



Company: Noble Energy

Lease/Well: Lucci B/1-25

API: 05-123-29983

Rig Name: Production

State/County: Colorado/Weld

Latitude: 40.425, Longitude: -104.503

GRID North is 0.640 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: lucci b 1-25.ut

Minimum Curvature Method

Report Date/Time: 11/14/2012 / 13:17

Vaughn Energy Services

Fort Worth, Texas

817-741-3610

Robert Hooper

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	0.649	239.536	99.998	-0.287	-0.488	-0.287	0.566	239.536	0.649
200.000	0.745	235.427	199.990	-0.943	-1.512	-0.943	1.782	238.037	0.109
300.000	0.701	220.589	299.983	-1.777	-2.446	-1.777	3.023	233.996	0.192
400.000	0.604	167.469	399.977	-2.756	-2.729	-2.756	3.879	224.720	0.590
500.000	0.680	161.730	499.971	-3.834	-2.429	-3.834	4.539	212.352	0.100
600.000	0.188	136.403	599.968	-4.517	-2.130	-4.517	4.994	205.242	0.517
700.000	1.093	122.103	699.960	-5.143	-1.208	-5.143	5.283	193.220	0.912
800.000	1.274	102.418	799.939	-5.889	0.686	-5.889	5.929	173.359	0.442
900.000	1.422	104.784	899.912	-6.445	2.971	-6.445	7.096	155.253	0.158
1000.000	0.739	68.922	999.894	-6.529	4.772	-6.529	8.087	143.840	0.930
1100.000	1.273	63.956	1099.879	-5.810	6.371	-5.810	8.622	132.361	0.540
1200.000	1.592	59.329	1199.847	-4.613	8.564	-4.613	9.727	118.311	0.340
1300.000	1.268	52.840	1299.816	-3.236	10.641	-3.236	11.122	106.917	0.362
1400.000	0.652	50.375	1399.801	-2.206	11.960	-2.206	12.162	100.449	0.617
1500.000	1.374	68.714	1499.785	-1.408	13.515	-1.408	13.588	95.947	0.783
1600.000	0.515	102.874	1599.772	-1.073	15.070	-1.073	15.108	94.072	0.991
1700.000	0.491	125.544	1699.768	-1.422	15.857	-1.422	15.920	95.125	0.199
1800.000	0.501	307.165	1799.767	-1.407	15.857	-1.407	15.919	95.071	0.992
1900.000	1.378	321.400	1899.752	-0.203	14.758	-0.203	14.760	90.789	0.900
2000.000	1.328	329.872	1999.724	1.739	13.427	1.739	13.539	82.621	0.206
2100.000	1.472	334.477	2099.695	3.900	12.291	3.900	12.895	72.396	0.182
2200.000	2.391	336.886	2199.637	6.977	10.919	6.977	12.958	57.423	0.922
2300.000	2.450	336.089	2299.547	10.849	9.234	10.849	14.247	40.402	0.069
2400.000	1.740	340.742	2399.480	14.237	7.867	14.237	16.266	28.924	0.730
2500.000	2.461	334.124	2499.412	17.602	6.429	17.602	18.739	20.065	0.760
2600.000	1.938	335.330	2599.338	21.070	4.786	21.070	21.607	12.799	0.525
2700.000	1.849	336.762	2699.284	24.089	3.444	24.089	24.334	8.137	0.101
2800.000	1.867	342.623	2799.231	27.126	2.321	27.126	27.225	4.891	0.191
2900.000	2.318	355.477	2899.165	30.697	1.675	30.697	30.743	3.124	0.648
3000.000	2.186	351.672	2999.088	34.600	1.239	34.600	34.622	2.052	0.199
3100.000	1.720	347.523	3099.029	37.952	0.639	37.952	37.957	0.965	0.487
3200.000	1.567	329.814	3198.989	40.598	-0.373	40.598	40.600	359.474	0.528
3300.000	0.671	328.659	3298.969	42.280	-1.364	42.280	42.302	358.152	0.896
3400.000	0.220	257.049	3398.966	42.737	-1.856	42.737	42.777	357.514	0.636

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	1.188	236.750	3498.957	42.126	-2.909	42.126	42.226	356.049	0.984
3600.000	1.204	233.571	3598.936	40.934	-4.621	40.934	41.194	353.559	0.068
3700.000	0.868	224.361	3698.919	39.768	-5.996	39.768	40.218	351.426	0.374
3800.000	0.740	223.967	3798.909	38.762	-6.974	38.762	39.384	349.800	0.128
3900.000	1.642	230.299	3898.887	37.382	-8.525	37.382	38.341	347.153	0.910
4000.000	1.582	247.309	3998.848	35.934	-10.900	35.934	37.551	343.125	0.480
4100.000	2.427	254.063	4098.786	34.820	-14.210	34.820	37.608	337.800	0.876
4200.000	3.176	264.986	4198.666	33.997	-19.006	33.997	38.949	330.793	0.917
4300.000	3.282	260.468	4298.508	33.281	-24.588	33.281	41.379	323.542	0.275
4400.000	3.714	262.365	4398.321	32.376	-30.622	32.376	44.564	316.595	0.448
4500.000	2.749	264.360	4498.161	31.710	-36.218	31.710	48.139	311.203	0.972
4600.000	2.647	266.284	4598.050	31.325	-40.908	31.325	51.524	307.443	0.136
4700.000	2.270	261.755	4697.958	30.891	-45.172	30.891	54.725	304.367	0.424
4800.000	1.808	257.405	4797.895	30.264	-48.671	30.264	57.313	301.873	0.487
4900.000	1.719	257.612	4897.847	29.598	-51.676	29.598	59.552	299.802	0.089
5000.000	1.291	247.528	4997.813	28.845	-54.182	28.845	61.382	298.030	0.502
5100.000	0.962	242.657	5097.793	28.030	-55.968	28.030	62.595	296.602	0.342
5200.000	1.087	235.753	5197.777	27.110	-57.498	27.110	63.568	295.244	0.176
5300.000	0.868	217.492	5297.763	25.975	-58.743	25.975	64.230	293.854	0.378
5400.000	1.126	193.816	5397.748	24.420	-59.439	24.420	64.260	292.335	0.480
5500.000	0.377	186.314	5497.739	23.139	-59.709	23.139	64.036	291.183	0.753
5600.000	0.505	198.373	5597.736	22.394	-59.884	22.394	63.935	290.503	0.157
5700.000	1.275	199.360	5697.723	20.926	-60.392	20.926	63.915	289.112	0.771
5800.000	1.197	201.339	5797.700	18.903	-61.141	18.903	63.997	287.180	0.089
5900.000	1.217	206.176	5897.677	16.977	-61.990	16.977	64.273	285.315	0.104
6000.000	0.684	204.222	5997.663	15.479	-62.703	15.479	64.586	283.867	0.534
6100.000	1.246	210.679	6097.649	14.000	-63.503	14.000	65.028	282.432	0.572
6200.000	1.139	219.752	6197.627	12.300	-64.694	12.300	65.852	280.765	0.217
6300.000	1.027	220.330	6297.609	10.853	-65.909	10.853	66.797	279.351	0.112
6400.000	1.106	220.664	6397.592	9.438	-67.118	9.438	67.778	278.004	0.078
6500.000	1.721	230.507	6497.561	7.750	-68.906	7.750	69.340	276.418	0.660
6600.000	0.811	230.878	6597.536	6.348	-70.614	6.348	70.899	275.137	0.910
6700.000	1.688	234.607	6697.511	5.049	-72.364	5.049	72.540	273.991	0.880
HORIZONTAL DISPLACEMENT IS 72.540 FEET AT 273.991 DEGREES									