



Company/Rig: NOBLE ENERGY/ CORETECH
WELL/API#: WILKINSON 1-34/05-123-22727
DECLINATION: 8.32
TD AS DRILLED: 7328
COUNTY/STATE: WELD/COLORADO
VS-Azi: 0.000 Degrees
Latitude: 40.50954, Longitude: -104.61323
Grid North = True North -0.57 degs (NAD 27)
Grid Correction Applied = -0.57 degs



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4742

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_7500-01-de_01_mrg.ut

Minimum Curvature Method

Report Date/Time: 8/28/2015 / 09:51

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: BRIAN BREWBAKER

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	0.160	239.373	100.000	-0.071	-0.120	-0.071	0.140	239.373	0.160
200.000	0.056	217.378	200.000	-0.181	-0.270	-0.181	0.325	236.169	0.111
300.000	0.203	220.517	299.999	-0.354	-0.414	-0.354	0.545	229.496	0.147
400.000	0.387	215.339	399.998	-0.764	-0.724	-0.764	1.052	223.489	0.186
500.000	0.537	261.105	499.995	-1.111	-1.382	-1.111	1.774	231.203	0.385
600.000	0.376	218.134	599.992	-1.442	-2.048	-1.442	2.504	234.851	0.366
700.000	0.378	242.313	699.990	-1.853	-2.542	-1.853	3.146	233.913	0.158
800.000	0.341	308.068	799.988	-1.822	-3.069	-1.822	3.569	239.296	0.392
900.000	0.482	317.284	899.986	-1.330	-3.589	-1.330	3.827	249.670	0.155
1000.000	0.386	330.624	999.983	-0.727	-4.040	-0.727	4.104	259.799	0.139
1100.000	0.668	325.612	1099.979	0.048	-4.534	0.048	4.535	270.609	0.286
1200.000	0.678	327.301	1199.972	1.028	-5.184	1.028	5.284	281.213	0.022
1300.000	0.680	330.938	1299.965	2.045	-5.792	2.045	6.142	289.444	0.043
1400.000	0.625	329.691	1399.958	3.034	-6.355	3.034	7.042	295.521	0.058
1500.000	0.437	327.602	1499.954	3.827	-6.835	3.827	7.833	299.246	0.188
1600.000	0.580	328.619	1599.950	4.581	-7.303	4.581	8.621	302.101	0.142
1700.000	0.549	320.026	1699.945	5.380	-7.874	5.380	9.536	304.343	0.090
1800.000	0.536	336.699	1799.941	6.176	-8.366	6.176	10.399	306.435	0.158

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	0.407	302.151	1899.938	6.794	-8.851	6.794	11.158	307.508	0.306
2000.000	0.423	299.706	1999.935	7.165	-9.472	7.165	11.877	307.107	0.024
2100.000	0.285	320.394	2099.933	7.539	-9.951	7.539	12.484	307.151	0.186
2200.000	0.091	353.261	2199.932	7.810	-10.118	7.810	12.782	307.663	0.214
2300.000	0.201	297.039	2299.932	7.969	-10.284	7.969	13.010	307.772	0.168
2400.000	0.687	198.079	2399.930	7.479	-10.626	7.479	12.994	305.137	0.745
2500.000	0.775	188.397	2499.922	6.239	-10.911	6.239	12.569	299.763	0.151
2600.000	0.755	168.554	2599.913	4.925	-10.879	4.925	11.942	294.354	0.264
2700.000	0.827	181.543	2699.903	3.557	-10.768	3.557	11.340	288.282	0.193
2800.000	0.579	162.618	2799.896	2.354	-10.636	2.354	10.894	282.477	0.336
2900.000	0.320	187.952	2899.893	1.594	-10.524	1.594	10.644	278.614	0.321
3000.000	0.301	169.394	2999.891	1.059	-10.514	1.059	10.567	275.751	0.102
3100.000	0.277	177.661	3099.890	0.559	-10.456	0.559	10.471	273.060	0.048
3200.000	0.486	171.517	3199.888	-0.102	-10.383	-0.102	10.384	269.436	0.213
3300.000	0.242	141.229	3299.886	-0.686	-10.189	-0.686	10.212	266.146	0.303
3400.000	0.397	52.287	3399.885	-0.639	-9.783	-0.639	9.804	266.261	0.461
3500.000	0.876	334.996	3499.880	0.265	-9.832	0.265	9.836	271.545	0.879
3600.000	1.283	340.152	3599.862	2.011	-10.535	2.011	10.726	280.808	0.418
3700.000	1.207	340.234	3699.838	4.056	-11.272	4.056	11.979	289.789	0.077
3800.000	1.064	338.777	3799.818	5.912	-11.964	5.912	13.345	296.297	0.146
3900.000	1.103	324.985	3899.801	7.566	-12.852	7.566	14.914	300.485	0.263
4000.000	1.195	328.345	3999.781	9.243	-13.952	9.243	16.736	303.522	0.114
4100.000	1.229	328.808	4099.758	11.048	-15.055	11.048	18.674	306.273	0.035
4200.000	1.200	325.911	4199.736	12.833	-16.198	12.833	20.665	308.389	0.068
4300.000	0.987	304.960	4299.718	14.194	-17.491	14.194	22.525	309.060	0.449
4400.000	1.120	258.630	4399.703	14.495	-19.155	14.495	24.021	307.115	0.838
4500.000	1.268	266.618	4499.681	14.237	-21.218	14.237	25.552	303.860	0.222
4600.000	1.364	252.714	4599.655	13.818	-23.459	13.818	27.226	300.499	0.332
4700.000	1.241	259.299	4699.629	13.263	-25.660	13.263	28.885	297.334	0.193
4800.000	1.201	249.404	4799.606	12.693	-27.705	12.693	30.474	294.616	0.214
4900.000	0.977	255.022	4899.588	12.104	-29.509	12.104	31.895	292.303	0.248
5000.000	0.543	231.211	4999.580	11.587	-30.702	11.587	32.815	290.677	0.528
5100.000	0.304	225.229	5099.577	11.103	-31.260	11.103	33.173	289.555	0.242
5200.000	0.526	199.744	5199.574	10.484	-31.603	10.484	33.297	288.353	0.283
5300.000	0.519	183.493	5299.570	9.601	-31.786	9.601	33.204	286.806	0.148
5400.000	0.500	172.154	5399.566	8.717	-31.754	8.717	32.929	285.350	0.102
5500.000	0.553	109.628	5499.563	8.123	-31.240	8.123	32.278	284.575	0.548
5600.000	0.953	73.336	5599.554	8.199	-29.988	8.199	31.089	285.291	0.604
5700.000	1.833	61.948	5699.524	9.190	-27.780	9.190	29.261	288.304	0.918
5800.000	1.317	65.898	5799.486	10.411	-25.319	10.411	27.376	292.352	0.527

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	0.888	78.947	5899.467	11.029	-23.509	11.029	25.968	295.133	0.495
6000.000	0.711	81.100	5999.457	11.274	-22.135	11.274	24.841	296.990	0.179
6100.000	0.808	91.270	6099.449	11.354	-20.817	11.354	23.713	298.609	0.166
6200.000	0.887	69.902	6199.438	11.605	-19.386	11.605	22.594	300.905	0.324
6300.000	1.012	95.469	6299.425	11.786	-17.780	11.786	21.332	303.541	0.438
6400.000	1.067	93.179	6399.408	11.650	-15.971	11.650	19.769	306.110	0.068
6500.000	1.112	76.784	6499.390	11.821	-14.097	11.821	18.397	309.980	0.314
6600.000	1.222	85.113	6599.370	12.133	-12.091	12.133	17.129	315.101	0.202
6700.000	1.263	93.493	6699.346	12.157	-9.929	12.157	15.696	320.761	0.186
6800.000	1.287	100.135	6799.322	11.892	-7.723	11.892	14.180	326.999	0.150
6900.000	1.321	97.081	6899.296	11.552	-5.473	11.552	12.783	334.649	0.077
7000.000	2.032	116.098	6999.253	10.630	-2.737	10.630	10.977	345.560	0.894