

COMPANY/RIG: Noble Energy/Production/CoreTech

WELL/API: Kohler 21-10 G6/05-123-17627

DECLINATION: 8.37

TD AS DRILLED: 7281

COUNTY/STATE: Weld/Colorado

Latitude: 40.472, Longitude: -104.781

GRID North is 0.460 Degrees East of True North

VS-Azi: 0.000 Degrees



DEPTH REFERENCE : RKB = GL Elevation = 4745

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro.ut

Minimum Curvature Method

Report Date/Time: 4/22/2015 / 14:12

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: JUSTIN WILLIAMS

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	0.415	162.423	99.999	-0.345	0.109	-0.345	0.362	162.423	0.415
200.000	0.409	152.559	199.997	-1.007	0.383	-1.007	1.077	159.173	0.071
300.000	0.211	186.051	299.995	-1.507	0.528	-1.507	1.597	160.690	0.260
400.000	0.252	241.993	399.994	-1.793	0.314	-1.793	1.821	170.056	0.220
500.000	0.616	247.508	499.991	-2.102	-0.376	-2.102	2.136	190.145	0.366
600.000	0.645	247.202	599.985	-2.526	-1.392	-2.526	2.884	208.855	0.030
700.000	0.692	244.547	699.979	-3.004	-2.456	-3.004	3.880	219.272	0.056
800.000	0.771	237.206	799.970	-3.627	-3.567	-3.627	5.087	224.515	0.123
900.000	0.882	236.808	899.960	-4.413	-4.776	-4.413	6.503	227.263	0.111
1000.000	0.760	230.360	999.950	-5.258	-5.931	-5.258	7.926	228.444	0.153
1100.000	0.669	224.125	1099.942	-6.100	-6.848	-6.100	9.171	228.308	0.120
1200.000	0.659	220.769	1199.935	-6.954	-7.630	-6.954	10.324	227.653	0.040
1300.000	0.561	202.659	1299.930	-7.841	-8.194	-7.841	11.341	226.261	0.215
1400.000	0.370	192.153	1399.926	-8.608	-8.450	-8.608	12.063	224.471	0.208
1500.000	0.348	211.486	1499.924	-9.182	-8.677	-9.182	12.633	223.380	0.122
1600.000	0.246	213.359	1599.923	-9.621	-8.954	-9.621	13.143	222.944	0.102
1700.000	0.250	221.055	1699.922	-9.965	-9.215	-9.965	13.573	222.762	0.034
1800.000	0.364	160.692	1799.921	-10.429	-9.254	-10.429	13.943	221.582	0.324
1900.000	0.635	131.832	1899.917	-11.099	-8.736	-11.099	14.124	218.207	0.362

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
2000.000	0.380	175.410	1999.913	-11.799	-8.296	-11.799	14.424	215.113	0.445
2100.000	0.935	237.637	2099.907	-12.567	-8.959	-12.567	15.433	215.487	0.829
2200.000	1.327	259.767	2199.888	-13.209	-10.788	-13.209	17.055	219.240	0.580
2300.000	1.549	262.542	2299.857	-13.590	-13.269	-13.590	18.993	224.314	0.232
2400.000	1.837	266.120	2399.813	-13.874	-16.208	-13.874	21.336	229.437	0.307
2500.000	1.746	259.705	2499.764	-14.255	-19.307	-14.255	23.999	233.560	0.220
2600.000	1.246	258.184	2599.730	-14.750	-21.870	-14.750	26.379	236.003	0.501
2700.000	1.245	255.501	2699.706	-15.245	-23.986	-15.245	28.421	237.562	0.058
2800.000	1.296	249.309	2799.682	-15.916	-26.096	-15.916	30.566	238.620	0.146
2900.000	1.492	223.009	2899.653	-17.267	-28.041	-17.267	32.931	238.376	0.662
3000.000	1.670	219.270	2999.615	-19.347	-29.851	-19.347	35.572	237.052	0.206
3100.000	2.146	230.846	3099.560	-21.657	-32.225	-21.657	38.826	236.097	0.611
3200.000	2.013	248.808	3199.495	-23.474	-35.315	-23.474	42.405	236.388	0.662
3300.000	1.211	258.029	3299.454	-24.328	-37.986	-24.328	45.109	237.363	0.841
3400.000	0.869	296.715	3399.439	-24.206	-39.698	-24.206	46.496	238.627	0.761
3500.000	0.997	324.827	3499.426	-23.154	-40.877	-23.154	46.979	240.471	0.470
3600.000	1.741	337.159	3599.397	-21.043	-41.967	-21.043	46.948	243.370	0.796
3700.000	1.976	336.698	3699.345	-18.060	-43.239	-18.060	46.859	247.331	0.236
3800.000	1.636	343.935	3799.295	-15.105	-44.316	-15.105	46.819	251.179	0.409
3900.000	1.456	352.953	3899.259	-12.472	-44.867	-12.472	46.568	254.465	0.302
4000.000	1.172	351.400	3999.232	-10.200	-45.176	-10.200	46.313	257.277	0.286
4100.000	0.913	330.522	4099.216	-8.495	-45.721	-8.495	46.503	259.474	0.456
4200.000	1.032	324.041	4199.202	-7.073	-46.641	-7.073	47.174	261.377	0.162
4300.000	1.059	297.520	4299.185	-5.917	-47.989	-5.917	48.353	262.970	0.480
4400.000	0.985	295.680	4399.170	-5.118	-49.584	-5.118	49.848	264.107	0.081
4500.000	0.782	306.326	4499.158	-4.341	-50.909	-4.341	51.094	265.127	0.260
4600.000	0.209	86.330	4599.155	-3.924	-51.277	-3.924	51.427	265.623	0.952
4700.000	0.458	115.340	4699.153	-4.084	-50.734	-4.084	50.898	265.398	0.293
4800.000	0.265	110.590	4799.151	-4.336	-50.156	-4.336	50.343	265.059	0.195
4900.000	0.284	190.299	4899.150	-4.661	-49.985	-4.661	50.201	264.673	0.352
5000.000	0.475	193.899	4999.148	-5.307	-50.128	-5.307	50.408	263.957	0.192
5100.000	0.443	199.434	5099.145	-6.073	-50.356	-6.073	50.721	263.123	0.054
5200.000	0.407	202.831	5199.142	-6.766	-50.623	-6.766	51.073	262.388	0.044
5300.000	0.576	186.745	5299.139	-7.592	-50.820	-7.592	51.384	261.504	0.216
5400.000	0.957	180.361	5399.129	-8.926	-50.884	-8.926	51.661	260.051	0.390
5500.000	1.234	148.116	5499.112	-10.675	-50.321	-10.675	51.441	258.022	0.664
5600.000	0.889	114.170	5599.096	-11.907	-49.044	-11.907	50.469	256.353	0.702
5700.000	0.408	78.758	5699.089	-12.156	-47.987	-12.156	49.502	255.785	0.604
5800.000	0.807	71.673	5799.083	-11.865	-46.969	-11.865	48.444	255.823	0.404
5900.000	0.905	75.992	5899.072	-11.452	-45.534	-11.452	46.952	255.882	0.118

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
6000.000	0.931	95.984	5999.060	-11.346	-43.959	-11.346	45.400	255.528	0.320
6100.000	1.356	131.302	6099.041	-12.211	-42.262	-12.211	43.991	253.884	0.803
6200.000	1.033	164.245	6199.020	-13.860	-41.129	-13.860	43.401	251.377	0.745
6300.000	1.390	184.274	6298.998	-15.936	-40.974	-15.936	43.964	248.747	0.549
6400.000	1.406	212.066	6398.969	-18.186	-41.716	-18.186	45.508	246.446	0.672
6500.000	1.440	223.988	6498.939	-20.130	-43.240	-20.130	47.696	245.037	0.297
6600.000	1.611	224.727	6598.903	-22.032	-45.102	-22.032	50.196	243.964	0.173
6700.000	1.226	219.049	6698.872	-23.863	-46.766	-23.863	52.502	242.967	0.409
6800.000	1.156	224.172	6798.851	-25.417	-48.143	-25.417	54.441	242.168	0.128
6900.000	0.803	227.056	6898.836	-26.618	-49.359	-26.618	56.079	241.663	0.357
7000.000	0.829	237.742	6998.826	-27.482	-50.484	-27.482	57.479	241.438	0.154