



COMPANY/RIG: Noble Energy/Production/CoreTech  
WELL/API: Tipton 10-26EG/05-123-12882  
DECLINATION: 8.32 Degrees  
TD AS DRILLED: 7070 Feet  
COUNTY/STATE: Weld/Colorado  
VS-Azi: 0.000 Degrees  
Latitude: 40.45509, Longitude: -104.63748  
Grid North = True North -0.56 degs (NAD 27)  
Grid Convergence Applied = -0.56 degs



DEPTH REFERENCE : RKB = GL Elevation = 4690

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro.ut

Minimum Curvature Method

Report Date/Time: 10/13/2015 / 10:52

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: JUSTIN WILLIAMS / Tipton 10-26EG

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	0.201	201.465	100.000	-0.163	-0.064	-0.163	0.175	201.465	0.201
200.000	0.165	7.054	200.000	-0.184	-0.111	-0.184	0.214	211.060	0.362
300.000	0.076	123.097	299.999	-0.077	-0.038	-0.077	0.086	206.059	0.209
400.000	0.272	131.009	399.999	-0.269	0.197	-0.269	0.333	143.810	0.198
500.000	0.220	140.452	499.998	-0.573	0.498	-0.573	0.759	138.983	0.066
600.000	0.211	62.318	599.998	-0.635	0.784	-0.635	1.009	129.015	0.272
700.000	0.179	59.658	699.997	-0.470	1.082	-0.470	1.180	113.484	0.033
800.000	0.205	168.826	799.997	-0.566	1.252	-0.566	1.374	114.342	0.313
900.000	0.163	223.461	899.996	-0.845	1.189	-0.845	1.459	125.414	0.173
1000.000	0.115	235.066	999.996	-1.006	1.009	-1.006	1.425	134.926	0.056
1100.000	0.258	334.378	1099.996	-0.860	0.829	-0.860	1.195	136.058	0.299
1200.000	0.316	335.271	1199.994	-0.407	0.617	-0.407	0.739	123.450	0.058
1300.000	0.162	111.958	1299.994	-0.210	0.632	-0.210	0.666	108.376	0.447
1400.000	0.348	327.580	1399.993	-0.006	0.600	-0.006	0.600	90.597	0.489
1500.000	0.177	106.405	1499.993	0.207	0.586	0.207	0.621	70.567	0.495
1600.000	0.378	327.315	1599.992	0.441	0.556	0.441	0.709	51.598	0.525
1700.000	0.115	181.756	1699.992	0.618	0.375	0.618	0.723	31.214	0.477
1800.000	0.525	39.590	1799.990	0.871	0.664	0.871	1.095	37.291	0.620

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	0.257	349.377	1899.988	1.445	0.914	1.445	1.710	32.315	0.411
2000.000	0.537	359.820	1999.986	2.135	0.871	2.135	2.306	22.202	0.288
2100.000	0.437	5.943	2099.982	2.983	0.909	2.983	3.119	16.953	0.113
2200.000	0.215	42.778	2199.980	3.500	1.076	3.500	3.662	17.094	0.294
2300.000	0.594	343.955	2299.978	4.136	1.061	4.136	4.270	14.384	0.516
2400.000	0.328	326.270	2399.975	4.872	0.759	4.872	4.931	8.850	0.298
2500.000	0.468	349.024	2499.972	5.511	0.522	5.511	5.536	5.411	0.208
2600.000	0.311	315.574	2599.970	6.106	0.254	6.106	6.111	2.385	0.270
2700.000	0.455	309.792	2699.968	6.553	-0.241	6.553	6.558	357.898	0.149
2800.000	0.652	321.220	2799.963	7.251	-0.902	7.251	7.307	352.911	0.225
2900.000	0.534	317.633	2899.958	8.039	-1.572	8.039	8.191	348.933	0.123
3000.000	0.197	334.153	2999.956	8.538	-1.961	8.538	8.760	347.062	0.350
3100.000	0.201	29.748	3099.955	8.845	-1.949	8.845	9.057	347.574	0.186
3200.000	0.369	27.140	3199.954	9.284	-1.715	9.284	9.441	349.535	0.168
3300.000	0.731	34.947	3299.949	10.093	-1.203	10.093	10.165	353.205	0.369
3400.000	1.040	6.581	3399.938	11.518	-0.733	11.518	11.541	356.357	0.527
3500.000	1.080	29.428	3499.921	13.240	-0.166	13.240	13.241	359.281	0.422
3600.000	1.234	18.836	3599.901	15.080	0.644	15.080	15.094	2.447	0.263
3700.000	1.332	19.625	3699.876	17.194	1.382	17.194	17.249	4.597	0.099
3800.000	1.022	10.219	3799.854	19.166	1.931	19.166	19.263	5.753	0.364
3900.000	0.986	338.503	3899.840	20.844	1.774	20.844	20.920	4.865	0.550
4000.000	0.901	0.973	3999.827	22.430	1.472	22.430	22.479	3.755	0.377
4100.000	0.832	340.408	4099.815	23.900	1.242	23.900	23.933	2.975	0.317
4200.000	0.653	352.990	4199.807	25.149	0.929	25.149	25.167	2.116	0.241
4300.000	0.894	356.736	4299.798	26.494	0.815	26.494	26.506	1.762	0.247
4400.000	1.071	1.648	4399.783	28.207	0.798	28.207	28.219	1.620	0.196
4500.000	0.679	348.782	4499.771	29.723	0.709	29.723	29.731	1.367	0.437
4600.000	0.789	335.246	4599.763	30.929	0.306	30.929	30.931	0.567	0.205
4700.000	0.452	287.471	4699.758	31.673	-0.358	31.673	31.675	359.352	0.589
4800.000	0.617	316.701	4799.754	32.183	-1.104	32.183	32.202	358.036	0.313
4900.000	0.618	300.013	4899.748	32.844	-1.940	32.844	32.901	356.620	0.179
5000.000	0.266	316.649	4999.745	33.282	-2.565	33.282	33.381	355.592	0.371
5100.000	0.590	323.449	5099.742	33.864	-3.031	33.864	34.000	354.885	0.328
5200.000	0.711	299.669	5199.736	34.585	-3.877	34.585	34.802	353.604	0.293
5300.000	0.559	324.239	5299.730	35.288	-4.701	35.288	35.600	352.412	0.308
5400.000	0.569	329.895	5399.725	36.114	-5.235	36.114	36.491	351.751	0.057
5500.000	0.668	11.145	5499.719	37.116	-5.372	37.116	37.503	351.765	0.446
5600.000	1.116	52.808	5599.708	38.277	-4.483	38.277	38.539	353.320	0.760
5700.000	0.555	94.706	5699.698	38.826	-3.224	38.826	38.960	355.253	0.795
5800.000	0.878	154.550	5799.691	38.095	-2.412	38.095	38.171	356.376	0.768

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	1.302	178.199	5899.673	36.267	-2.047	36.267	36.325	356.769	0.610
6000.000	1.349	195.282	5999.647	33.995	-2.322	33.995	34.075	356.093	0.397
6100.000	0.890	214.583	6099.628	32.220	-3.073	32.220	32.366	354.551	0.588
6200.000	0.390	257.462	6199.622	31.506	-3.847	31.506	31.740	353.039	0.660
6300.000	0.656	309.466	6299.618	31.796	-4.622	31.796	32.131	351.730	0.517
6350.000	0.492	321.020	6349.615	32.145	-4.978	32.145	32.528	351.198	0.400