



Company: Noble Energy Inc.
Rig: Production/Lightning
Latitude: 40.347
Longitude: -104.742
API # 05-123-14064
Date: 2/5/13

Well: Lopresto-PM K 2-2
Location: Weld County, Colorado
North Reference: -0.49 To Grid
Depth Reference: RKB = Ground Level
Surveyor: Justin Williams
VS:

MS Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD	Cbrg
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.000	0.133	271.855	0.004	-0.116	100.000	0.133	0.004	0.116	271.855
200.000	0.531	252.452	-0.132	-0.674	199.998	0.408	-0.132	0.687	258.899
300.000	0.499	257.796	-0.364	-1.542	299.994	0.058	-0.364	1.584	256.713
400.000	0.593	199.508	-0.944	-2.140	399.990	0.538	-0.944	2.339	246.200
500.000	0.755	212.010	-1.990	-2.662	499.983	0.218	-1.990	3.324	233.216
600.000	0.776	233.593	-2.951	-3.556	599.975	0.287	-2.951	4.621	230.315
700.000	0.591	253.048	-3.503	-4.594	699.968	0.294	-3.503	5.778	232.675
800.000	0.299	233.797	-3.807	-5.298	799.964	0.324	-3.807	6.524	234.296
900.000	0.555	209.348	-4.384	-5.745	899.962	0.309	-4.384	7.227	232.657
1000.000	0.578	271.923	-4.789	-6.487	999.958	0.589	-4.789	8.063	233.565
1100.000	0.302	211.856	-4.996	-7.131	1099.955	0.501	-4.996	8.706	234.984
1200.000	0.516	222.253	-5.553	-7.573	1199.952	0.226	-5.553	9.390	233.747
1300.000	0.270	280.583	-5.843	-8.107	1299.950	0.440	-5.843	9.994	234.219
1400.000	0.492	227.932	-6.088	-8.658	1399.948	0.392	-6.088	10.584	234.888
1500.000	0.527	246.604	-6.558	-9.399	1499.944	0.169	-6.558	11.460	235.095
1600.000	0.404	210.100	-7.045	-9.997	1599.941	0.314	-7.045	12.230	234.827
1700.000	0.226	246.617	-7.428	-10.355	1699.940	0.260	-7.428	12.744	234.345
1800.000	0.345	152.506	-7.773	-10.397	1799.939	0.425	-7.773	12.981	233.215
1900.000	0.988	104.644	-8.258	-9.423	1899.932	0.799	-8.258	12.530	228.769
2000.000	1.193	123.376	-9.049	-7.720	1999.915	0.408	-9.049	11.894	220.467
2100.000	1.095	130.176	-10.238	-6.121	2099.895	0.167	-10.238	11.928	210.873
2200.000	1.047	152.864	-11.667	-4.974	2199.878	0.424	-11.667	12.683	203.091
2300.000	0.413	148.275	-12.786	-4.368	2299.869	0.636	-12.786	13.512	198.861
2400.000	0.191	149.764	-13.237	-4.095	2399.868	0.223	-13.237	13.855	197.190
2500.000	0.444	188.077	-13.764	-4.066	2499.866	0.317	-13.764	14.352	196.456
2600.000	0.347	194.928	-14.440	-4.198	2599.864	0.108	-14.440	15.038	196.210
2700.000	0.359	215.841	-14.987	-4.459	2699.862	0.129	-14.987	15.636	196.570
2800.000	0.289	259.143	-15.288	-4.891	2799.860	0.248	-15.288	16.051	197.739
2900.000	0.099	334.796	-15.257	-5.175	2899.860	0.282	-15.257	16.111	198.738
3000.000	0.128	323.421	-15.089	-5.279	2999.860	0.036	-15.089	15.986	199.283
3100.000	0.200	310.355	-14.886	-5.478	3099.859	0.081	-14.886	15.862	200.205
3200.000	0.464	240.016	-14.976	-5.962	3199.858	0.439	-14.976	16.119	201.709
3300.000	0.478	291.527	-15.025	-6.701	3299.855	0.410	-15.025	16.452	204.037
3400.000	0.557	264.248	-14.920	-7.573	3399.851	0.256	-14.920	16.732	206.912
3500.000	0.764	272.919	-14.935	-8.723	3499.844	0.229	-14.935	17.296	210.286
3600.000	0.983	263.516	-14.998	-10.241	3599.833	0.262	-14.998	18.161	214.325
3700.000	1.000	263.307	-15.197	-11.960	3699.818	0.017	-15.197	19.338	218.202
3800.000	0.683	243.150	-15.568	-13.358	3799.807	0.429	-15.568	20.513	220.631

3900.000	0.901	262.304	-15.942	-14.669	3899.797	0.340	-15.942	21.664	222.618
4000.000	0.407	281.011	-15.979	-15.796	3999.791	0.532	-15.979	22.469	224.669
4100.000	0.602	331.801	-15.449	-16.393	4099.787	0.467	-15.449	22.525	226.698
4200.000	0.698	331.641	-14.450	-16.930	4199.781	0.095	-14.450	22.258	229.519
4300.000	0.543	342.123	-13.463	-17.365	4299.775	0.191	-13.463	21.972	232.214
4400.000	0.493	357.804	-12.581	-17.527	4399.771	0.150	-12.581	21.575	234.328
4500.000	0.488	346.413	-11.738	-17.643	4499.767	0.097	-11.738	21.191	236.366
4600.000	1.005	9.968	-10.460	-17.591	4599.759	0.591	-10.460	20.466	239.265
4700.000	1.553	34.965	-8.485	-16.663	4699.734	0.770	-8.485	18.699	243.014
4800.000	1.315	48.839	-6.619	-15.023	4799.703	0.420	-6.619	16.416	246.221
4900.000	0.954	53.294	-5.367	-13.491	4899.683	0.371	-5.367	14.520	248.309
5000.000	0.926	60.168	-4.467	-12.123	4999.670	0.116	-4.467	12.920	249.772
5100.000	0.674	56.002	-3.736	-10.935	5099.660	0.258	-3.736	11.556	251.135
5200.000	0.301	53.221	-3.250	-10.237	5199.656	0.374	-3.250	10.740	252.386
5300.000	0.241	34.470	-2.919	-9.907	5299.655	0.106	-2.919	10.328	253.582
5400.000	0.337	39.295	-2.518	-9.602	5399.654	0.098	-2.518	9.926	255.305
5500.000	0.273	22.603	-2.070	-9.324	5499.652	0.109	-2.070	9.551	257.480
5600.000	0.151	284.252	-1.818	-9.360	5599.652	0.331	-1.818	9.535	259.009
5700.000	0.339	187.042	-2.079	-9.524	5699.651	0.388	-2.079	9.748	257.683
5800.000	0.700	195.716	-2.961	-9.726	5799.647	0.368	-2.961	10.166	253.065
5900.000	0.552	212.522	-3.955	-10.150	5899.641	0.234	-3.955	10.893	248.709
6000.000	0.599	154.730	-4.834	-10.186	5999.637	0.557	-4.834	11.275	244.612
6100.000	0.445	121.514	-5.509	-9.632	6099.633	0.333	-5.509	11.096	240.233
6200.000	0.392	132.824	-5.944	-9.051	6199.630	0.098	-5.944	10.828	236.704
6300.000	0.355	95.113	-6.204	-8.491	6299.628	0.244	-6.204	10.517	233.846
6400.000	0.187	56.503	-6.142	-8.047	6399.627	0.239	-6.142	10.123	232.647
6500.000	0.226	44.818	-5.912	-7.772	6499.627	0.057	-5.912	9.765	232.741
6600.000	0.325	58.557	-5.624	-7.391	6599.625	0.118	-5.624	9.287	232.731
6700.000	0.298	68.508	-5.381	-6.907	6699.624	0.060	-5.381	8.755	232.080
6800.000	0.242	73.130	-5.224	-6.462	6799.623	0.060	-5.224	8.310	231.048
6900.000	0.327	85.090	-5.138	-5.975	6899.622	0.103	-5.138	7.881	229.308
7000.000	0.190	42.129	-4.990	-5.579	6999.621	0.228	-4.990	7.486	228.189
7100.000	0.581	90.614	-4.873	-4.961	7099.618	0.476	-4.873	6.954	225.516