



Company: Noble Energy
Rig: Producton / V.E.S.

API # 05-123-14718

Date: 4/14/2014

Surveyor: Norman Cowan

VS: 0.000

Lat : 40.444

Long: -104.491

Well: State A 36-08

Location: Weld County, Colorado

North Reference: GRID

Convergence: Grid north is 0.65 Deg East of Tru

Declination: 8.34 Degrees

Depth Reference: Ground Level

Elevation: 4206 Feet

Total Depth as Drilled: 6945 Feet

Lat & Long obtained by handheld GPS at wellhead

Drillog 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
100.000	0.194	20.498	0.159	0.059	100.000	0.194	0.159	0.169	20.498
200.000	0.312	4.349	0.589	0.139	199.999	0.137	0.589	0.605	13.305
300.000	0.243	27.253	1.049	0.257	299.998	0.129	1.049	1.080	13.771
400.000	0.487	113.598	1.067	0.744	399.996	0.531	1.067	1.301	34.880
500.000	0.601	110.262	0.715	1.626	499.992	0.118	0.715	1.777	66.252
600.000	0.399	123.437	0.342	2.409	599.988	0.231	0.342	2.433	81.927
700.000	0.545	154.104	-0.278	2.908	699.985	0.287	-0.278	2.921	95.469
800.000	0.248	157.782	-0.907	3.198	799.982	0.298	-0.907	3.324	105.839
900.000	0.241	114.127	-1.194	3.472	899.981	0.182	-1.194	3.671	108.977
1000.000	0.500	160.714	-1.691	3.808	999.979	0.377	-1.691	4.166	113.952
1100.000	0.485	151.792	-2.476	4.152	1099.976	0.078	-2.476	4.834	120.810
1200.000	0.151	79.831	-2.826	4.481	1199.974	0.461	-2.826	5.297	122.233
1300.000	0.121	0.683	-2.697	4.612	1299.974	0.174	-2.697	5.342	120.319
1400.000	0.111	319.051	-2.518	4.549	1399.974	0.083	-2.518	5.200	118.968
1500.000	0.199	344.658	-2.278	4.440	1499.973	0.110	-2.278	4.990	117.158
1600.000	0.211	58.484	-2.014	4.551	1599.973	0.246	-2.014	4.977	113.871
1700.000	0.520	47.279	-1.610	5.041	1699.971	0.316	-1.610	5.292	107.710
1800.000	0.593	97.531	-1.370	5.887	1799.967	0.477	-1.370	6.045	103.097
1900.000	0.509	84.340	-1.394	6.842	1899.962	0.151	-1.394	6.983	101.513
2000.000	0.652	78.195	-1.233	7.842	1999.957	0.156	-1.233	7.938	98.939
2100.000	0.526	62.075	-0.902	8.805	2099.952	0.207	-0.902	8.851	95.848
2200.000	0.868	31.488	-0.041	9.606	2199.944	0.494	-0.041	9.606	90.243
2300.000	1.016	28.477	1.384	10.424	2299.931	0.156	1.384	10.516	82.436
2400.000	0.794	43.814	2.663	11.327	2399.918	0.326	2.663	11.636	76.768
2500.000	0.756	58.704	3.506	12.370	2499.909	0.204	3.506	12.858	74.176
2600.000	1.158	34.674	4.679	13.509	2599.896	0.560	4.679	14.296	70.894
2700.000	0.862	87.590	5.542	14.835	2699.882	0.938	5.542	15.836	69.515
2800.000	0.991	35.564	6.277	16.089	2799.871	0.821	6.277	17.270	68.687
2900.000	0.977	77.789	7.161	17.425	2899.857	0.709	7.161	18.839	67.660
3000.000	0.967	121.554	6.899	18.978	2999.844	0.725	6.899	20.193	70.021
3100.000	0.656	76.979	6.586	20.254	3099.835	0.680	6.586	21.298	71.986
3200.000	1.108	138.526	5.991	21.452	3199.825	0.983	5.991	22.273	74.397
3300.000	0.525	134.804	4.944	22.418	3299.814	0.585	4.944	22.956	77.563
3400.000	0.608	127.925	4.295	23.161	3399.809	0.108	4.295	23.556	79.495

3500.000	0.557	89.792	3.970	24.066	3499.804	0.384	3.970	24.392	80.632
3600.000	0.391	90.943	3.966	24.894	3599.801	0.167	3.966	25.208	80.947
3700.000	0.596	82.042	4.033	25.750	3699.797	0.218	4.033	26.064	81.099
3800.000	0.447	130.022	3.854	26.564	3799.793	0.445	3.854	26.842	81.746
3900.000	0.463	170.986	3.204	26.926	3899.791	0.319	3.204	27.116	83.215
4000.000	0.941	174.522	1.988	27.068	3999.783	0.479	1.988	27.141	85.800
4100.000	1.281	189.811	0.069	26.956	4099.764	0.449	0.069	26.956	89.853
4200.000	0.993	238.516	-1.485	26.027	4199.746	0.974	-1.485	26.069	93.265
4300.000	1.101	216.468	-2.710	24.717	4299.730	0.414	-2.710	24.865	96.257
4400.000	1.013	236.971	-3.964	23.405	4399.713	0.386	-3.964	23.738	99.613
4500.000	1.154	233.619	-5.043	21.853	4499.696	0.154	-5.043	22.427	102.994
4600.000	0.656	214.606	-6.111	20.718	4599.683	0.575	-6.111	21.600	106.434
4700.000	0.672	236.721	-6.903	19.903	4699.676	0.255	-6.903	21.066	109.129
4800.000	1.095	192.848	-8.157	19.200	4799.665	0.768	-8.157	20.861	113.017
4900.000	0.696	183.308	-9.695	18.953	4899.653	0.425	-9.695	21.289	117.092
5000.000	0.589	175.639	-10.814	18.957	4999.647	0.137	-10.814	21.825	119.704
5100.000	0.934	176.623	-12.141	19.044	5099.638	0.345	-12.141	22.585	122.518
5200.000	1.351	221.652	-13.836	18.308	5199.619	0.956	-13.836	22.948	127.078
5300.000	0.672	219.814	-15.167	17.150	5299.603	0.680	-15.167	22.894	131.489
5400.000	0.744	243.124	-15.910	16.196	5399.596	0.294	-15.910	22.703	134.491
5500.000	1.696	253.753	-16.618	14.196	5499.572	0.975	-16.618	21.856	139.494
5600.000	2.400	271.360	-16.982	10.682	5599.509	0.936	-16.982	20.063	147.828
5700.000	2.960	285.798	-16.229	6.105	5699.400	0.873	-16.229	17.340	159.385
5800.000	2.486	284.581	-14.981	1.522	5799.287	0.478	-14.981	15.058	174.200
5900.000	2.258	274.113	-14.293	-2.542	5899.202	0.489	-14.293	14.518	190.085
6000.000	2.737	254.490	-14.790	-6.808	5999.108	0.973	-14.790	16.282	204.717
6100.000	1.998	258.094	-15.789	-10.814	6099.022	0.754	-15.789	19.137	214.409
6200.000	1.836	256.238	-16.529	-14.076	6198.966	0.173	-16.529	21.710	220.417
6300.000	1.695	251.825	-17.372	-17.037	6298.919	0.196	-17.372	24.332	224.443
6400.000	1.761	225.402	-18.912	-19.537	6398.875	0.792	-18.912	27.191	225.931
6500.000	2.636	216.486	-21.840	-21.999	6498.800	0.937	-21.840	30.999	225.207
6600.000	1.928	204.640	-25.218	-24.067	6598.721	0.847	-25.218	34.860	223.663
6675.000	1.801	182.503	-27.543	-24.645	6673.682	0.969	-27.543	36.959	221.822

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