



Company: NOBLE ENERGY
 Lease/Well: TREBOR/B11-25
 A.P.I.#: 05-123-26657
 Rig Name: PRODUCTION
 State/County: COLORADO/DUCHESNE
 Latitude: 40.400, Longitude: -104.517
 GRID North is 0.640 Degrees East of True North
 VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : GL

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: run1-01_ed.ut
 Minimum Curvature Method
 Report Date/Time: 10/26/2011 / 07:57

Vaughn Energy Services
 Henderson, Colorado
 866-835-8333
 Jay Hinman
 Trebor B11-25

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	0.254	263.054	100.000	-0.027	-0.220	-0.027	0.222	263.054	0.254
200.000	0.327	323.688	199.999	0.176	-0.609	0.176	0.634	286.140	0.300
300.000	0.295	317.963	299.997	0.597	-0.950	0.597	1.122	302.151	0.044
400.000	0.130	275.295	399.996	0.799	-1.235	0.799	1.471	302.891	0.218
500.000	0.578	203.695	499.995	0.348	-1.551	0.348	1.589	282.629	0.551
600.000	0.679	208.476	599.989	-0.636	-2.036	-0.636	2.133	252.664	0.114
700.000	0.658	202.569	699.982	-1.687	-2.540	-1.687	3.049	236.401	0.072
800.000	0.762	209.606	799.974	-2.796	-3.088	-2.796	4.166	227.849	0.135
900.000	0.897	217.264	899.964	-3.996	-3.891	-3.996	5.577	224.232	0.174
1000.000	0.851	215.492	999.952	-5.223	-4.795	-5.223	7.091	222.553	0.053
1100.000	0.814	223.063	1099.941	-6.347	-5.711	-6.347	8.538	221.983	0.116
1200.000	0.893	205.494	1199.931	-7.568	-6.531	-7.568	9.997	220.793	0.272
1300.000	0.993	218.900	1299.917	-8.946	-7.411	-8.946	11.617	219.638	0.242
1400.000	0.938	214.850	1399.903	-10.292	-8.422	-10.292	13.299	219.295	0.088
1500.000	0.614	193.962	1499.894	-11.483	-9.019	-11.483	14.602	218.147	0.425
1600.000	0.396	243.381	1599.890	-12.158	-9.458	-12.158	15.404	217.879	0.466
1700.000	0.385	188.667	1699.888	-12.645	-9.817	-12.645	16.009	217.825	0.359
1800.000	0.326	178.355	1799.886	-13.261	-9.860	-13.261	16.525	216.631	0.086
1900.000	0.074	266.588	1899.886	-13.550	-9.916	-13.550	16.790	216.197	0.332
2000.000	0.263	142.610	1999.885	-13.736	-9.840	-13.736	16.897	215.617	0.311
2100.000	0.335	232.645	2099.885	-14.096	-9.933	-14.096	17.245	215.172	0.427
2200.000	0.306	97.022	2199.884	-14.307	-9.901	-14.307	17.398	214.686	0.594
2300.000	0.853	103.710	2299.878	-14.516	-8.913	-14.516	17.034	211.551	0.550
2400.000	1.177	109.894	2399.863	-15.041	-7.225	-15.041	16.686	205.656	0.341
2500.000	1.421	98.393	2499.837	-15.572	-5.033	-15.572	16.365	197.911	0.356
2600.000	1.233	99.715	2599.810	-15.934	-2.746	-15.934	16.169	189.777	0.190
2700.000	0.951	98.122	2699.792	-16.233	-0.864	-16.233	16.256	183.046	0.283
2800.000	0.724	90.762	2799.781	-16.359	0.589	-16.359	16.369	177.937	0.251
2900.000	0.720	97.463	2899.773	-16.449	1.844	-16.449	16.552	173.605	0.084
3000.000	0.722	91.447	2999.765	-16.546	3.096	-16.546	16.833	169.401	0.076
3100.000	0.928	102.416	3099.755	-16.736	4.517	-16.736	17.335	164.897	0.259
3200.000	1.171	110.895	3199.738	-17.275	6.262	-17.275	18.375	160.073	0.288
3300.000	1.067	118.767	3299.719	-18.087	8.033	-18.087	19.791	156.053	0.186
3400.000	0.868	127.321	3399.705	-18.994	9.452	-18.994	21.216	153.545	0.245

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
3500.000	1.124	117.698	3499.690	-19.910	10.922	-19.910	22.709	151.251	0.304
3600.000	0.885	124.686	3599.674	-20.805	12.425	-20.805	24.233	149.153	0.268
3700.000	1.292	128.496	3699.656	-21.946	13.943	-21.946	26.001	147.571	0.413
3800.000	1.136	132.606	3799.634	-23.319	15.554	-23.319	28.030	146.295	0.179
3900.000	1.455	148.669	3899.608	-25.074	16.944	-25.074	30.262	145.951	0.481
4000.000	2.050	159.940	3999.561	-27.838	18.217	-27.838	33.269	146.799	0.685
4100.000	2.022	167.965	4099.499	-31.243	19.199	-31.243	36.671	148.430	0.286
4200.000	2.548	172.676	4199.419	-35.174	19.850	-35.174	40.388	150.562	0.558
4300.000	2.696	179.958	4299.314	-39.730	20.135	-39.730	44.541	153.124	0.364
4400.000	2.887	176.653	4399.196	-44.596	20.284	-44.596	48.992	155.542	0.250
4500.000	3.760	170.023	4499.027	-50.340	20.999	-50.340	54.544	157.357	0.953
4600.000	3.859	175.746	4598.806	-56.925	21.817	-56.925	60.962	159.030	0.393
4700.000	2.554	185.866	4698.648	-62.498	21.839	-62.498	66.203	160.739	1.417
4800.000	1.954	182.699	4798.570	-66.418	21.531	-66.418	69.820	162.039	0.613
4900.000	1.854	185.380	4898.515	-69.732	21.299	-69.732	72.912	163.016	0.134
5000.000	1.570	181.797	4998.471	-72.712	21.104	-72.712	75.712	163.815	0.304
5100.000	1.355	182.542	5098.438	-75.262	21.008	-75.262	78.139	164.404	0.216
5200.000	1.141	195.957	5198.414	-77.400	20.682	-77.400	80.115	165.039	0.361
5300.000	0.949	194.953	5298.398	-79.157	20.195	-79.157	81.692	165.687	0.192
5400.000	0.790	208.059	5398.386	-80.565	19.657	-80.565	82.929	166.288	0.253
5500.000	0.812	191.927	5498.377	-81.867	19.186	-81.867	84.086	166.810	0.226
5600.000	0.403	194.394	5598.371	-82.902	18.952	-82.902	85.040	167.123	0.410
5700.000	0.567	208.937	5698.367	-83.675	18.625	-83.675	85.723	167.451	0.204
5800.000	0.572	215.296	5798.362	-84.516	18.097	-84.516	86.432	167.914	0.063
5900.000	0.577	219.349	5898.357	-85.314	17.489	-85.314	87.088	168.415	0.041
6000.000	0.599	201.696	5998.352	-86.188	16.977	-86.188	87.845	168.857	0.182
6100.000	0.351	164.198	6098.349	-86.969	16.867	-86.969	88.589	169.024	0.385
6200.000	0.313	189.468	6198.347	-87.533	16.905	-87.533	89.150	169.069	0.150
6300.000	0.568	192.999	6298.344	-88.285	16.749	-88.285	89.860	169.258	0.256
6400.000	0.866	206.274	6398.336	-89.445	16.303	-89.445	90.919	169.670	0.340
6500.000	0.892	209.237	6498.324	-90.802	15.589	-90.802	92.130	170.259	0.052
6600.000	1.127	204.500	6598.309	-92.376	14.801	-92.376	93.554	170.897	0.249
6650.000	1.161	195.938	6648.299	-93.310	14.458	-93.310	94.424	171.193	0.348

HORIZONTAL DISPLACEMENT IS
94.424 FEET AT 171.193 DEGREES