



Company/Rig: NOBLE ENERGY/Production/CoreTech

WELL: Loloff B35-29

DECLINATION: 8.27

TD AS DRILLED: 6973 feet

COUNTY/STATE: Weld/COLORADO

Latitude: 40.363, Longitude: -104.522

GRID North is 0.630 Degrees East of True North

VS-Azi: 0.000 Degrees



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4661 feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut

Minimum Curvature Method

Report Date/Time: 12/3/2014 / 15:48

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: Brian Budd

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	0.375	177.161	99.999	-0.327	0.016	-0.327	0.327	177.161	0.375
200.000	0.391	198.415	199.997	-0.978	-0.075	-0.978	0.981	184.412	0.142
300.000	0.750	215.963	299.992	-1.832	-0.568	-1.832	1.918	197.224	0.395
400.000	1.422	222.231	399.974	-3.280	-1.786	-3.280	3.735	208.570	0.681
500.000	1.794	218.292	499.934	-5.427	-3.590	-5.427	6.507	213.483	0.388
600.000	1.871	214.909	599.883	-7.994	-5.493	-7.994	9.699	214.498	0.133
700.000	2.095	210.872	699.823	-10.901	-7.365	-10.901	13.156	214.046	0.264
800.000	2.000	206.020	799.759	-14.038	-9.069	-14.038	16.712	212.863	0.197
900.000	2.360	205.766	899.687	-17.460	-10.729	-17.460	20.494	211.571	0.360
1000.000	2.244	201.550	999.606	-21.136	-12.344	-21.136	24.477	210.285	0.205
1100.000	2.540	204.255	1099.519	-24.977	-13.973	-24.977	28.620	209.224	0.316
1200.000	2.247	205.753	1199.432	-28.763	-15.735	-28.763	32.785	208.681	0.300
1300.000	2.254	201.806	1299.354	-32.354	-17.317	-32.354	36.697	208.157	0.155
1400.000	2.285	194.607	1399.276	-36.108	-18.550	-36.108	40.595	207.191	0.287
1500.000	1.774	208.793	1499.214	-39.394	-19.798	-39.394	44.089	206.683	0.713
1600.000	1.481	204.479	1599.173	-41.926	-21.079	-41.926	46.927	206.692	0.318
1700.000	1.492	187.573	1699.140	-44.393	-21.786	-44.393	49.451	206.140	0.437
1800.000	1.852	177.583	1799.098	-47.297	-21.890	-47.297	52.117	204.835	0.462
1900.000	1.532	156.540	1899.055	-50.138	-21.290	-50.138	54.471	203.007	0.693

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	1.450	163.247	1999.021	-52.575	-20.393	-52.575	56.392	201.200	0.192
2100.000	1.175	120.984	2098.997	-54.314	-19.149	-54.314	57.591	199.421	0.980
2200.000	1.194	72.195	2198.978	-54.524	-17.278	-54.524	57.196	197.583	0.979
2300.000	1.550	32.642	2298.951	-53.066	-15.557	-53.066	55.299	196.339	0.987
2400.000	2.024	4.072	2398.904	-50.165	-14.701	-50.165	52.275	196.334	0.994
2500.000	2.287	342.745	2498.835	-46.498	-15.168	-46.498	48.910	198.066	0.838
2600.000	2.723	332.151	2598.740	-42.493	-16.869	-42.493	45.719	201.652	0.634
2700.000	2.595	331.065	2698.632	-38.412	-19.074	-38.412	42.887	206.408	0.137
2800.000	1.623	331.771	2798.563	-35.182	-20.840	-35.182	40.891	210.640	0.972
2900.000	0.968	334.604	2898.537	-33.170	-21.872	-33.170	39.732	213.400	0.658
3000.000	0.255	343.178	2998.531	-32.193	-22.299	-32.193	39.162	214.709	0.717
3100.000	0.587	152.033	3098.530	-32.432	-22.123	-32.432	39.259	214.300	0.839
3200.000	1.111	175.269	3198.519	-33.851	-21.803	-33.851	40.265	212.786	0.617
3300.000	2.078	183.883	3298.479	-36.626	-21.846	-36.626	42.647	210.815	0.994
3400.000	2.245	163.346	3398.409	-40.312	-21.408	-40.312	45.644	207.971	0.788
3500.000	2.428	140.666	3498.328	-43.827	-19.504	-43.827	47.971	203.990	0.936
3600.000	2.632	158.647	3598.232	-47.604	-17.325	-47.604	50.658	199.999	0.816
3700.000	2.538	154.959	3698.130	-51.748	-15.552	-51.748	54.034	196.727	0.191
3800.000	2.383	158.912	3798.038	-55.694	-13.867	-55.694	57.394	193.981	0.229
3900.000	1.621	168.766	3897.977	-59.021	-12.843	-59.021	60.402	192.276	0.834
4000.000	1.663	163.976	3997.936	-61.803	-12.167	-61.803	62.989	191.137	0.143
4100.000	1.393	170.961	4097.900	-64.398	-11.576	-64.398	65.430	190.190	0.327
4200.000	1.098	182.029	4197.877	-66.555	-11.419	-66.555	67.528	189.735	0.379
4300.000	1.368	182.168	4297.853	-68.706	-11.498	-68.706	69.661	189.500	0.271
4400.000	1.102	184.338	4397.830	-70.858	-11.616	-70.858	71.804	189.310	0.270
4500.000	1.042	184.111	4497.812	-72.723	-11.753	-72.723	73.667	189.181	0.061
4600.000	1.084	240.119	4597.798	-74.101	-12.639	-74.101	75.172	189.679	0.999
4700.000	0.514	333.420	4697.791	-74.172	-13.660	-74.172	75.419	190.435	1.226
4800.000	0.121	56.192	4797.789	-73.712	-13.773	-73.712	74.987	190.583	0.513
4900.000	0.476	201.295	4897.788	-74.040	-13.836	-74.040	75.322	190.585	0.579
5000.000	0.717	196.207	4997.783	-75.028	-14.161	-75.028	76.352	190.689	0.246
5100.000	1.016	157.287	5097.772	-76.446	-13.994	-76.446	77.716	190.373	0.642
5200.000	0.971	137.197	5197.757	-77.885	-13.076	-77.885	78.975	189.530	0.349
5300.000	0.387	57.593	5297.751	-78.325	-12.215	-78.325	79.272	188.864	0.978
5400.000	0.730	351.365	5397.747	-77.514	-12.025	-77.514	78.442	188.818	0.674
5500.000	0.545	318.117	5497.741	-76.531	-12.438	-76.531	77.535	189.231	0.405
5600.000	0.325	343.883	5597.739	-75.904	-12.834	-75.904	76.982	189.597	0.289
5700.000	0.325	29.820	5697.737	-75.385	-12.772	-75.385	76.460	189.616	0.254
5800.000	0.224	44.388	5797.736	-74.999	-12.494	-74.999	76.033	189.458	0.122
5900.000	0.458	118.231	5897.735	-75.048	-12.005	-75.048	76.002	189.088	0.450

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	0.442	32.585	5997.732	-74.912	-11.445	-74.912	75.781	188.686	0.612
6100.000	0.454	108.675	6097.730	-74.714	-10.862	-74.714	75.499	188.272	0.552
6200.000	0.311	107.729	6197.728	-74.923	-10.228	-74.923	75.618	187.774	0.143
6300.000	0.439	88.458	6297.726	-74.996	-9.586	-74.996	75.606	187.284	0.178
6400.000	0.268	59.798	6397.724	-74.868	-9.001	-74.868	75.407	186.856	0.241
6500.000	0.649	94.173	6497.721	-74.791	-8.234	-74.791	75.243	186.283	0.454
6600.000	0.455	98.652	6597.716	-74.892	-7.277	-74.892	75.245	185.550	0.199
6700.000	0.686	96.745	6697.711	-75.022	-6.290	-75.022	75.285	184.793	0.232