



Company: Noble Energy

Well: Schmidt 25-2F

API: 05-123-14942

Rig Name: Production/Lightning

Location: Weld County, Colorado

Latitude: 40.288, Longitude: -104.717

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-de\_01.ut

Minimum Curvature Method

Report Date/Time: 1/5/2013 / 17:08

Vaughn Energy Services

Henderson, CO.

Justin Williams

303-853-4976

RKB = Ground Level

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	0.246	99.874	100.000	-0.037	0.211	-0.037	0.214	99.874	0.246
200.000	0.319	358.265	199.999	0.205	0.414	0.205	0.462	63.687	0.440
300.000	0.152	331.659	299.998	0.600	0.343	0.600	0.691	29.733	0.195
400.000	0.713	280.776	399.995	0.833	-0.331	0.833	0.896	338.318	0.628
500.000	1.447	254.099	499.977	0.603	-2.157	0.603	2.239	285.629	0.871
600.000	1.384	278.004	599.948	0.425	-4.567	0.425	4.587	275.322	0.590
700.000	1.787	258.817	699.910	0.291	-7.293	0.291	7.299	272.286	0.661
800.000	1.776	262.026	799.861	-0.226	-10.358	-0.226	10.360	268.748	0.100
900.000	1.356	282.486	899.825	-0.186	-13.047	-0.186	13.049	269.185	0.693
1000.000	1.317	259.353	999.798	-0.142	-15.332	-0.142	15.333	269.469	0.537
1100.000	1.550	258.770	1099.767	-0.618	-17.788	-0.618	17.799	268.011	0.234
1200.000	1.568	249.705	1199.730	-1.356	-20.397	-1.356	20.442	266.198	0.247
1300.000	1.486	253.433	1299.694	-2.200	-22.923	-2.200	23.029	264.518	0.129
1400.000	1.393	250.558	1399.663	-2.974	-25.313	-2.974	25.487	263.298	0.117
1500.000	1.596	256.350	1499.629	-3.708	-27.812	-3.708	28.058	262.407	0.252
1600.000	1.394	261.241	1599.595	-4.221	-30.368	-4.221	30.660	262.086	0.238
1700.000	1.463	272.358	1699.564	-4.354	-32.846	-4.354	33.134	262.449	0.285
1800.000	1.396	283.001	1799.533	-4.028	-35.309	-4.028	35.538	263.492	0.274
1900.000	1.416	311.247	1899.504	-2.939	-37.424	-2.939	37.540	265.509	0.686
2000.000	1.542	327.614	1999.471	-0.989	-39.074	-0.989	39.086	268.550	0.439
2100.000	1.572	331.216	2099.434	1.349	-40.454	1.349	40.477	271.910	0.102
2200.000	1.636	346.680	2199.396	3.940	-41.444	3.940	41.631	275.431	0.436
2300.000	1.332	342.437	2299.362	6.437	-42.123	6.437	42.612	278.689	0.323
2400.000	1.722	342.860	2399.326	8.981	-42.917	8.981	43.847	281.820	0.391
2500.000	1.498	342.529	2499.287	11.664	-43.752	11.664	45.280	284.928	0.224
2600.000	1.959	344.738	2599.241	14.561	-44.595	14.561	46.912	288.082	0.466
2700.000	2.151	345.451	2699.177	18.026	-45.516	18.026	48.956	291.605	0.193
2800.000	2.225	347.800	2799.104	21.739	-46.398	21.739	51.238	295.105	0.116
2900.000	2.209	349.317	2899.029	25.531	-47.165	25.531	53.632	298.427	0.061
3000.000	2.296	355.454	2998.952	29.422	-47.681	29.422	56.028	301.677	0.256
3100.000	2.307	356.054	3098.871	33.427	-47.979	33.427	58.475	304.865	0.027
3200.000	2.253	358.849	3198.792	37.400	-48.157	37.400	60.974	307.834	0.124
3300.000	2.053	13.810	3298.722	41.104	-47.768	41.104	63.019	310.712	0.594
3400.000	2.042	26.506	3398.659	44.439	-46.545	44.439	64.353	313.673	0.453

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	1.839	45.352	3498.602	47.161	-44.609	47.161	64.916	316.593	0.666
3600.000	1.154	86.749	3598.570	48.346	-42.461	48.346	64.345	318.708	1.237
3700.000	1.340	166.069	3698.553	47.268	-41.174	47.268	62.686	318.942	1.598
3800.000	1.443	163.465	3798.523	44.926	-40.534	44.926	60.509	317.942	0.121
3900.000	1.455	168.555	3898.491	42.474	-39.924	42.474	58.292	316.773	0.129
4000.000	1.692	172.214	3998.454	39.767	-39.472	39.767	56.030	315.213	0.258
4100.000	1.527	197.107	4098.415	37.030	-39.664	37.030	54.262	313.033	0.712
4200.000	1.445	227.444	4198.383	34.904	-40.984	34.904	53.833	310.419	0.782
4300.000	1.414	245.124	4298.353	33.532	-43.032	33.532	54.554	307.927	0.440
4400.000	1.427	257.219	4398.322	32.737	-45.366	32.737	55.945	305.815	0.300
4500.000	1.533	259.925	4498.289	32.228	-47.898	32.228	57.731	303.934	0.126
4600.000	1.594	257.377	4598.252	31.690	-50.572	31.690	59.681	302.072	0.093
4700.000	1.573	265.701	4698.213	31.283	-53.299	31.283	61.801	300.410	0.231
4800.000	1.747	282.548	4798.172	31.511	-56.156	31.511	64.393	299.298	0.516
4900.000	2.131	304.115	4898.116	32.885	-59.183	32.885	67.705	299.059	0.818
5000.000	2.117	307.189	4998.047	35.044	-62.193	35.044	71.387	299.400	0.115
5100.000	2.137	320.146	5097.979	37.592	-64.859	37.592	74.966	300.096	0.480
5200.000	2.267	320.588	5197.905	40.551	-67.310	40.551	78.581	301.067	0.131
5300.000	2.583	319.873	5297.815	43.802	-70.018	43.802	82.590	302.030	0.318
5400.000	2.864	330.366	5397.703	47.697	-72.706	47.697	86.955	303.266	0.571
5500.000	3.411	338.866	5497.553	52.643	-75.014	52.643	91.643	305.061	0.717
5600.000	4.055	346.824	5597.341	58.861	-76.892	58.861	96.835	307.434	0.825
5700.000	4.791	358.426	5697.045	66.479	-77.813	66.479	102.344	310.509	1.155
5800.000	4.548	12.439	5796.716	74.526	-77.074	74.526	107.212	314.037	1.163
5900.000	4.212	33.791	5896.430	81.450	-74.177	81.450	110.165	317.676	1.655
6000.000	3.899	53.976	5996.185	86.502	-69.385	86.502	110.891	321.266	1.453
6100.000	3.918	81.715	6095.961	88.994	-63.253	88.994	109.183	324.596	1.873
6200.000	3.352	107.418	6195.766	88.611	-57.083	88.611	105.406	327.211	1.708
6300.000	2.645	132.277	6295.633	86.184	-52.586	86.184	100.960	328.610	1.463
6400.000	1.821	146.707	6395.557	83.304	-50.007	83.304	97.161	329.024	0.991
6500.000	0.933	174.758	6495.528	81.165	-49.061	81.165	94.840	328.849	1.089
6600.000	1.064	177.968	6595.513	79.426	-48.953	79.426	93.300	328.353	0.142
6700.000	1.142	196.228	6695.495	77.541	-49.199	77.541	91.833	327.605	0.359
6800.000	1.352	238.703	6795.473	75.972	-50.485	75.972	91.217	326.395	0.924
6900.000	1.494	277.336	6895.444	75.525	-52.786	75.525	92.144	325.050	0.951
7000.000	1.644	313.397	6995.409	76.678	-55.121	76.678	94.434	324.289	0.982
7100.000	1.657	328.687	7095.368	78.899	-56.915	78.899	97.285	324.194	0.439
7200.000	1.050	339.057	7195.340	80.990	-57.994	80.990	99.613	324.395	0.652

HORIZONTAL DISPLACEMENT IS  
99.613 FEET AT 324.395 DEGREES