



Company/Rig: NOBLE ENERGY/ CORETECH
WELL/API#: KY BLUE H 25-11/05-123-16894
DECLINATION: 8.28 Degrees
TD AS DRILLED: 7,232 FEET
COUNTY/STATE: WELD/COLORADO
VS-Azi: 0.000 Degrees
Latitude: 40.19400, Longitude: -104.61500
Grid North = True North -0.57 degs (NAD 27)
Grid Correction Applied = -0.57 degs



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4,817 FEET

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 10/21/2015 / 15:43

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: LEVI SHELTON / Ky Blue H 25-11

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	0.360	339.759	99.999	0.295	-0.109	0.295	0.314	339.759	0.360
200.000	0.443	343.230	199.997	0.959	-0.329	0.959	1.014	341.080	0.086
300.000	0.227	52.900	299.995	1.448	-0.282	1.448	1.476	348.974	0.421
400.000	0.153	334.547	399.995	1.688	-0.181	1.688	1.698	353.864	0.247
500.000	0.241	70.416	499.995	1.879	-0.041	1.879	1.879	358.754	0.298
600.000	0.537	1.212	599.993	2.418	0.167	2.418	2.424	3.949	0.505
700.000	0.790	21.110	699.986	3.530	0.425	3.530	3.556	6.867	0.338
800.000	0.709	28.250	799.977	4.718	0.966	4.718	4.816	11.574	0.124
900.000	1.391	35.994	899.960	6.245	1.973	6.245	6.549	17.528	0.696
1000.000	1.639	50.342	999.925	8.140	3.787	8.140	8.978	24.949	0.451
1100.000	1.880	56.433	1099.878	9.960	6.254	9.960	11.761	32.128	0.305
1200.000	1.894	68.213	1199.824	11.480	9.155	11.480	14.684	38.573	0.387
1300.000	2.054	70.757	1299.765	12.684	12.382	12.684	17.725	44.310	0.182
1400.000	2.067	78.235	1399.701	13.642	15.839	13.642	20.904	49.262	0.269
1500.000	1.454	92.826	1499.653	13.947	18.871	13.947	23.466	53.533	0.755
1600.000	1.228	75.581	1599.626	14.152	21.176	14.152	25.469	56.246	0.460
1700.000	1.233	76.144	1699.603	14.676	23.259	14.676	27.502	57.748	0.013
1800.000	0.950	89.459	1799.585	14.942	25.133	14.942	29.239	59.268	0.378

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	0.692	72.361	1899.575	15.132	26.538	15.132	30.549	60.307	0.354
2000.000	0.431	88.674	1999.570	15.324	27.489	15.324	31.472	60.862	0.303
2100.000	0.434	74.574	2099.567	15.433	28.231	15.433	32.174	61.335	0.106
2200.000	0.181	43.129	2199.566	15.650	28.704	15.650	32.693	61.400	0.295
2300.000	0.450	3.626	2299.564	16.157	28.837	16.157	33.055	60.738	0.331
2400.000	0.440	304.889	2399.562	16.769	28.547	16.769	33.108	59.570	0.436
2500.000	0.532	312.839	2499.558	17.304	27.892	17.304	32.823	58.185	0.115
2600.000	0.226	337.355	2599.556	17.801	27.475	17.801	32.738	57.060	0.340
2700.000	0.352	254.534	2699.555	17.901	27.103	17.901	32.481	56.556	0.394
2800.000	0.480	222.306	2799.553	17.510	26.525	17.510	31.783	56.571	0.261
2900.000	0.651	209.863	2899.548	16.708	25.961	16.708	30.872	57.236	0.210
3000.000	1.122	200.152	2999.536	15.296	25.341	15.296	29.599	58.884	0.493
3100.000	1.098	203.924	3099.517	13.501	24.615	13.501	28.074	61.255	0.077
3200.000	1.158	224.631	3199.498	11.906	23.516	11.906	26.358	63.147	0.410
3300.000	0.845	250.757	3299.483	10.944	22.110	10.944	24.670	63.666	0.546
3400.000	0.804	246.677	3399.473	10.423	20.770	10.423	23.239	63.350	0.071
3500.000	1.062	252.492	3499.459	9.867	19.242	9.867	21.624	62.852	0.275
3600.000	1.088	267.869	3599.442	9.553	17.409	9.553	19.858	61.246	0.289
3700.000	1.249	297.702	3699.422	10.024	15.496	10.024	18.455	57.102	0.621
3800.000	1.056	308.326	3799.402	11.102	13.807	11.102	17.717	51.198	0.287
3900.000	1.200	297.423	3899.382	12.156	12.155	12.156	17.191	44.998	0.258
4000.000	1.342	296.347	3999.358	13.158	10.177	13.158	16.634	37.719	0.144
4100.000	1.367	306.068	4099.330	14.379	8.164	14.379	16.535	29.585	0.231
4200.000	1.609	317.693	4199.297	16.120	6.254	16.120	17.291	21.206	0.386
4300.000	1.505	301.509	4299.260	17.845	4.189	17.845	18.330	13.212	0.450
4400.000	1.288	307.551	4399.230	19.216	2.179	19.216	19.339	6.469	0.262
4500.000	1.219	317.726	4499.207	20.688	0.572	20.688	20.696	1.584	0.232