



COMPANY/RIG: Noble Energy/Production/CoreTech
WELL/API: Beebe Draw R G26-12/05-123-13262
DECLINATION: 8.27 Degrees
TD AS DRILLED: 7215 Feet
COUNTY/STATE: Weld/Colorado
VS-Azi: 0.000 Degrees
Latitude: 40.28175, Longitude: -104.63747
Grid North = True North -0.56 degs (NAD 27)
Grid Correction Applied = -0.56 degs



DEPTH REFERENCE : RKB = GL Elevation = 4720

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyrosurvey.ut

Minimum Curvature Method

Report Date/Time: 2/17/2016 / 13:28

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

Surveyor: JUSTIN WILLIAMS / Beebe Draw R G 26-12

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	0.580	54.265	99.998	0.296	0.411	0.296	0.506	54.265	0.580
200.000	0.319	64.675	199.995	0.710	1.073	0.710	1.286	56.503	0.273
300.000	0.195	255.528	299.995	0.786	1.160	0.786	1.401	55.854	0.511
400.000	0.279	193.426	399.994	0.507	0.938	0.507	1.067	61.614	0.255
500.000	0.247	202.169	499.993	0.071	0.801	0.071	0.804	84.960	0.051
600.000	0.381	222.276	599.991	-0.375	0.496	-0.375	0.622	127.097	0.171
700.000	0.370	209.485	699.989	-0.902	0.113	-0.902	0.909	172.830	0.084
800.000	0.222	211.963	799.988	-1.347	-0.148	-1.347	1.355	186.276	0.148
900.000	0.248	203.026	899.987	-1.711	-0.335	-1.711	1.743	191.092	0.044
1000.000	0.370	236.495	999.986	-2.088	-0.689	-2.088	2.199	198.274	0.213
1100.000	0.326	268.769	1099.984	-2.273	-1.244	-2.273	2.591	208.691	0.198
1200.000	0.446	272.119	1199.982	-2.264	-1.918	-2.264	2.967	220.263	0.122
1300.000	0.375	288.782	1299.979	-2.145	-2.617	-2.145	3.383	230.664	0.138
1400.000	0.352	284.297	1399.977	-1.963	-3.224	-1.963	3.775	238.661	0.036
1500.000	0.640	288.371	1499.973	-1.711	-4.052	-1.711	4.399	247.104	0.290
1600.000	0.496	295.212	1599.968	-1.351	-4.974	-1.351	5.154	254.805	0.159
1700.000	0.603	293.664	1699.964	-0.955	-5.848	-0.955	5.925	260.723	0.108
1800.000	0.708	302.772	1799.957	-0.409	-6.850	-0.409	6.862	266.582	0.148

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	0.593	323.742	1899.951	0.343	-7.676	0.343	7.683	272.556	0.263
2000.000	0.733	344.034	1999.944	1.375	-8.158	1.375	8.273	279.566	0.271
2100.000	0.869	11.366	2099.935	2.733	-8.184	2.733	8.628	288.467	0.401
2200.000	0.782	1.465	2199.925	4.159	-8.017	4.159	9.032	297.418	0.167
2300.000	0.758	337.510	2299.916	5.452	-8.253	5.452	9.891	303.451	0.320
2400.000	0.899	303.228	2399.906	6.493	-9.162	6.493	11.229	305.327	0.506
2500.000	0.950	303.876	2499.893	7.385	-10.506	7.385	12.842	305.105	0.052
2600.000	0.859	305.117	2599.880	8.278	-11.807	8.278	14.420	305.035	0.093
2700.000	0.804	306.097	2699.870	9.122	-12.987	9.122	15.870	305.086	0.057
2800.000	0.554	318.379	2799.863	9.897	-13.875	9.897	17.043	305.501	0.288
2900.000	0.173	348.502	2899.861	10.406	-14.226	10.406	17.626	306.186	0.414
3000.000	0.279	21.071	2999.860	10.781	-14.168	10.781	17.804	307.269	0.162
3100.000	0.476	59.293	3099.858	11.220	-13.724	11.220	17.727	309.268	0.309
3200.000	0.564	56.506	3199.854	11.704	-12.957	11.704	17.460	312.093	0.092
3300.000	0.781	60.061	3299.847	12.316	-11.955	12.316	17.164	315.852	0.220
3400.000	1.220	54.793	3399.831	13.270	-10.495	13.270	16.918	321.660	0.448
3500.000	1.758	61.744	3499.797	14.610	-8.274	14.610	16.790	330.474	0.566
3600.000	2.121	60.081	3599.740	16.259	-5.320	16.259	17.107	341.883	0.368
3700.000	2.152	54.184	3699.670	18.280	-2.193	18.280	18.411	353.159	0.222
3800.000	1.938	62.734	3799.607	20.154	0.833	20.154	20.171	2.366	0.372
3900.000	1.894	64.486	3899.551	21.640	3.827	21.640	21.976	10.028	0.073
4000.000	1.822	66.508	3999.498	22.986	6.776	22.986	23.963	16.425	0.097
4100.000	1.445	79.728	4099.458	23.844	9.475	23.844	25.658	21.672	0.531
4200.000	1.629	75.832	4199.422	24.417	12.095	24.417	27.248	26.351	0.211
4300.000	1.693	75.978	4299.380	25.123	14.906	25.123	29.212	30.682	0.064
4400.000	1.863	74.555	4399.332	25.914	17.906	25.914	31.499	34.644	0.176
4500.000	1.678	81.666	4499.284	26.559	20.923	26.559	33.810	38.230	0.287
4600.000	1.926	81.064	4599.235	27.032	24.032	27.032	36.170	41.637	0.248
4700.000	1.588	58.603	4699.189	28.015	26.875	28.015	38.821	43.809	0.760
4800.000	1.267	34.789	4799.158	29.646	28.688	29.646	41.254	44.060	0.668
4900.000	1.244	32.814	4899.134	31.466	29.908	31.466	43.412	43.545	0.049
5000.000	1.318	28.836	4999.109	33.386	31.050	33.386	45.593	42.924	0.116
5100.000	1.164	31.031	5099.086	35.264	32.129	35.264	47.705	42.337	0.161
5200.000	1.014	27.159	5199.068	36.921	33.056	36.921	49.557	41.839	0.167
5300.000	0.695	26.160	5299.056	38.253	33.727	38.253	50.998	41.403	0.319
5400.000	0.625	11.731	5399.050	39.331	34.106	39.331	52.059	40.930	0.180
5500.000	0.620	355.495	5499.044	40.405	34.174	40.405	52.919	40.224	0.176
5600.000	0.570	21.850	5599.039	41.406	34.317	41.406	53.778	39.652	0.276
5700.000	0.642	50.405	5699.034	42.224	34.933	42.224	54.802	39.602	0.307
5800.000	0.705	56.477	5799.027	42.921	35.878	42.921	55.942	39.893	0.095

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	0.749	41.794	5899.019	43.748	36.827	43.748	57.185	40.090	0.191
6000.000	0.733	54.582	5999.010	44.606	37.783	44.606	58.458	40.266	0.166
6100.000	0.563	67.679	6099.004	45.163	38.759	45.163	59.515	40.636	0.225
6200.000	0.526	41.305	6199.000	45.694	39.516	45.694	60.411	40.853	0.251
6300.000	0.476	40.280	6298.996	46.356	40.087	46.356	61.285	40.852	0.050
6400.000	0.200	40.416	6398.994	46.806	40.469	46.806	61.875	40.847	0.277
6500.000	0.297	37.266	6498.993	47.145	40.739	47.145	62.308	40.831	0.099
6600.000	0.043	2.282	6598.992	47.388	40.898	47.388	62.596	40.795	0.263
6700.000	0.466	79.574	6698.991	47.499	41.299	47.499	62.942	41.006	0.459
6800.000	0.357	114.280	6798.989	47.444	41.983	47.444	63.352	41.505	0.267
6900.000	0.721	111.437	6898.984	47.086	42.853	47.086	63.667	42.305	0.365
6950.000	0.725	106.712	6948.980	46.880	43.448	46.880	63.918	42.824	0.119