



Company/Rig: NOBLE ENERGY / CORETECH
WELL/API#: PEPPLER 24-32/05-123-26192
DECLINATION: 8.25 Degrees
TD AS DRILLED: 7000 Feet
COUNTY/STATE: WELD/COLORADO
VS-Azi: 0.000 Degrees
Latitude: 40.47052, Longitude: -104.50611
Grid North = True North -0.64 degs (NAD 27)
Grid Convergence Applied = -0.64 degs



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4641

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyrosurvey.ut

Minimum Curvature Method

Report Date/Time: 10/15/2015 / 10:30

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: BRIAN BREWBAKER / Peppler 24-32

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	0.220	248.328	100.000	-0.071	-0.178	-0.071	0.192	248.328	0.220
200.000	0.150	307.447	199.999	-0.062	-0.461	-0.062	0.465	262.326	0.192
300.000	0.219	299.229	299.999	0.111	-0.731	0.111	0.740	278.614	0.073
400.000	0.466	286.513	399.997	0.320	-1.288	0.320	1.327	283.936	0.257
500.000	0.461	256.645	499.994	0.342	-2.069	0.342	2.097	279.392	0.239
600.000	0.251	271.272	599.992	0.254	-2.679	0.254	2.691	275.420	0.227
700.000	0.493	286.227	699.990	0.379	-3.311	0.379	3.332	276.535	0.259
800.000	0.562	255.071	799.986	0.373	-4.198	0.373	4.214	275.080	0.291
900.000	0.439	284.076	899.982	0.340	-5.043	0.340	5.055	273.856	0.278
1000.000	0.394	274.076	999.979	0.458	-5.758	0.458	5.776	274.544	0.085
1100.000	0.536	255.013	1099.976	0.361	-6.553	0.361	6.563	273.155	0.208
1200.000	0.553	266.798	1199.972	0.213	-7.486	0.213	7.489	271.633	0.113
1300.000	0.576	270.112	1299.967	0.187	-8.470	0.187	8.472	271.268	0.040
1400.000	0.566	265.479	1399.962	0.150	-9.465	0.150	9.466	270.905	0.047
1500.000	0.625	264.530	1499.956	0.059	-10.500	0.059	10.500	270.320	0.060
1600.000	0.861	272.744	1599.948	0.043	-11.793	0.043	11.794	270.207	0.259
1700.000	0.936	269.478	1699.936	0.071	-13.361	0.071	13.362	270.305	0.091
1800.000	0.901	271.484	1799.923	0.084	-14.964	0.084	14.964	270.322	0.048

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	0.167	232.925	1899.918	0.017	-15.866	0.017	15.866	270.060	0.777
2000.000	0.523	96.298	1999.917	-0.121	-15.529	-0.121	15.529	269.554	0.654
2100.000	0.711	107.702	2099.911	-0.360	-14.484	-0.360	14.489	268.577	0.224
2200.000	0.734	111.150	2199.903	-0.779	-13.296	-0.779	13.319	266.645	0.049
2300.000	0.983	92.942	2299.892	-1.054	-11.842	-1.054	11.889	264.912	0.367
2400.000	0.747	102.665	2399.880	-1.241	-10.349	-1.241	10.423	263.159	0.277
2500.000	0.605	98.754	2499.873	-1.465	-9.190	-1.465	9.306	260.944	0.149
2600.000	0.527	78.893	2599.869	-1.457	-8.217	-1.457	8.345	259.947	0.210
2700.000	0.429	90.085	2699.865	-1.369	-7.392	-1.369	7.517	259.510	0.135
2800.000	0.249	106.926	2799.863	-1.433	-6.810	-1.433	6.959	258.120	0.203
2900.000	0.231	97.024	2899.863	-1.521	-6.401	-1.521	6.579	256.638	0.045
3000.000	0.029	125.121	2999.862	-1.560	-6.181	-1.560	6.374	255.838	0.206
3100.000	0.700	109.409	3099.860	-1.777	-5.584	-1.777	5.860	252.347	0.672
3200.000	0.894	107.317	3199.850	-2.212	-4.263	-2.212	4.803	242.573	0.197
3300.000	0.927	112.749	3299.837	-2.758	-2.772	-2.758	3.910	225.148	0.092
3400.000	1.418	94.953	3399.816	-3.177	-0.792	-3.177	3.275	194.005	0.606
3500.000	1.410	116.538	3499.787	-3.834	1.542	-3.834	4.132	158.097	0.530
3600.000	1.589	115.590	3599.752	-4.983	3.893	-4.983	6.323	141.999	0.180
3700.000	1.686	115.526	3699.711	-6.216	6.471	-6.216	8.973	133.846	0.097
3800.000	1.776	118.029	3799.666	-7.578	9.166	-7.578	11.893	129.580	0.117
3900.000	1.677	123.831	3899.621	-9.120	11.749	-9.120	14.873	127.820	0.201
4000.000	1.347	133.695	3999.586	-10.747	13.814	-10.747	17.502	127.881	0.418
4100.000	1.091	132.916	4099.563	-12.207	15.362	-12.207	19.621	128.473	0.257
4200.000	0.964	150.717	4199.547	-13.590	16.471	-13.590	21.353	129.525	0.342
4300.000	0.748	134.919	4299.536	-14.784	17.344	-14.784	22.790	130.444	0.318
4400.000	0.296	124.953	4399.532	-15.393	18.018	-15.393	23.697	130.508	0.459
4500.000	0.058	157.715	4499.531	-15.587	18.248	-15.587	23.999	130.503	0.249
4600.000	0.900	81.589	4599.527	-15.520	19.045	-15.520	24.567	129.177	0.888
4700.000	1.035	115.884	4699.514	-15.799	20.634	-15.799	25.987	127.441	0.585
4800.000	1.007	114.413	4799.498	-16.556	22.246	-16.556	27.731	126.658	0.038
4900.000	1.023	147.214	4899.483	-17.669	23.529	-17.669	29.425	126.905	0.573
5000.000	1.119	157.821	4999.465	-19.324	24.381	-19.324	31.110	128.399	0.220
5100.000	0.669	167.946	5099.453	-20.799	24.872	-20.799	32.422	129.904	0.476
5200.000	0.712	148.199	5199.446	-21.898	25.321	-21.898	33.476	130.853	0.241
5300.000	0.668	145.063	5299.439	-22.903	25.982	-22.903	34.636	131.396	0.058
5400.000	0.491	151.951	5399.434	-23.759	26.517	-23.759	35.605	131.860	0.189
5500.000	0.427	121.800	5499.430	-24.334	27.036	-24.334	36.374	131.990	0.247
5600.000	0.929	63.598	5599.424	-24.170	28.079	-24.170	37.048	130.722	0.792
5700.000	0.950	21.680	5699.412	-23.039	29.111	-23.039	37.125	128.358	0.673
5800.000	0.997	338.438	5799.399	-21.459	29.098	-21.459	36.155	126.408	0.719

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	1.882	327.260	5899.366	-19.268	27.890	-19.268	33.899	124.639	0.924
6000.000	1.940	331.787	5999.311	-16.395	26.202	-16.395	30.908	122.036	0.162
6100.000	1.584	358.939	6099.265	-13.522	25.376	-13.522	28.753	118.051	0.897
6200.000	2.119	18.278	6199.213	-10.384	25.930	-10.384	27.932	111.825	0.816
6300.000	2.750	28.970	6299.123	-6.529	27.672	-6.529	28.432	103.277	0.775
6400.000	2.148	40.819	6399.032	-3.012	30.059	-3.012	30.209	95.723	0.784
6500.000	2.359	58.810	6498.956	-0.529	33.044	-0.529	33.048	90.917	0.735
6600.000	2.665	65.070	6598.860	1.517	36.912	1.517	36.943	87.647	0.411
6650.000	2.688	66.483	6648.805	2.475	39.042	2.475	39.120	86.373	0.140