



Company/Rig: NOBLE ENERGY/ CORETECH
WELL/API#: FOSS14-42/05-123-24300
DECLINATION: 8.22
TD AS DRILLED: 7,030 FEET
COUNTY/STATE: WELD/COLORADO
Latitude: 40.485, Longitude: -104.516
GRID North is 0.640 Degrees East of True North
VS-Azi: 0.000 Degrees



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4,697 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 4/21/2015 / 11:54

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: LEVI SHELDON

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	0.166	279.527	100.000	0.024	-0.143	0.024	0.145	279.527	0.166
200.000	0.230	308.975	199.999	0.174	-0.442	0.174	0.476	291.528	0.118
300.000	0.419	8.013	299.998	0.663	-0.548	0.663	0.860	320.441	0.360
400.000	0.586	327.974	399.994	1.459	-0.768	1.459	1.649	332.234	0.378
500.000	0.975	341.952	499.985	2.701	-1.303	2.701	2.999	334.252	0.430
600.000	1.029	341.530	599.970	4.361	-1.851	4.361	4.738	337.006	0.055
700.000	1.245	338.773	699.950	6.225	-2.528	6.225	6.719	337.896	0.223
800.000	1.425	337.034	799.923	8.383	-3.407	8.383	9.049	337.883	0.184
900.000	1.496	333.056	899.890	10.691	-4.483	10.691	11.593	337.249	0.124
1000.000	1.481	328.007	999.857	12.951	-5.760	12.951	14.174	336.024	0.132
1100.000	1.513	334.482	1099.822	15.239	-7.013	15.239	16.775	335.287	0.172
1200.000	1.537	336.915	1199.787	17.664	-8.108	17.664	19.436	335.344	0.069
1300.000	1.673	323.341	1299.748	20.069	-9.505	20.069	22.206	334.656	0.402
1400.000	1.685	339.204	1399.706	22.614	-10.899	22.614	25.103	334.269	0.463
1500.000	1.657	337.115	1499.663	25.321	-11.983	25.321	28.013	334.674	0.067
1600.000	1.485	337.534	1599.626	27.850	-13.040	27.850	30.752	334.909	0.173
1700.000	1.257	334.301	1699.597	30.036	-14.011	30.036	33.143	334.992	0.240
1800.000	1.271	341.120	1799.573	32.074	-14.846	32.074	35.343	335.162	0.151
1900.000	1.154	341.989	1899.550	34.082	-15.516	34.082	37.448	335.522	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
2000.000	1.088	339.619	1999.531	35.930	-16.159	35.930	39.397	335.785	0.081
2100.000	0.689	293.810	2099.520	37.063	-17.040	37.063	40.793	335.310	0.783
2200.000	0.557	301.960	2199.514	37.564	-18.002	37.564	41.655	334.394	0.158
2300.000	0.635	280.858	2299.509	37.926	-18.959	37.926	42.400	333.439	0.231
2400.000	0.865	290.482	2399.500	38.294	-20.210	38.294	43.300	332.177	0.261
2500.000	0.888	289.679	2499.488	38.819	-21.647	38.819	44.446	330.855	0.027
2600.000	0.886	283.504	2599.477	39.260	-23.128	39.260	45.566	329.498	0.096
2700.000	0.976	287.486	2699.463	39.697	-24.693	39.697	46.750	328.117	0.111
2800.000	0.981	285.099	2799.449	40.176	-26.332	40.176	48.037	326.758	0.041
2900.000	1.263	285.233	2899.429	40.689	-28.223	40.689	49.519	325.254	0.282
3000.000	1.384	289.619	2999.403	41.384	-30.424	41.384	51.364	323.678	0.157
3100.000	1.367	286.366	3099.374	42.125	-32.705	42.125	53.331	322.175	0.080
3200.000	0.855	313.063	3199.355	42.971	-34.395	42.971	55.041	321.325	0.715
3300.000	1.101	357.557	3299.342	44.440	-34.981	44.440	56.556	321.792	0.775
3400.000	1.474	30.885	3399.318	46.504	-34.362	46.504	57.822	323.540	0.820
3500.000	1.680	36.676	3499.280	48.784	-32.826	48.784	58.800	326.064	0.261
3600.000	1.671	36.449	3599.237	51.133	-31.084	51.133	59.840	328.705	0.012
3700.000	1.708	30.541	3699.194	53.589	-29.460	53.589	61.153	331.200	0.178
3800.000	1.799	38.577	3799.147	56.099	-27.725	56.099	62.576	333.701	0.262
3900.000	1.862	41.342	3899.096	58.546	-25.673	58.546	63.927	336.322	0.109
4000.000	1.327	10.546	3999.059	60.904	-24.388	60.904	65.605	338.177	0.991
4100.000	0.876	344.670	4099.041	62.779	-24.378	62.779	67.346	338.778	0.661
4200.000	0.872	4.193	4199.030	64.275	-24.524	64.275	68.795	339.115	0.296
4300.000	0.855	345.843	4299.018	65.757	-24.651	65.757	70.226	339.450	0.276
4400.000	0.957	340.413	4399.006	67.267	-25.114	67.267	71.802	339.527	0.134
4500.000	0.945	329.023	4498.992	68.761	-25.818	68.761	73.448	339.420	0.189
4600.000	0.987	317.736	4598.978	70.105	-26.821	70.105	75.061	339.064	0.194
4700.000	1.055	306.467	4698.962	71.289	-28.141	71.289	76.643	338.459	0.212
4800.000	1.142	303.868	4798.944	72.392	-29.709	72.392	78.251	337.687	0.100
4900.000	1.317	299.173	4898.921	73.508	-31.540	73.508	79.988	336.777	0.202
5000.000	1.368	297.310	4998.893	74.615	-33.604	74.615	81.833	335.755	0.067
5100.000	1.308	304.831	5098.866	75.815	-35.601	75.815	83.758	334.846	0.185
5200.000	1.276	309.556	5198.841	77.176	-37.397	77.176	85.759	334.147	0.111
5300.000	1.121	305.738	5298.819	78.457	-39.049	78.457	87.637	333.540	0.174
5400.000	0.841	299.671	5398.804	79.391	-40.481	79.391	89.116	332.983	0.298
5500.000	0.754	279.437	5498.795	79.862	-41.768	79.862	90.125	332.391	0.293
5600.000	0.759	288.301	5598.786	80.178	-43.045	80.178	91.002	331.770	0.117
5700.000	0.403	235.850	5698.781	80.189	-43.965	80.189	91.450	331.265	0.605
5800.000	0.477	230.670	5798.778	79.727	-44.578	79.727	91.344	330.789	0.084
5900.000	0.493	234.387	5898.775	79.213	-45.250	79.213	91.226	330.263	0.035

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	0.559	226.852	5998.771	78.630	-45.955	78.630	91.074	329.696	0.095
6100.000	0.729	225.054	6098.764	77.847	-46.760	77.847	90.811	329.008	0.171
6200.000	0.773	230.229	6198.756	76.966	-47.729	76.966	90.564	328.195	0.081
6300.000	0.844	224.783	6298.746	76.011	-48.767	76.011	90.310	327.317	0.104
6400.000	0.989	216.905	6398.733	74.798	-49.804	74.798	89.862	326.343	0.192
6500.000	1.252	201.473	6498.714	73.092	-50.722	73.092	88.967	325.241	0.398
6600.000	1.376	195.572	6598.688	70.918	-51.444	70.918	87.612	324.043	0.184
6700.000	0.751	228.246	6698.671	69.325	-52.256	69.325	86.814	322.992	0.847