



Company: Noble Energy

Well: Schmidt G 30-25

API: 05-123-29944

Rig Name: Production/Lightning Wireline

State/County: Colorado/ Weld

Latitude: 40.280, Longitude: -104.711

GRID North is 0.510 Degrees East of True North

VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = Ground Level

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro_run01-01_ed.ut

Minimum Curvature Method

Report Date/Time: 3/15/2012 / 14:48

Vaughn Energy Services

Henderson, Colorado

866-835-8333

Jason Kinchelow

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	1.021	150.377	99.995	-0.774	0.440	-0.774	0.891	150.377	1.021
200.000	1.324	144.034	199.974	-2.484	1.559	-2.484	2.932	147.883	0.329
300.000	0.646	141.049	299.958	-3.857	2.592	-3.857	4.647	146.099	0.679
400.000	0.590	143.044	399.953	-4.708	3.256	-4.708	5.724	145.327	0.060
500.000	0.322	142.123	499.949	-5.341	3.739	-5.341	6.519	145.009	0.268
600.000	0.230	169.649	599.948	-5.760	3.947	-5.760	6.982	145.578	0.159
700.000	0.188	155.961	699.947	-6.107	4.050	-6.107	7.328	146.448	0.065
800.000	0.626	188.832	799.945	-6.796	4.033	-6.796	7.903	149.315	0.479
900.000	0.710	184.083	899.938	-7.953	3.905	-7.953	8.860	153.849	0.100
1000.000	0.330	213.485	999.934	-8.811	3.702	-8.811	9.557	157.209	0.452
1100.000	0.718	192.131	1099.930	-9.664	3.412	-9.664	10.248	160.556	0.428
1200.000	0.560	191.123	1199.923	-10.756	3.186	-10.756	11.218	163.503	0.159
1300.000	0.655	205.115	1299.918	-11.754	2.849	-11.754	12.094	166.377	0.176
1400.000	0.486	214.311	1399.913	-12.622	2.367	-12.622	12.842	169.380	0.192
1500.000	0.484	216.102	1499.909	-13.313	1.879	-13.313	13.445	171.967	0.015
1600.000	0.591	228.468	1599.905	-13.996	1.244	-13.996	14.052	174.921	0.158
1700.000	0.196	242.258	1699.902	-14.418	0.706	-14.418	14.435	177.196	0.403
1800.000	0.465	280.050	1799.901	-14.427	0.155	-14.427	14.428	179.385	0.333
1900.000	0.529	265.634	1899.897	-14.391	-0.706	-14.391	14.409	182.808	0.140
2000.000	0.611	289.336	1999.892	-14.250	-1.670	-14.250	14.347	186.683	0.247
2100.000	0.952	317.075	2099.883	-13.465	-2.738	-13.465	13.741	191.495	0.500
2200.000	0.961	351.278	2199.870	-12.028	-3.431	-12.028	12.508	195.921	0.563
2300.000	1.455	356.644	2299.847	-9.932	-3.633	-9.932	10.575	200.090	0.506
2400.000	1.717	31.729	2399.811	-7.391	-2.919	-7.391	7.946	201.553	0.988
2500.000	1.411	59.745	2499.775	-5.496	-1.068	-5.496	5.599	190.998	0.813
2600.000	1.181	70.418	2599.750	-4.531	0.966	-4.531	4.633	167.962	0.332
2700.000	1.742	65.541	2699.717	-3.556	3.321	-3.556	4.866	136.958	0.574
2800.000	1.929	57.980	2799.666	-2.034	6.131	-2.034	6.460	108.357	0.306
2900.000	1.927	65.967	2899.609	-0.458	9.093	-0.458	9.105	92.881	0.268
3000.000	1.169	43.169	2999.573	0.971	11.327	0.971	11.368	85.099	0.962
3100.000	1.016	23.311	3099.555	2.529	12.376	2.529	12.631	78.448	0.406
3200.000	1.379	22.276	3199.533	4.457	13.183	4.457	13.916	71.319	0.364
3300.000	1.206	354.231	3299.509	6.618	13.533	6.618	15.064	63.942	0.648
3400.000	0.649	350.393	3399.495	8.223	13.333	8.223	15.664	58.336	0.559

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	0.610	252.880	3499.491	8.625	12.729	8.625	15.376	55.880	0.947
3600.000	0.909	179.061	3599.485	7.675	12.233	7.675	14.441	57.897	0.943
3700.000	0.949	239.459	3699.474	6.460	11.532	6.460	13.219	60.743	0.936
3800.000	1.782	260.340	3799.445	5.778	9.286	5.778	10.937	58.108	0.957
3900.000	1.549	280.541	3899.403	5.765	6.425	5.765	8.632	48.100	0.628
4000.000	1.518	268.965	3999.368	5.988	3.772	5.988	7.077	32.210	0.311
4100.000	1.644	236.493	4099.332	5.172	1.252	5.172	5.321	13.608	0.892
4200.000	2.206	237.444	4199.275	3.344	-1.566	3.344	3.693	334.904	0.563
4300.000	1.973	241.992	4299.208	1.500	-4.709	1.500	4.942	287.670	0.285
4400.000	1.182	220.528	4399.171	-0.092	-6.899	-0.092	6.900	269.234	0.975
4500.000	1.168	243.066	4499.150	-1.338	-8.478	-1.338	8.583	261.034	0.459
4600.000	0.608	264.673	4599.138	-1.848	-9.915	-1.848	10.085	259.439	0.643
4700.000	0.431	293.432	4699.134	-1.748	-10.788	-1.748	10.929	260.796	0.310
4800.000	0.445	278.246	4799.131	-1.543	-11.518	-1.543	11.621	262.371	0.117
4900.000	0.388	260.210	4899.128	-1.545	-12.236	-1.545	12.333	262.805	0.142
5000.000	0.535	350.971	4999.126	-1.142	-12.643	-1.142	12.695	264.841	0.665
5100.000	0.901	357.570	5099.118	0.105	-12.750	0.105	12.750	270.472	0.376
5200.000	0.844	321.143	5199.107	1.464	-13.245	1.464	13.326	276.309	0.548
5300.000	0.934	336.098	5299.095	2.783	-14.037	2.783	14.310	281.213	0.248
5400.000	1.081	342.949	5399.080	4.429	-14.644	4.429	15.299	286.829	0.190
5500.000	1.499	344.548	5499.054	6.592	-15.269	6.592	16.631	293.351	0.419
5600.000	0.583	348.995	5599.037	8.352	-15.715	8.352	17.796	297.990	0.919
5700.000	0.652	99.980	5699.034	8.753	-15.252	8.753	17.585	299.852	1.018
5800.000	1.183	155.057	5799.022	7.718	-14.256	7.718	16.211	298.432	0.970
5900.000	1.126	198.681	5899.004	5.852	-14.135	5.852	15.299	292.489	0.859
6000.000	1.902	174.805	5998.969	3.269	-14.300	3.269	14.668	282.876	0.984
6100.000	3.271	163.152	6098.865	-1.115	-13.322	-1.115	13.369	265.217	1.460
6200.000	4.032	161.738	6198.662	-7.184	-11.394	-7.184	13.470	237.768	0.766
6300.000	4.416	170.814	6298.391	-14.323	-9.677	-14.323	17.286	214.045	0.770
6400.000	2.239	163.243	6398.217	-19.994	-8.500	-19.994	21.726	203.031	2.216
6500.000	0.641	147.714	6498.182	-22.337	-7.638	-22.337	23.607	198.877	1.630
6600.000	0.595	255.393	6598.179	-22.941	-7.841	-22.941	24.244	198.870	0.998
6700.000	1.388	292.739	6698.164	-22.604	-9.460	-22.604	24.504	202.711	0.984
6800.000	1.295	313.433	6798.137	-21.359	-11.398	-21.359	24.210	208.086	0.490
6900.000	1.078	341.218	6898.117	-19.692	-12.521	-19.692	23.335	212.451	0.607
7000.000	0.631	355.535	6998.105	-18.253	-12.867	-18.253	22.332	215.181	0.492
7100.000	0.170	138.463	7098.104	-17.815	-12.811	-17.815	21.943	215.720	0.774
7200.000	0.365	184.893	7198.103	-18.244	-12.739	-18.244	22.251	214.926	0.276

HORIZONTAL DISPLACEMENT IS
22.251 FEET AT 214.926 DEGREES