



COMPANY/RIG: Noble Energy/Production/Coretech

WELL: Ocoma G35-23

DECLINATION: 8.36

TD AS DRILLED: 7280

COUNTY/STATE: Weld/Colorado

Latitude: 40.265, Longitude: -104.625

GRID North is 0.560 Degrees East of True North

VS-Azi: 0.000 Degrees



DEPTH REFERENCE : RKB = GL Elevation = 4795

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: ms gyro-de_01.ut

Minimum Curvature Method

Report Date/Time: 8/14/2014 / 13:07

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	0.622	85.952	99.998	0.038	0.542	0.038	0.543	85.952	0.622
200.000	0.594	69.979	199.992	0.254	1.570	0.254	1.590	80.809	0.171
300.000	0.599	54.058	299.987	0.738	2.480	0.738	2.587	73.424	0.165
400.000	0.477	86.430	399.983	1.071	3.318	1.071	3.486	72.115	0.322
500.000	0.401	95.194	499.980	1.065	4.082	1.065	4.218	75.378	0.101
600.000	0.273	144.181	599.978	0.840	4.570	0.840	4.646	79.580	0.303
700.000	0.200	87.329	699.978	0.656	4.883	0.656	4.927	82.353	0.234
800.000	0.229	120.633	799.977	0.562	5.229	0.562	5.259	83.867	0.126
900.000	0.291	162.184	899.976	0.218	5.479	0.218	5.483	87.717	0.193
1000.000	0.276	150.894	999.975	-0.234	5.674	-0.234	5.679	92.362	0.058
1100.000	0.088	212.493	1099.974	-0.510	5.750	-0.510	5.773	95.065	0.247
1200.000	0.247	215.133	1199.974	-0.750	5.585	-0.750	5.635	97.653	0.159
1300.000	0.195	203.150	1299.973	-1.083	5.394	-1.083	5.502	101.354	0.069
1400.000	0.235	279.861	1399.973	-1.205	5.125	-1.205	5.265	103.226	0.269
1500.000	0.396	266.391	1499.971	-1.191	4.579	-1.191	4.731	104.583	0.176
1600.000	0.398	269.926	1599.969	-1.213	3.887	-1.213	4.072	107.338	0.025
1700.000	0.244	252.714	1699.967	-1.277	3.336	-1.277	3.572	110.952	0.180
1800.000	0.412	237.842	1799.965	-1.532	2.827	-1.532	3.216	118.453	0.187
1900.000	0.251	307.480	1899.964	-1.590	2.349	-1.590	2.837	124.102	0.401

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	0.634	276.123	1999.961	-1.398	1.625	-1.398	2.144	130.705	0.439
2100.000	0.655	276.153	2099.955	-1.278	0.507	-1.278	1.375	158.360	0.021
2200.000	1.137	261.986	2199.942	-1.355	-1.044	-1.355	1.711	217.620	0.527
2300.000	1.386	292.678	2299.919	-1.027	-3.143	-1.027	3.306	251.900	0.709
2400.000	1.492	326.008	2399.889	0.519	-4.986	0.519	5.013	275.937	0.831
2500.000	1.666	306.255	2499.852	2.458	-6.887	2.458	7.312	289.642	0.568
2600.000	1.797	309.858	2599.806	4.323	-9.263	4.323	10.222	295.017	0.170
2700.000	1.835	311.900	2699.756	6.397	-11.659	6.397	13.299	298.754	0.075
2800.000	1.779	310.545	2799.706	8.476	-14.030	8.476	16.391	301.136	0.071
2900.000	1.873	336.307	2899.657	10.981	-15.866	10.981	19.295	304.687	0.819
3000.000	2.078	341.201	2999.598	14.193	-17.107	14.193	22.228	309.682	0.265
3100.000	2.152	336.837	3099.530	17.636	-18.429	17.636	25.508	313.739	0.177
3200.000	2.819	339.102	3199.435	21.659	-20.045	21.659	29.511	317.216	0.674
3300.000	2.765	336.671	3299.317	26.172	-21.878	26.172	34.111	320.107	0.130
3400.000	1.901	341.858	3399.233	29.963	-23.349	29.963	37.986	322.072	0.889
3500.000	1.871	341.733	3499.179	33.089	-24.377	33.089	41.099	323.620	0.030
3600.000	1.668	355.705	3599.131	36.090	-24.998	36.090	43.902	325.291	0.475
3700.000	1.597	17.030	3699.092	38.874	-24.699	38.874	46.057	327.570	0.608
3800.000	1.679	22.584	3799.051	41.559	-23.728	41.559	47.856	330.276	0.179
3900.000	1.707	27.090	3899.007	44.238	-22.487	44.238	49.625	333.055	0.136
4000.000	1.668	30.686	3998.964	46.816	-21.066	46.816	51.337	335.774	0.113
4100.000	2.033	19.337	4098.912	49.742	-19.736	49.742	53.514	338.359	0.515
4200.000	2.320	30.764	4198.840	53.154	-18.113	53.154	56.156	341.183	0.519
4300.000	2.289	17.751	4298.760	56.795	-16.469	56.795	59.134	343.829	0.523
4400.000	2.159	23.348	4398.685	60.426	-15.114	60.426	62.287	345.957	0.253
4500.000	2.322	12.992	4498.609	64.129	-13.912	64.129	65.621	347.760	0.436
4600.000	2.180	348.094	4598.534	67.964	-13.849	67.964	69.361	348.483	0.980
4700.000	1.478	326.274	4698.484	70.898	-14.958	70.898	72.459	348.087	0.977
4800.000	1.064	285.017	4798.461	72.211	-16.570	72.211	74.088	347.076	0.976
4900.000	1.529	244.817	4898.437	71.884	-18.674	71.884	74.270	345.438	0.992
5000.000	1.534	209.058	4998.403	70.146	-20.532	70.146	73.089	343.685	0.940
5100.000	1.401	229.909	5098.371	68.189	-22.117	68.189	71.686	342.029	0.547
5200.000	1.045	246.907	5198.349	67.044	-23.891	67.044	71.174	340.387	0.505
5300.000	0.847	241.816	5298.335	66.337	-25.381	66.337	71.027	339.063	0.214
5400.000	0.864	247.467	5398.324	65.699	-26.730	65.699	70.928	337.861	0.086
5500.000	0.771	245.798	5498.314	65.134	-28.040	65.134	70.913	336.708	0.096
5600.000	0.681	245.586	5598.306	64.612	-29.195	64.612	70.902	335.684	0.090
5700.000	0.787	191.045	5698.298	63.693	-29.868	63.693	70.348	334.876	0.679
5800.000	0.524	175.735	5798.292	62.563	-29.966	62.563	69.369	334.407	0.314
5900.000	0.449	92.805	5898.289	62.088	-29.541	62.088	68.757	334.556	0.647

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	0.606	59.908	5998.285	62.334	-28.692	62.334	68.620	335.284	0.334
6100.000	0.775	68.374	6098.278	62.848	-27.606	62.848	68.644	336.287	0.197
6200.000	1.097	75.745	6198.265	63.333	-26.049	63.333	68.481	337.642	0.342
6300.000	1.468	41.856	6298.241	64.523	-24.267	64.523	68.936	339.389	0.828
6400.000	1.635	54.465	6398.204	66.306	-22.251	66.306	69.940	341.449	0.379
6500.000	1.995	69.279	6498.155	67.751	-19.462	67.751	70.491	343.973	0.589
6600.000	1.485	87.482	6598.109	68.424	-16.540	68.424	70.395	346.411	0.746
6700.000	1.809	114.080	6698.069	67.837	-13.804	67.837	69.227	348.498	0.821
6800.000	2.323	117.978	6798.004	66.242	-10.573	66.242	67.081	350.931	0.532
6900.000	1.902	101.622	6897.936	64.957	-7.158	64.957	65.351	353.712	0.731
7000.000	1.280	97.217	6997.897	64.483	-4.425	64.483	64.634	356.075	0.633