



Company: Noble Energy
Rig: Production/ VES
API # 05-123-16794
Date: 4/28/2014
Surveyor: Sean Bratt
VS: 0.000
Lat : 40.459
Long: -104.505

Well: Larson A25-05
Location: Weld County, Colorado
North Reference: GRID
Convergence: Grid north is 0.64 Degr
Declination: 8.35 Degrees
Depth Reference: Ground Level
Elevation: 4619 Feet
Total Depth as Drilled: 6969 Feet

Lat & Long obtained by handheld GPS at wellhead
Drillog Gyro Survey Calculations

Depth	Inc	AzG	N/-S	E/-W	TVD	DL	VS	CD
0.000	0.000	0.000	0.000	0.000	0.000	****	0.000	0.000
100.000	0.146	278.643	0.019	-0.126	100.000	0.146	0.019	0.127
200.000	0.095	284.989	0.060	-0.331	200.000	0.053	0.060	0.336
300.000	0.112	97.796	0.068	-0.314	300.000	0.206	0.068	0.321
400.000	0.139	186.108	-0.066	-0.230	399.999	0.176	-0.066	0.240
500.000	0.119	70.824	-0.152	-0.145	499.999	0.218	-0.152	0.210
600.000	0.178	336.041	0.024	-0.110	599.999	0.222	0.024	0.112
700.000	0.165	172.743	0.023	-0.155	699.999	0.339	0.023	0.156
800.000	0.234	322.221	0.042	-0.262	799.999	0.385	0.042	0.265
900.000	0.163	190.628	0.063	-0.413	899.998	0.364	0.063	0.418
1000.000	0.168	148.160	-0.202	-0.362	999.998	0.120	-0.202	0.414
1100.000	0.195	229.923	-0.436	-0.414	1099.998	0.239	-0.436	0.601
1200.000	0.273	13.471	-0.314	-0.489	1199.997	0.445	-0.314	0.581
1300.000	0.134	292.519	-0.037	-0.541	1299.997	0.284	-0.037	0.543
1400.000	0.249	43.491	0.165	-0.500	1399.996	0.322	0.165	0.526
1500.000	0.177	299.111	0.397	-0.486	1499.996	0.339	0.397	0.628
1600.000	0.132	26.017	0.576	-0.570	1599.996	0.215	0.576	0.811
1700.000	0.169	61.392	0.750	-0.390	1699.995	0.098	0.750	0.846
1800.000	0.143	244.840	0.768	-0.374	1799.995	0.312	0.768	0.854
1900.000	0.188	325.087	0.849	-0.581	1899.995	0.216	0.849	1.029
2000.000	0.772	358.047	1.657	-0.698	1999.991	0.622	1.657	1.798
2100.000	0.911	340.707	3.081	-0.984	2099.981	0.289	3.081	3.234
2200.000	0.825	341.655	4.515	-1.474	2199.969	0.087	4.515	4.749
2300.000	0.825	346.410	5.898	-1.869	2299.959	0.068	5.898	6.187
2400.000	0.920	12.960	7.380	-1.858	2399.948	0.411	7.380	7.611
2500.000	0.931	19.885	8.927	-1.402	2499.934	0.112	8.927	9.036
2600.000	0.977	35.414	10.386	-0.631	2599.921	0.262	10.386	10.405
2700.000	0.835	9.394	11.800	-0.018	2699.909	0.431	11.800	11.800
2800.000	1.021	14.340	13.382	0.322	2799.896	0.203	13.382	13.386
2900.000	1.118	333.406	15.118	0.105	2899.880	0.754	15.118	15.119
3000.000	1.176	327.628	16.858	-0.881	2999.859	0.129	16.858	16.881
3100.000	0.967	330.492	18.459	-1.846	3099.842	0.215	18.459	18.551
3200.000	0.778	331.806	19.791	-2.582	3199.830	0.191	19.791	19.959
3300.000	0.303	53.745	20.546	-2.690	3299.827	0.794	20.546	20.721
3400.000	0.527	330.236	21.101	-2.705	3399.825	0.577	21.101	21.274
3500.000	0.405	341.080	21.835	-3.047	3499.821	0.150	21.835	22.046

3600.000	0.526	273.992	22.201	-3.620	3599.819	0.524	22.201	22.494
3700.000	0.386	269.041	22.227	-4.415	3699.815	0.145	22.227	22.661
3800.000	0.207	238.490	22.127	-4.906	3799.814	0.233	22.127	22.664
3900.000	0.295	230.606	21.869	-5.259	3899.813	0.094	21.869	22.493
4000.000	0.998	161.269	20.881	-5.178	3999.807	0.935	20.881	21.514
4100.000	1.673	137.783	18.975	-3.918	4099.780	0.856	18.975	19.376
4200.000	1.890	134.389	16.741	-1.759	4199.732	0.241	16.741	16.833
4300.000	2.252	138.560	14.115	0.720	4299.666	0.393	14.115	14.133
4400.000	2.172	156.230	10.907	2.784	4399.593	0.684	10.907	11.257
4500.000	2.504	171.342	7.013	3.877	4499.511	0.697	7.013	8.014
4600.000	2.093	186.887	3.041	3.987	4599.431	0.743	3.041	5.014
4700.000	1.882	206.224	-0.244	3.042	4699.372	0.699	-0.244	3.052
4800.000	1.835	192.893	-3.278	1.959	4799.320	0.434	-3.278	3.819
4900.000	1.877	212.728	-6.216	0.717	4899.268	0.640	-6.216	6.258
5000.000	1.626	220.426	-8.674	-1.088	4999.222	0.343	-8.674	8.742
5100.000	1.298	205.101	-10.780	-2.489	5099.189	0.507	-10.780	11.063
5200.000	1.148	224.356	-12.522	-3.670	5199.167	0.435	-12.522	13.049
5300.000	0.876	241.210	-13.607	-5.040	5299.151	0.401	-13.607	14.510
5400.000	1.774	252.254	-14.446	-7.184	5399.124	0.930	-14.446	16.134
5500.000	1.020	227.401	-15.521	-9.314	5499.094	0.950	-15.521	18.101
5600.000	1.420	203.839	-17.257	-10.470	5599.072	0.634	-17.257	20.185
5700.000	1.070	183.424	-19.323	-11.027	5699.049	0.560	-19.323	22.248
5800.000	0.991	171.082	-21.109	-10.949	5799.033	0.235	-21.109	23.780
5900.000	0.842	142.387	-22.545	-10.366	5899.020	0.476	-22.545	24.814
6000.000	0.565	122.238	-23.390	-9.501	5999.013	0.367	-23.390	25.246
6100.000	1.136	120.037	-24.149	-8.226	6099.001	0.572	-24.149	25.512
6200.000	0.724	165.460	-25.257	-7.210	6198.989	0.812	-25.257	26.265
6300.000	1.361	159.060	-26.978	-6.626	6298.972	0.647	-26.978	27.779
6400.000	3.067	181.691	-30.761	-6.281	6398.895	1.885	-30.761	31.396
6500.000	3.921	188.868	-36.814	-6.887	6498.709	0.958	-36.814	37.452
6600.000	1.508	193.249	-41.473	-7.716	6598.590	2.421	-41.473	42.185
6700.000	0.925	220.782	-43.365	-8.544	6698.568	0.809	-43.365	44.199

0

rees East of True North

Cbrg

0.000

278.643

280.198

282.157

253.986

223.544

282.242

278.487

279.073

278.699

240.859

223.539

237.307

266.051

288.250

309.302

315.300

332.518

334.014

325.595

337.143

342.284

341.924

342.414

345.866

351.074

356.521

359.912

1.376

0.399

357.009

354.289

352.566

352.542

352.696

352.055

350.740
348.767
347.499
346.478
346.072
348.334
354.002
2.919
14.320
28.932
52.660
94.593
149.135
173.423
187.152
193.001
196.335
200.326
206.441
210.968
211.246
209.712
207.414
204.693
202.106
198.811
195.932
193.800
191.540
190.596
190.539
191.146