



Company: Noble Energy

Rig: Production/Core-Tech

API # 05-123-11461

Date: 4/9/2014

Surveyor: Nick Kula

VS: 0.000

Lat : 40.461

Long: -104.732

Well: Kissler-Amen 01-25

Location: Weld County, Colorado

North Reference: GRID

Convergence: GRID North is 0.500 Degrees East

Declination: 8.48

Depth Reference: Ground Level

Elevation: 4707'

Total Depth as Drilled: 7264

Lat & Long obtained by handheld GPS at wellhead

MS 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	0.000
100.000	0.220	159.205	-0.180	0.068	100.000	0.220	-0.180	0.192	159.205
200.000	0.179	238.998	-0.440	0.003	199.999	0.258	-0.440	0.440	179.639
300.000	0.060	212.081	-0.564	-0.159	299.999	0.128	-0.564	0.586	195.703
400.000	0.562	221.163	-0.978	-0.509	399.997	0.503	-0.978	1.103	207.508
500.000	0.849	268.648	-1.365	-1.572	499.990	0.626	-1.365	2.082	229.049
600.000	0.655	259.780	-1.483	-2.875	599.982	0.225	-1.483	3.236	242.710
700.000	0.718	272.294	-1.560	-4.064	699.975	0.162	-1.560	4.353	249.000
800.000	0.751	256.352	-1.689	-5.326	799.967	0.206	-1.689	5.588	252.401
900.000	0.755	257.559	-1.986	-6.607	899.958	0.016	-1.986	6.899	253.268
1000.000	0.696	270.509	-2.123	-7.858	999.950	0.174	-2.123	8.139	254.883
1100.000	0.689	267.532	-2.143	-9.066	1099.943	0.037	-2.143	9.315	256.699
1200.000	0.788	263.078	-2.252	-10.348	1199.934	0.114	-2.252	10.591	257.724
1300.000	0.812	268.727	-2.350	-11.739	1299.925	0.082	-2.350	11.972	258.678
1400.000	0.655	258.797	-2.477	-13.007	1399.916	0.201	-2.477	13.241	259.218
1500.000	0.522	252.234	-2.727	-14.002	1499.911	0.148	-2.727	14.265	258.978
1600.000	0.587	258.227	-2.971	-14.937	1599.906	0.086	-2.971	15.230	258.751
1700.000	0.593	258.188	-3.181	-15.945	1699.901	0.006	-3.181	16.259	258.717
1800.000	0.549	269.101	-3.295	-16.930	1799.896	0.117	-3.295	17.248	258.988
1900.000	0.748	287.447	-3.106	-18.032	1899.890	0.285	-3.106	18.298	260.225
2000.000	0.881	295.462	-2.580	-19.349	1999.880	0.175	-2.580	19.520	262.404
2100.000	0.852	299.691	-1.881	-20.689	2099.868	0.070	-1.881	20.774	264.804
2200.000	0.668	319.641	-1.069	-21.712	2199.860	0.319	-1.069	21.739	267.182
2300.000	0.670	316.062	-0.203	-22.496	2299.853	0.042	-0.203	22.497	269.482
2400.000	0.643	316.979	0.627	-23.284	2399.846	0.029	0.627	23.292	271.544
2500.000	0.696	302.755	1.366	-24.177	2499.840	0.174	1.366	24.216	273.234
2600.000	0.897	325.983	2.343	-25.125	2599.830	0.376	2.343	25.234	275.328
2700.000	0.845	322.759	3.579	-26.010	2699.819	0.071	3.579	26.255	277.835
2800.000	0.846	304.727	4.587	-27.063	2799.808	0.265	4.587	27.449	279.620
2900.000	0.756	303.834	5.375	-28.218	2899.798	0.091	5.375	28.725	280.784
3000.000	0.656	328.383	6.230	-29.066	2999.791	0.316	6.230	29.726	282.097
3100.000	0.461	282.380	6.804	-29.759	3099.786	0.472	6.804	30.527	282.878
3200.000	0.393	297.728	7.049	-30.455	3199.784	0.132	7.049	31.260	283.032
3300.000	0.592	297.395	7.447	-31.217	3299.780	0.199	7.447	32.093	283.417
3400.000	0.578	301.834	7.950	-32.104	3399.775	0.048	7.950	33.074	283.909
3500.000	0.388	334.897	8.523	-32.676	3499.771	0.329	8.523	33.769	284.618

3600.000	0.448	330.148	9.168	-33.014	3599.769	0.069	9.168	34.264	285.520
3700.000	0.471	354.215	9.916	-33.250	3699.765	0.193	9.916	34.697	286.605
3800.000	0.488	347.561	10.740	-33.383	3799.762	0.058	10.740	35.069	287.834
3900.000	0.507	327.144	11.528	-33.715	3899.758	0.177	11.528	35.632	288.877
4000.000	0.542	285.734	12.028	-34.411	3999.754	0.372	12.028	36.453	289.267
4100.000	0.487	311.533	12.439	-35.185	4099.751	0.236	12.439	37.319	289.470
4200.000	0.599	309.310	13.051	-35.907	4199.746	0.113	13.051	38.206	289.975
4300.000	0.978	304.894	13.871	-37.011	4299.736	0.384	13.871	39.525	290.544
4400.000	1.325	301.275	14.959	-38.700	4399.716	0.355	14.959	41.490	291.134
4500.000	1.709	302.511	16.361	-40.945	4499.681	0.385	16.361	44.093	291.781
4600.000	1.724	296.580	17.835	-43.548	4599.636	0.178	17.835	47.059	292.272
4700.000	2.245	300.330	19.497	-46.583	4699.576	0.536	19.497	50.499	292.711
4800.000	2.125	301.806	21.463	-49.850	4799.503	0.132	21.463	54.274	293.295
4900.000	2.374	308.915	23.742	-53.037	4899.426	0.373	23.742	58.109	294.116
5000.000	2.097	315.073	26.338	-55.941	4999.350	0.367	26.338	61.831	295.212
5100.000	1.875	315.671	28.804	-58.376	5099.290	0.222	28.804	65.096	296.263
5200.000	1.567	323.931	31.080	-60.324	5199.245	0.395	31.080	67.860	297.258
5300.000	1.350	322.728	33.122	-61.843	5299.212	0.218	33.122	70.154	298.173
5400.000	1.216	338.200	35.045	-62.950	5399.188	0.370	35.045	72.048	299.105
5500.000	1.126	340.147	36.954	-63.678	5499.167	0.098	36.954	73.624	300.128
5600.000	1.345	357.879	39.051	-64.055	5599.144	0.438	39.051	75.020	301.368
5700.000	1.400	351.086	41.430	-64.288	5699.115	0.172	41.430	76.481	302.799
5800.000	1.204	346.108	43.657	-64.730	5799.089	0.226	43.657	78.076	303.998
5900.000	1.121	340.075	45.597	-65.315	5899.069	0.148	45.597	79.657	304.919
6000.000	1.075	340.947	47.403	-65.955	5999.050	0.049	47.403	81.223	305.706
6100.000	1.059	343.163	49.175	-66.529	6099.033	0.044	49.175	82.730	306.470
6200.000	1.011	351.843	50.933	-66.922	6199.017	0.164	50.933	84.099	307.274
6300.000	1.085	344.807	52.720	-67.295	6299.000	0.148	52.720	85.487	308.076
6400.000	1.339	351.075	54.787	-67.724	6398.978	0.286	54.787	87.110	308.972
6500.000	1.350	359.083	57.119	-67.924	6498.950	0.188	57.119	88.749	310.061
6600.000	1.820	0.577	59.885	-67.927	6598.912	0.472	59.885	90.556	311.400
6700.000	2.305	350.014	63.454	-68.260	6698.847	0.614	63.454	93.198	312.910
6800.000	2.674	336.338	67.571	-69.545	6798.753	0.697	67.571	96.965	314.175
6900.000	2.852	322.067	71.670	-72.010	6898.638	0.708	71.670	101.597	314.864
7000.000	2.889	324.890	75.693	-74.989	6998.513	0.146	75.693	106.550	315.268

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