64.464	5499.192	0.382	5.771	64.722	275.116
5600.000	1.172	243.514	4.869	-66.215	5599.173	0.092	4.869	66.394	274.205
5700.000	1.026	237.585	3.933	-67.887	5699.154	0.185	3.933	68.001	273.315
5800.000	1.204	256.789	3.212	-69.665	5799.136	0.411	3.212	69.739	272.640
5900.000	1.056	238.622	2.492	-71.475	5899.117	0.385	2.492	71.518	271.997
6000.000	0.884	226.271	1.479	-72.819	5999.102	0.270	1.479	72.834	271.164
6100.000	0.740	169.716	0.311	-73.261	6099.094	0.780	0.311	73.262	270.243
6200.000	1.128	126.453	-0.909	-72.354	6199.081	0.777	-0.909	72.360	269.280
6300.000	1.155	152.552	-2.388	-71.098	6299.062	0.516	-2.388	71.138	268.076
6400.000	1.340	177.930	-4.451	-70.591	6399.039	0.577	-4.451	70.732	266.392
6500.000	1.430	164.838	-6.824	-70.223	6499.010	0.328	-6.824	70.554	264.450
6600.000	1.983	148.138	-9.498	-68.983	6598.966	0.739	-9.498	69.634	262.161
6700.000	1.534	161.180	-12.234	-67.638	6698.919	0.599	-12.234	68.735	259.747