



Company: Noble Energy

Rig: Production/Core-Tech

API # 05-123-26465

Date: 4/1/2014

Surveyor: Mark Simmonds

VS: 0.000

Lat : 40.45387

Long: -104.494

Well: Larson A 25-23

Location: Weld County, Colorado

North Reference: Grid

Convergence: 0.65 Degrees East of True North

Declination: 8.34

Depth Reference: RKB = Ground Level

Elevation: 4636

Total Depth as Drilled: 6940

Lat & Long obtained by handheld GPS at wellhead

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	0.128	27.066	0.100	0.051	100.000	0.128	0.100	0.112	27.066
200.000	0.185	35.821	0.330	0.196	200.000	0.061	0.330	0.384	30.734
300.000	0.036	53.983	0.479	0.316	299.999	0.151	0.479	0.574	33.397
400.000	0.042	25.028	0.531	0.357	399.999	0.021	0.531	0.640	33.901
500.000	0.017	66.737	0.571	0.387	499.999	0.032	0.571	0.689	34.114
600.000	0.198	68.026	0.642	0.561	599.999	0.181	0.642	0.852	41.169
700.000	0.023	61.587	0.716	0.739	699.999	0.175	0.716	1.029	45.913
800.000	0.446	313.860	0.995	0.476	799.998	0.454	0.995	1.103	25.547
900.000	0.584	318.059	1.644	-0.146	899.994	0.143	1.644	1.651	354.931
1000.000	0.543	315.243	2.359	-0.820	999.989	0.050	2.359	2.498	340.839
1100.000	0.595	302.953	2.978	-1.589	1099.984	0.132	2.978	3.375	331.919
1200.000	0.690	292.396	3.490	-2.581	1199.978	0.152	3.490	4.341	323.511
1300.000	0.638	292.692	3.934	-3.652	1299.971	0.052	3.934	5.368	317.131
1400.000	0.699	299.687	4.451	-4.695	1399.964	0.102	4.451	6.470	313.470
1500.000	0.794	290.054	4.991	-5.876	1499.956	0.157	4.991	7.709	310.342
1600.000	0.768	296.813	5.530	-7.125	1599.947	0.096	5.530	9.019	307.819
1700.000	0.737	288.547	6.037	-8.332	1699.938	0.113	6.037	10.290	305.925
1800.000	0.528	306.260	6.514	-9.314	1799.932	0.284	6.514	11.366	304.970
1900.000	0.245	16.784	6.992	-9.624	1899.930	0.503	6.992	11.896	305.999
2000.000	0.397	38.544	7.467	-9.346	1999.928	0.192	7.467	11.963	308.623
2100.000	0.454	66.038	7.899	-8.769	2099.926	0.210	7.899	11.802	312.012
2200.000	0.663	80.813	8.152	-7.836	2199.921	0.252	8.152	11.307	316.135
2300.000	0.784	81.095	8.351	-6.588	2299.913	0.121	8.351	10.636	321.729
2400.000	0.717	121.720	8.128	-5.380	2399.905	0.525	8.128	9.747	326.500
2500.000	0.687	125.457	7.451	-4.359	2499.898	0.055	7.451	8.633	329.670
2600.000	0.517	134.618	6.786	-3.550	2599.892	0.194	6.786	7.659	332.387
2700.000	0.283	128.624	6.315	-3.036	2699.890	0.238	6.315	7.007	334.327
2800.000	0.286	131.383	5.996	-2.655	2799.888	0.014	5.996	6.557	336.114
2900.000	0.320	130.982	5.647	-2.257	2899.887	0.034	5.647	6.082	338.218
3000.000	0.428	106.263	5.360	-1.687	2999.885	0.191	5.360	5.619	342.524
3100.000	0.974	94.906	5.182	-0.482	3099.877	0.561	5.182	5.205	354.681
3200.000	1.907	87.534	5.181	2.027	3199.844	0.950	5.181	5.563	21.363
3300.000	2.834	81.144	5.633	6.132	3299.758	0.962	5.633	8.327	47.425
3400.000	3.560	79.288	6.591	11.624	3399.602	0.733	6.591	13.363	60.447

3500.000	3.767	78.619	7.816	17.895	3499.397	0.212	7.816	19.528	66.406
3600.000	3.638	81.147	8.953	24.251	3599.189	0.208	8.953	25.851	69.737
3700.000	3.219	89.659	9.458	30.193	3699.010	0.658	9.458	31.640	72.607
3800.000	3.016	89.784	9.484	35.632	3798.862	0.203	9.484	36.873	75.095
3900.000	2.751	97.648	9.175	40.642	3898.736	0.476	9.175	41.665	77.279
4000.000	2.306	85.607	9.010	45.027	3998.639	0.691	9.010	45.919	78.685
4100.000	1.500	79.743	9.397	48.322	4098.583	0.828	9.397	49.227	78.995
4200.000	1.574	73.446	10.021	50.926	4198.547	0.184	10.021	51.903	78.868
4300.000	0.918	58.163	10.835	52.924	4298.523	0.730	10.835	54.022	78.429
4400.000	0.904	37.424	11.884	54.084	4398.511	0.328	11.884	55.374	77.607
4500.000	1.050	44.899	13.159	55.210	4498.496	0.194	13.159	56.756	76.593
4600.000	0.806	51.527	14.246	56.407	4598.483	0.266	14.246	58.178	75.826
4700.000	0.739	74.400	14.857	57.579	4698.474	0.313	14.857	59.465	75.532
4800.000	0.751	80.672	15.137	58.847	4798.466	0.082	15.137	60.762	75.575
4900.000	0.663	78.785	15.356	60.061	4898.458	0.091	15.356	61.993	75.659
5000.000	0.771	67.605	15.724	61.251	4998.450	0.176	15.724	63.237	75.602
5100.000	0.645	17.095	16.519	62.039	5098.443	0.615	16.519	64.200	75.090
5200.000	0.702	24.240	17.614	62.455	5198.437	0.101	17.614	64.892	74.250
5300.000	0.402	1.925	18.523	62.718	5298.432	0.363	18.523	65.397	73.546
5400.000	0.369	325.323	19.139	62.547	5398.430	0.244	19.139	65.410	72.986
5500.000	0.417	323.953	19.698	62.150	5498.427	0.048	19.698	65.197	72.414
5600.000	0.268	303.190	20.120	61.740	5598.426	0.191	20.120	64.936	71.950
5700.000	0.687	308.696	20.622	61.077	5698.422	0.421	20.622	64.465	71.343
5800.000	0.595	296.410	21.228	60.144	5798.416	0.165	21.228	63.780	70.559
5900.000	0.541	290.362	21.624	59.236	5898.411	0.081	21.624	63.059	69.946
6000.000	0.717	296.958	22.071	58.236	5998.405	0.190	22.071	62.278	69.243
6100.000	0.665	294.978	22.600	57.152	6098.398	0.057	22.600	61.459	68.425
6200.000	0.544	270.471	22.849	56.152	6198.392	0.282	22.849	60.623	67.858
6300.000	0.440	294.589	23.012	55.329	6298.388	0.229	23.012	59.923	67.417
6400.000	0.307	312.844	23.354	54.783	6398.386	0.176	23.354	59.554	66.911
6500.000	0.166	356.376	23.681	54.577	6498.386	0.219	23.681	59.494	66.544
6600.000	0.203	77.700	23.864	54.741	6598.385	0.242	23.864	59.717	66.446
6700.000	0.283	1.922	24.148	54.923	6698.385	0.305	24.148	59.997	66.266