



Company/ Rig: Noble Energy/ CoreTech
Well/API#: Peppler 2-36/05-123-14438
Declination: 8.33 Degrees
TD as Drilled: 7296 Feet
County/State: Weld/Colorado
VS-Azi: 0.000 Degrees
Latitude: 40.35381, Longitude: -104.73316
Grid North = True North -0.50 degs (NAD 27)
Grid Correction Applied = -0.50 degs



Depth Reference : RKB= GL/ Elevation= 4663 Feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 2/10/2016 / 15:14

Lat & Long Obtained by Handheld GPS at Wellhead

North Reference: Grid

Henderson, Colorado

303-853-4976

Surveyor: Sean Bratt / Peppler 2-36

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	****
100.000	0.576	282.741	99.998	0.111	-0.491	0.111	0.503	282.741	0.576
200.000	0.144	268.155	199.996	0.218	-1.107	0.218	1.128	281.129	0.438
300.000	0.348	191.801	299.995	-0.084	-1.295	-0.084	1.298	266.309	0.344
400.000	0.334	260.295	399.994	-0.430	-1.645	-0.430	1.700	255.349	0.384
500.000	0.329	252.289	499.992	-0.567	-2.206	-0.567	2.278	255.596	0.047
600.000	0.096	263.303	599.992	-0.664	-2.563	-0.664	2.648	255.480	0.236
700.000	0.254	266.464	699.991	-0.687	-2.868	-0.687	2.949	256.524	0.159
800.000	0.339	248.989	799.990	-0.807	-3.366	-0.807	3.461	256.516	0.123
900.000	0.377	252.508	899.988	-1.012	-3.956	-1.012	4.084	255.649	0.044
1000.000	0.384	286.912	999.986	-1.014	-4.591	-1.014	4.701	257.550	0.225
1100.000	0.464	263.103	1099.983	-0.965	-5.314	-0.965	5.401	259.710	0.192
1200.000	0.399	339.276	1199.981	-0.688	-5.839	-0.688	5.880	263.285	0.535
1300.000	0.486	327.979	1299.978	-0.002	-6.187	-0.002	6.187	269.978	0.122
1400.000	0.417	336.910	1399.975	0.692	-6.555	0.692	6.591	276.026	0.098
1500.000	0.337	224.518	1499.974	0.817	-6.904	0.817	6.952	276.750	0.629
1600.000	0.164	299.067	1599.973	0.677	-7.236	0.677	7.267	275.346	0.333
1700.000	0.284	283.059	1699.972	0.803	-7.602	0.803	7.645	276.027	0.134
1800.000	0.185	227.707	1799.971	0.750	-7.963	0.750	7.998	275.382	0.235

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.000	0.834	239.699	1899.967	0.275	-8.710	0.275	8.715	271.805	0.654
2000.000	0.654	211.383	1999.959	-0.580	-9.636	-0.580	9.653	266.556	0.404
2100.000	0.746	258.065	2099.952	-1.202	-10.570	-1.202	10.638	263.513	0.561
2200.000	0.845	259.037	2199.942	-1.477	-11.931	-1.477	12.022	262.944	0.100
2300.000	0.747	270.101	2299.933	-1.616	-13.307	-1.616	13.405	263.077	0.182
2400.000	0.895	271.746	2399.922	-1.591	-14.740	-1.591	14.825	263.840	0.149
2500.000	0.740	261.766	2499.912	-1.660	-16.159	-1.660	16.244	264.136	0.210
2600.000	0.665	283.855	2599.905	-1.613	-17.361	-1.613	17.435	264.692	0.279
2700.000	0.780	272.579	2699.897	-1.444	-18.604	-1.444	18.660	265.563	0.183
2800.000	0.102	230.289	2799.894	-1.470	-19.353	-1.470	19.409	265.657	0.708
2900.000	0.360	265.449	2899.893	-1.552	-19.735	-1.552	19.795	265.504	0.283
3000.000	0.210	297.893	2999.892	-1.491	-20.209	-1.491	20.264	265.780	0.215
3100.000	0.413	181.180	3099.891	-1.766	-20.378	-1.766	20.455	265.047	0.541
3200.000	0.402	260.166	3199.889	-2.186	-20.731	-2.186	20.846	263.980	0.518
3300.000	0.433	192.642	3299.887	-2.615	-21.160	-2.615	21.321	262.955	0.465
3400.000	0.591	46.262	3399.885	-2.627	-20.869	-2.627	21.034	262.825	0.982
3500.000	0.921	80.929	3499.877	-2.143	-19.703	-2.143	19.819	263.791	0.550
3600.000	1.070	76.371	3599.862	-1.797	-18.001	-1.797	18.091	264.300	0.168
3700.000	0.758	52.533	3699.849	-1.174	-16.569	-1.174	16.611	265.945	0.486
3800.000	0.990	101.268	3799.839	-0.941	-15.197	-0.941	15.226	266.456	0.752
3900.000	1.074	74.314	3899.823	-0.856	-13.447	-0.856	13.474	266.356	0.488
4000.000	1.262	101.953	3999.803	-0.831	-11.467	-0.831	11.497	265.855	0.587
4100.000	1.174	103.141	4099.780	-1.292	-9.392	-1.292	9.480	262.167	0.092
4200.000	1.037	142.035	4199.763	-2.238	-7.838	-2.238	8.151	254.062	0.747
4300.000	0.866	133.895	4299.749	-3.476	-6.736	-3.476	7.580	242.707	0.217
4400.000	0.663	173.256	4399.741	-4.575	-6.123	-4.575	7.644	233.236	0.550
4500.000	0.557	179.447	4499.735	-5.636	-6.051	-5.636	8.269	227.033	0.125
4600.000	0.426	170.477	4599.732	-6.489	-5.984	-6.489	8.827	222.685	0.151
4700.000	0.297	244.163	4699.730	-6.968	-6.156	-6.968	9.298	221.458	0.446
4800.000	0.315	231.520	4799.729	-7.252	-6.605	-7.252	9.809	222.323	0.070
4900.000	0.587	257.472	4899.726	-7.535	-7.320	-7.535	10.505	224.171	0.333
5000.000	0.366	264.774	4999.722	-7.675	-8.138	-7.675	11.186	226.677	0.228
5100.000	0.311	287.617	5099.720	-7.622	-8.714	-7.622	11.577	228.827	0.145
5200.000	0.416	287.179	5199.718	-7.432	-9.320	-7.432	11.921	231.430	0.105
5300.000	0.730	219.500	5299.714	-7.816	-10.072	-7.816	12.749	232.187	0.689
5400.000	0.800	216.817	5399.705	-8.867	-10.896	-8.867	14.047	230.862	0.079
5500.000	1.015	216.148	5499.693	-10.141	-11.836	-10.141	15.586	229.412	0.215
5600.000	1.392	247.372	5599.671	-11.323	-13.480	-11.323	17.605	229.970	0.743
5700.000	0.779	273.343	5699.654	-11.751	-15.280	-11.751	19.276	232.438	0.772
5800.000	1.284	248.784	5799.638	-12.117	-17.003	-12.117	20.878	234.525	0.661

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5900.000	0.612	292.599	5899.624	-12.317	-18.540	-12.317	22.259	236.402	0.943
6000.000	0.484	337.861	5999.620	-11.721	-19.192	-11.721	22.488	238.587	0.438
6100.000	1.016	278.434	6099.613	-11.200	-20.228	-11.200	23.122	241.027	0.875
6200.000	0.629	277.135	6199.602	-11.002	-21.650	-11.002	24.285	243.062	0.387
6300.000	0.047	133.744	6299.600	-10.962	-22.165	-10.962	24.728	243.684	0.668
6400.000	0.316	301.848	6399.600	-10.845	-22.370	-10.845	24.860	244.135	0.362
6500.000	0.425	302.385	6499.598	-10.501	-22.917	-10.501	25.208	245.381	0.110
6600.000	0.254	300.323	6599.596	-10.191	-23.422	-10.191	25.543	246.486	0.171
6700.000	0.566	266.277	6699.593	-10.111	-24.106	-10.111	26.141	247.246	0.383
6800.000	0.335	289.171	6799.590	-10.047	-24.876	-10.047	26.828	248.008	0.288
6900.000	0.526	246.210	6899.588	-10.136	-25.573	-10.136	27.508	248.379	0.362
7000.000	0.282	225.130	6999.585	-10.494	-26.167	-10.494	28.193	248.146	0.282