



Company/Rig: NOBLE ENERGY/CORETECH
WELL/API#: WILMOTH 6-14/05-123-20025
DECLINATION: 8.26 Degrees
TD AS DRILLED: 7181 Feet
COUNTY/STATE: WELD/COLORADO
VS-Azi: 0.000 Degrees
Latitude: 40.34282, Longitude: -104.58598
Grid North = True North -0.59 degs (NAD 27)
Grid Correction Applied = -0.59 degs



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4779'

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01-de_01.ut

Minimum Curvature Method

Report Date/Time: 12/18/2015 / 10:44

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: JAY HINMAN / Wilmoth 6-14

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	0.411	117.550	99.999	-0.166	0.318	-0.166	0.359	117.550	0.411
200.000	0.226	237.519	199.998	-0.438	0.470	-0.438	0.642	132.991	0.560
300.000	0.077	359.245	299.998	-0.477	0.302	-0.477	0.565	147.622	0.275
400.000	0.373	243.216	399.997	-0.557	0.011	-0.557	0.557	178.874	0.413
500.000	0.571	335.186	499.995	-0.251	-0.489	-0.251	0.549	242.807	0.693
600.000	0.625	8.109	599.990	0.741	-0.621	0.741	0.967	320.026	0.343
700.000	0.443	288.717	699.987	1.404	-0.910	1.404	1.674	327.049	0.696
800.000	0.635	317.712	799.982	1.939	-1.650	1.939	2.545	319.605	0.328
900.000	0.717	332.499	899.975	2.904	-2.312	2.904	3.712	321.479	0.192
1000.000	0.200	115.272	999.973	3.384	-2.442	3.384	4.174	324.183	0.885
1100.000	0.275	217.150	1099.973	3.118	-2.429	3.118	3.953	322.081	0.372
1200.000	0.166	210.589	1199.972	2.803	-2.648	2.803	3.856	316.629	0.112
1300.000	0.251	200.160	1299.971	2.473	-2.797	2.473	3.733	311.485	0.093
1400.000	0.359	228.246	1399.970	2.059	-3.106	2.059	3.726	303.537	0.182
1500.000	0.311	235.393	1499.968	1.696	-3.563	1.696	3.946	295.449	0.064
1600.000	0.389	216.245	1599.966	1.268	-3.987	1.268	4.184	287.643	0.139
1700.000	0.219	223.162	1699.965	0.855	-4.319	0.855	4.403	281.197	0.173
1800.000	0.150	167.152	1799.964	0.587	-4.421	0.587	4.459	277.569	0.184

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	0.383	75.085	1899.964	0.546	-4.068	0.546	4.105	277.638	0.417
2000.000	0.899	73.586	1999.957	0.853	-2.993	0.853	3.112	285.916	0.516
2100.000	1.539	76.207	2099.934	1.395	-0.936	1.395	1.680	326.160	0.642
2200.000	1.346	86.660	2199.902	1.784	1.541	1.784	2.357	40.824	0.326
2300.000	1.597	84.543	2299.869	1.985	4.100	1.985	4.555	64.169	0.257
2400.000	1.142	73.687	2399.841	2.397	6.444	2.397	6.875	69.593	0.521
2500.000	0.479	80.737	2499.830	2.745	7.813	2.745	8.281	70.644	0.670
2600.000	0.122	309.586	2599.829	2.880	8.143	2.880	8.637	70.524	0.567
2700.000	0.827	2.551	2699.825	3.669	8.093	3.669	8.886	65.615	0.760
2800.000	0.862	355.379	2799.814	5.140	8.064	5.140	9.563	57.489	0.111
2900.000	0.387	50.431	2899.809	6.105	8.264	6.105	10.275	53.545	0.715
3000.000	0.982	0.560	2999.802	7.177	8.533	7.177	11.151	49.932	0.790
3100.000	0.735	26.732	3099.791	8.607	8.830	8.607	12.331	45.733	0.457
3200.000	0.469	44.946	3199.785	9.470	9.408	9.470	13.348	44.812	0.325
3300.000	0.409	92.358	3299.783	9.744	10.053	9.744	14.001	45.894	0.357
3400.000	0.415	131.579	3399.780	9.489	10.681	9.489	14.287	48.381	0.277
3500.000	0.801	142.810	3499.775	8.692	11.374	8.692	14.315	52.613	0.402
3600.000	0.942	134.169	3599.763	7.563	12.387	7.563	14.513	58.594	0.193
3700.000	1.052	137.382	3699.748	6.314	13.598	6.314	14.992	65.093	0.123
3800.000	1.228	142.982	3799.728	4.783	14.864	4.783	15.615	72.162	0.208
3900.000	1.096	145.413	3899.708	3.141	16.052	3.141	16.357	78.929	0.141
4000.000	1.189	142.434	3999.688	1.531	17.228	1.531	17.296	84.922	0.111
4100.000	1.109	160.897	4099.668	-0.206	18.177	-0.206	18.178	90.649	0.377
4200.000	0.895	166.361	4199.653	-1.879	18.678	-1.879	18.772	95.745	0.234
4300.000	1.218	153.916	4299.636	-3.593	19.329	-3.593	19.660	100.529	0.395
4400.000	0.858	156.389	4399.619	-5.234	20.097	-5.234	20.767	104.597	0.363
4500.000	0.666	76.003	4499.613	-5.779	20.961	-5.779	21.743	105.414	0.994
4600.000	0.252	3.586	4599.610	-5.419	21.538	-5.419	22.210	104.121	0.637
4700.000	0.998	53.457	4699.603	-4.680	22.252	-4.680	22.738	101.878	0.857
4800.000	1.181	53.208	4799.585	-3.545	23.776	-3.545	24.039	98.480	0.183
4900.000	0.850	80.359	4899.570	-2.804	25.332	-2.804	25.487	96.315	0.575
5000.000	0.999	79.781	4999.557	-2.525	26.922	-2.525	27.040	95.357	0.149
5100.000	0.846	54.542	5099.544	-1.942	28.382	-1.942	28.448	93.913	0.430
5200.000	0.884	76.523	5199.533	-1.333	29.734	-1.333	29.764	92.567	0.332
5300.000	0.929	85.404	5299.521	-1.088	31.292	-1.088	31.311	91.992	0.147
5400.000	1.011	73.910	5399.507	-0.779	32.947	-0.779	32.956	91.355	0.211
5500.000	0.948	81.550	5499.492	-0.413	34.613	-0.413	34.615	90.684	0.145
5600.000	1.290	62.555	5599.473	0.227	36.430	0.227	36.431	89.643	0.500
5700.000	1.353	52.122	5699.447	1.471	38.361	1.471	38.389	87.804	0.248
5800.000	1.680	46.822	5799.412	3.199	40.361	3.199	40.488	85.469	0.355

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	1.969	57.789	5899.361	5.117	42.884	5.117	43.188	83.195	0.452
6000.000	2.149	64.758	5999.297	6.832	46.032	6.832	46.537	81.558	0.308
6100.000	2.098	62.653	6099.228	8.472	49.354	8.472	50.076	80.259	0.093
6200.000	1.842	89.570	6199.171	9.326	52.587	9.326	53.408	79.944	0.950
6300.000	1.128	116.639	6299.138	8.896	55.074	8.896	55.788	80.824	0.982
6400.000	0.487	170.200	6399.129	8.036	56.027	8.036	56.600	81.838	0.926
6500.000	1.246	164.297	6499.116	6.570	56.393	6.570	56.775	83.354	0.763
6600.000	1.873	180.251	6599.079	3.890	56.680	3.890	56.814	86.074	0.757
6700.000	2.256	203.814	6699.016	0.455	55.878	0.455	55.880	89.533	0.923
6800.000	2.438	202.669	6798.932	-3.308	54.264	-3.308	54.364	93.489	0.188
6900.000	2.188	207.573	6898.851	-6.963	52.560	-6.963	53.020	97.547	0.319
6950.000	1.791	212.080	6948.820	-8.471	51.703	-8.471	52.393	99.305	0.852