



Company: Noble Energy
Rig: Production/VES
API # 05-123-32478
Date: 9/23/13
Surveyor: Levi Sheldon
VS: 0.000
Lat : 40.341
Long: -104.607

Well: Dinner PC G 01-22
Location: Weld County, Colorado
North Reference: GRID
Convergence: GRID North is 0.580 Degrees East
Declination: 8.47
Depth Reference: Ground Level
Elevation: 4,801 Feet
Total Depth as Drilled: 7,263 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	0.066	39.332	0.045	0.037	100.000	0.066	0.045	0.058	39.332
200.000	0.198	227.488	-0.027	-0.054	200.000	0.264	-0.027	0.060	243.421
300.000	0.372	167.542	-0.460	-0.111	299.999	0.322	-0.460	0.473	193.547
400.000	0.913	259.445	-0.923	-0.824	399.994	0.997	-0.923	1.237	221.782
500.000	0.592	307.776	-0.752	-2.016	499.986	0.682	-0.752	2.152	249.536
600.000	1.120	335.312	0.452	-2.833	599.975	0.655	0.452	2.868	279.062
700.000	0.848	336.640	2.019	-3.534	699.960	0.273	2.019	4.070	299.735
800.000	1.090	324.331	3.470	-4.382	799.946	0.318	3.470	5.590	308.378
900.000	1.205	313.908	4.972	-5.694	899.926	0.238	4.972	7.560	311.129
1000.000	1.181	305.574	6.301	-7.290	999.904	0.175	6.301	9.636	310.839
1100.000	1.862	322.594	8.191	-9.115	1099.869	0.810	8.191	12.255	311.944
1200.000	1.728	312.191	10.494	-11.219	1199.820	0.352	10.494	15.362	313.088
1300.000	1.641	304.531	12.319	-13.516	1299.777	0.241	12.319	18.287	312.347
1400.000	1.795	303.745	14.000	-15.998	1399.732	0.156	14.000	21.259	311.191
1500.000	1.564	291.279	15.365	-18.571	1499.689	0.431	15.365	24.104	309.604
1600.000	1.141	266.545	15.801	-20.836	1599.662	0.711	15.801	26.149	307.174
1700.000	1.145	282.877	15.963	-22.804	1699.642	0.325	15.963	27.836	304.993
1800.000	1.050	273.961	16.249	-24.692	1799.624	0.195	16.249	29.559	303.349
1900.000	0.912	283.219	16.495	-26.380	1899.610	0.209	16.495	31.113	302.016
2000.000	0.631	312.155	17.046	-27.564	1999.601	0.472	17.046	32.409	301.734
2100.000	0.938	323.073	18.071	-28.464	2099.591	0.340	18.071	33.716	302.410
2200.000	1.736	343.446	20.178	-29.388	2199.564	0.917	20.178	35.648	304.473
2300.000	1.541	13.691	22.937	-29.501	2299.525	0.875	22.937	37.368	307.865
2400.000	1.237	23.405	25.234	-28.754	2399.495	0.384	25.234	38.256	311.269
2500.000	0.292	6.509	26.478	-28.296	2499.485	0.961	26.478	38.752	313.098
2600.000	0.414	262.376	26.683	-28.626	2599.484	0.562	26.683	39.133	312.988
2700.000	1.044	295.349	27.025	-29.807	2699.476	0.733	27.025	40.235	312.198
2800.000	0.776	301.356	27.768	-31.209	2799.463	0.284	27.768	41.774	311.661
2900.000	0.760	308.068	28.529	-32.309	2899.454	0.091	28.529	43.102	311.444
3000.000	0.534	291.438	29.108	-33.265	2999.448	0.292	29.108	44.202	311.187
3100.000	0.255	1.745	29.501	-33.692	3099.446	0.508	29.501	44.782	311.205
3200.000	0.762	331.560	30.308	-34.002	3199.442	0.557	30.308	45.549	311.712
3300.000	0.640	318.168	31.309	-34.691	3299.434	0.204	31.309	46.731	312.066
3400.000	0.997	297.570	32.128	-35.835	3399.424	0.458	32.128	48.129	311.878
3500.000	0.376	249.426	32.416	-36.914	3499.417	0.797	32.416	49.127	311.288

3600.000	0.254	77.419	32.349	-37.005	3599.417	0.628	32.349	49.151	311.159
3700.000	0.742	341.902	33.012	-36.989	3699.414	0.807	33.012	49.578	311.748
3800.000	0.685	339.252	34.186	-37.402	3799.406	0.066	34.186	50.672	312.428
3900.000	0.470	324.895	35.080	-37.850	3899.401	0.257	35.080	51.606	312.826
4000.000	0.863	338.893	36.119	-38.357	3999.394	0.423	36.119	52.686	313.279
4100.000	0.551	341.632	37.278	-38.779	4099.386	0.314	37.278	53.791	313.869
4200.000	0.361	334.425	38.018	-39.067	4199.383	0.199	38.018	54.512	314.221
4300.000	0.963	286.780	38.544	-40.007	4299.376	0.767	38.544	55.554	313.933
4400.000	1.584	318.117	39.816	-41.734	4399.352	0.911	39.816	57.680	313.653
4500.000	1.401	322.893	41.819	-43.394	4499.318	0.221	41.819	60.265	313.942
4600.000	0.921	306.798	43.276	-44.775	4599.298	0.576	43.276	62.270	314.025
4700.000	0.706	317.008	44.208	-45.838	4699.288	0.259	44.208	63.683	313.963
4800.000	0.969	344.709	45.474	-46.481	4799.277	0.476	45.474	65.026	314.372
4900.000	1.733	347.932	47.769	-47.021	4899.249	0.767	47.769	67.028	315.452
5000.000	1.770	355.673	50.787	-47.453	4999.202	0.239	50.787	69.506	316.944
5100.000	1.523	2.601	53.654	-47.509	5099.161	0.317	53.654	71.665	318.476
5200.000	0.895	18.726	55.722	-47.198	5199.138	0.708	55.722	73.024	319.734
5300.000	0.568	65.949	56.663	-46.495	5299.131	0.658	56.663	73.297	320.630
5400.000	0.582	96.392	56.809	-45.537	5399.126	0.302	56.809	72.807	321.285
5500.000	0.451	194.637	56.372	-45.132	5499.124	0.786	56.372	72.213	321.319
5600.000	0.710	192.648	55.386	-45.367	5599.118	0.260	55.386	71.595	320.679
5700.000	1.551	173.663	53.436	-45.353	5699.098	0.910	53.436	70.088	319.678
5800.000	1.215	180.421	51.031	-45.212	5799.069	0.374	51.031	68.178	318.460
5900.000	0.959	208.123	49.232	-45.614	5899.052	0.577	49.232	67.115	317.185
6000.000	0.375	280.026	48.551	-46.331	5999.046	0.915	48.551	67.110	316.340
6100.000	0.320	0.951	48.887	-46.648	6099.044	0.453	48.887	67.572	316.342
6200.000	1.241	3.823	50.247	-46.571	6199.034	0.922	50.247	68.510	317.174
6300.000	1.467	45.029	52.232	-45.594	6299.008	0.976	52.232	69.332	318.882
6400.000	2.109	50.341	54.310	-43.272	6398.959	0.662	54.310	69.441	321.454
6500.000	2.454	56.353	56.671	-40.073	6498.880	0.420	56.671	69.408	324.735
6600.000	2.080	65.657	58.605	-36.637	6598.802	0.524	58.605	69.115	327.988
6700.000	2.152	68.409	60.044	-33.238	6698.734	0.124	60.044	68.630	331.033
6800.000	1.585	83.661	60.888	-30.118	6798.681	0.750	60.888	67.930	333.681
6900.000	2.003	84.122	61.220	-27.006	6898.632	0.418	61.220	66.911	336.196
6950.000	1.904	96.376	61.217	-25.311	6948.603	0.856	61.217	66.243	337.537

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