



Company/Rig: NOBLE ENERGY / PRODUCTION
WELL/API#: EISENACH 12-01G6/ 05-123-18595
DECLINATION: 8.4 DEGREES
TD AS DRILLED: 7324 FEET
COUNTY/STATE: WELD/ COLORADO
Latitude: 40.509, Longitude: -104.718
GRID North is 0.510 Degrees East of True North
VS-Azi: 0.000 Degrees



DEPTH REFERENCE : RKB=SURFACE ELEVATION=4810 FEET

DRILLOG GYRO SURVEY CALCULATIONS

Filename: survey.ut

Minimum Curvature Method

Report Date/Time: 10/28/2014 / 09:24

LAT & LONG OBTAINED BY HANDHELD GPS AT WELLHEAD

NORTH REFERENCE: GRID

HENDERSON, COLORADO

303-853-4976

SURVEYOR: NORMAN COWAN

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	0.531	290.898	99.999	0.165	-0.433	0.165	0.464	290.898	0.531
200.000	0.538	314.026	199.994	0.657	-1.204	0.657	1.372	298.627	0.215
300.000	0.187	308.499	299.992	1.085	-1.670	1.085	1.991	303.024	0.353
400.000	0.005	61.658	399.992	1.189	-1.793	1.189	2.151	303.550	0.189
500.000	0.567	76.312	499.990	1.308	-1.308	1.308	1.850	315.004	0.562
600.000	0.514	39.412	599.986	1.772	-0.543	1.772	1.853	342.980	0.346
700.000	0.193	8.143	699.984	2.286	-0.234	2.286	2.298	354.164	0.364
800.000	0.205	6.224	799.984	2.631	-0.190	2.631	2.638	355.861	0.014
900.000	0.381	18.824	899.982	3.124	-0.064	3.124	3.125	358.834	0.186
1000.000	0.448	8.061	999.980	3.825	0.099	3.825	3.827	1.476	0.102
1100.000	0.825	33.556	1099.974	4.812	0.551	4.812	4.843	6.534	0.463
1200.000	0.941	27.923	1199.962	6.137	1.333	6.137	6.280	12.257	0.145
1300.000	1.188	31.633	1299.944	7.745	2.261	7.745	8.068	16.277	0.257
1400.000	1.154	30.813	1399.923	9.492	3.321	9.492	10.056	19.282	0.038
1500.000	1.093	28.462	1499.904	11.195	4.291	11.195	11.989	20.971	0.076
1600.000	1.083	34.062	1599.886	12.816	5.275	12.816	13.859	22.370	0.107
1700.000	1.640	46.769	1699.858	14.579	6.846	14.579	16.106	25.155	0.630
1800.000	1.417	36.802	1799.822	16.548	8.629	16.548	18.663	27.540	0.346
1900.000	1.588	34.756	1899.788	18.676	10.159	18.676	21.261	28.545	0.179

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	1.618	40.060	1999.749	20.895	11.858	20.895	24.025	29.574	0.151
2100.000	1.774	44.261	2099.705	23.084	13.847	23.084	26.919	30.957	0.200
2200.000	1.461	29.377	2199.666	25.304	15.553	25.304	29.701	31.576	0.522
2300.000	1.154	18.592	2299.640	27.368	16.499	27.368	31.957	31.083	0.392
2400.000	0.998	335.432	2399.624	29.114	16.458	29.114	33.444	29.479	0.804
2500.000	0.728	303.720	2499.613	30.259	15.567	30.259	34.028	27.225	0.538
2600.000	0.693	305.097	2599.605	30.959	14.544	30.959	34.205	25.164	0.039
2700.000	1.118	322.989	2699.592	32.085	13.462	32.085	34.795	22.762	0.505
2800.000	1.482	310.502	2799.567	33.704	11.892	33.704	35.740	19.435	0.459
2900.000	1.520	323.934	2899.533	35.616	10.128	35.616	37.028	15.875	0.353
3000.000	1.422	303.875	2999.500	37.379	8.317	37.379	38.294	12.544	0.521
3100.000	1.632	309.220	3099.465	38.972	6.183	38.972	39.459	9.016	0.254
3200.000	1.657	317.557	3199.424	40.939	4.104	40.939	41.144	5.725	0.240
3300.000	2.004	295.597	3299.374	42.761	1.552	42.761	42.789	2.079	0.776
3400.000	1.800	303.220	3399.319	44.377	-1.339	44.377	44.397	358.272	0.324
3500.000	2.199	309.345	3499.258	46.454	-4.137	46.454	46.638	354.911	0.452
3600.000	3.088	314.866	3599.151	49.571	-7.530	49.571	50.140	351.363	0.924
3700.000	3.093	320.103	3699.005	53.541	-11.169	53.541	54.693	348.217	0.282
3800.000	2.579	328.548	3798.883	57.530	-14.073	57.530	59.226	346.254	0.661
3900.000	1.958	334.984	3898.804	60.998	-15.970	60.998	63.054	345.328	0.670
4000.000	2.419	329.543	3998.731	64.366	-17.763	64.366	66.772	344.572	0.505
4100.000	2.005	352.607	4098.658	67.920	-19.057	67.920	70.543	344.327	0.973
4200.000	1.560	354.805	4198.610	71.010	-19.406	71.010	73.614	344.715	0.450
4300.000	1.647	3.191	4298.571	73.801	-19.449	73.801	76.321	345.236	0.250
4400.000	1.732	5.620	4398.527	76.740	-19.221	76.740	79.110	345.938	0.111
4500.000	1.672	23.554	4498.484	79.581	-18.490	79.581	81.701	346.920	0.534
4600.000	1.857	14.695	4598.437	82.485	-17.496	82.485	84.320	348.024	0.329
4700.000	2.005	21.615	4698.380	85.678	-16.441	85.678	87.242	349.137	0.276
4800.000	1.932	10.354	4798.321	88.963	-15.494	88.963	90.302	350.121	0.393
4900.000	1.367	22.114	4898.280	91.727	-14.741	91.727	92.904	350.870	0.656
5000.000	1.150	54.716	4998.257	93.412	-13.473	93.412	94.378	351.793	0.737
5100.000	0.986	57.978	5098.239	94.448	-11.925	94.448	95.197	352.804	0.175
5200.000	1.224	62.668	5198.221	95.394	-10.246	95.394	95.943	353.869	0.255
5300.000	1.548	71.417	5298.192	96.315	-8.017	96.315	96.648	355.242	0.386
5400.000	1.128	103.050	5398.165	96.524	-5.777	96.524	96.696	356.575	0.834
5500.000	0.273	154.533	5498.158	96.086	-4.716	96.086	96.202	357.190	0.982
5600.000	0.919	157.535	5598.152	95.130	-4.307	95.130	95.228	357.408	0.647
5700.000	0.540	93.700	5698.145	94.359	-3.530	94.359	94.425	357.857	0.836
5800.000	1.042	102.013	5798.135	94.139	-2.171	94.139	94.164	358.679	0.514
5900.000	0.577	73.560	5898.125	94.092	-0.799	94.092	94.095	359.514	0.602
6000.000	0.412	132.185	5998.122	93.993	-0.050	93.993	93.993	359.970	0.505

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
6100.000	0.527	144.500	6098.118	93.377	0.484	93.377	93.378	0.297	0.153
6200.000	0.439	170.521	6198.115	92.624	0.814	92.624	92.628	0.504	0.234
6300.000	0.367	187.972	6298.113	91.930	0.833	91.930	91.934	0.519	0.141
6400.000	0.334	144.070	6398.111	91.377	0.959	91.377	91.382	0.602	0.264
6500.000	0.225	152.035	6498.110	90.968	1.222	90.968	90.976	0.770	0.115
6600.000	0.179	119.589	6598.109	90.717	1.451	90.717	90.729	0.916	0.121
6700.000	0.285	15.746	6698.109	90.879	1.654	90.879	90.894	1.043	0.371
6800.000	0.270	356.970	6798.107	91.354	1.709	91.354	91.370	1.072	0.092
6900.000	1.086	327.643	6898.100	92.389	1.190	92.389	92.397	0.738	0.860
7000.000	1.806	326.334	6998.067	94.501	-0.191	94.501	94.502	359.884	0.721
7100.000	2.677	314.178	7097.990	97.441	-2.740	97.441	97.479	358.390	0.987