



Company: Noble Energy
Rig: Production/Coretech
API # 05-123-24597
Date: 5/2/14
Surveyor: Levi Sheldon
VS: 0.000
Lat : 40.441
Long: -104.482

Well: Devries USX AA 31-11
Location: Weld County, Colorado
North Reference: GRID
Convergence: GRID North is 0.660 Degrees East
Declination: 8.33
Depth Reference: Ground Level
Elevation: 4,623 Feet
Total Depth as Drilled: 7,360 Feet

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
100.000	0.127	5.584	0.110	0.011	100.000	0.127	0.110	0.111	5.584
200.000	0.103	325.763	0.295	-0.029	200.000	0.082	0.295	0.296	354.406
300.000	0.104	312.760	0.430	-0.146	300.000	0.023	0.430	0.454	341.285
400.000	0.091	60.129	0.531	-0.143	399.999	0.157	0.531	0.550	344.898
500.000	0.017	33.911	0.583	-0.066	499.999	0.076	0.583	0.587	353.528
600.000	0.109	237.473	0.545	-0.138	599.999	0.125	0.545	0.562	345.779
700.000	0.101	143.915	0.422	-0.166	699.999	0.153	0.422	0.454	338.509
800.000	0.075	65.987	0.377	-0.054	799.999	0.113	0.377	0.381	351.860
900.000	0.073	204.437	0.346	-0.020	899.999	0.138	0.346	0.347	356.689
1000.000	0.051	98.238	0.282	-0.002	999.999	0.100	0.282	0.282	359.563
1100.000	0.088	137.890	0.219	0.094	1099.999	0.059	0.219	0.238	23.131
1200.000	0.284	161.044	-0.072	0.226	1199.998	0.206	-0.072	0.237	107.808
1300.000	0.346	192.938	-0.601	0.238	1299.997	0.183	-0.601	0.647	158.367
1400.000	0.134	316.849	-0.811	0.091	1399.996	0.435	-0.811	0.816	173.601
1500.000	0.317	141.004	-0.941	0.185	1499.996	0.451	-0.941	0.959	168.859
1600.000	0.621	147.976	-1.615	0.647	1599.993	0.308	-1.615	1.740	158.178
1700.000	0.226	145.550	-2.237	1.045	1699.990	0.395	-2.237	2.469	154.949
1800.000	0.043	210.109	-2.432	1.138	1799.989	0.211	-2.432	2.685	154.923
1900.000	0.257	302.374	-2.345	0.930	1899.989	0.262	-2.345	2.522	158.370
2000.000	0.427	272.503	-2.208	0.369	1999.987	0.241	-2.208	2.239	170.527
2100.000	0.346	263.804	-2.225	-0.303	2099.985	0.100	-2.225	2.245	187.762
2200.000	0.132	324.824	-2.163	-0.670	2199.984	0.304	-2.163	2.264	197.201
2300.000	0.787	346.913	-1.400	-0.892	2299.981	0.666	-1.400	1.660	212.492
2400.000	0.750	340.113	-0.115	-1.270	2399.972	0.098	-0.115	1.275	264.815
2500.000	0.593	0.890	1.018	-1.484	2499.965	0.287	1.018	1.800	304.446
2600.000	0.663	358.390	2.114	-1.493	2599.959	0.075	2.114	2.588	324.771
2700.000	0.516	347.602	3.131	-1.606	2699.953	0.183	3.131	3.519	332.854
2800.000	0.431	348.943	3.940	-1.774	2799.950	0.086	3.940	4.321	335.756
2900.000	0.573	352.071	4.804	-1.915	2899.946	0.145	4.804	5.172	338.263
3000.000	0.437	336.580	5.650	-2.136	2999.942	0.191	5.650	6.040	339.289
3100.000	0.304	357.273	6.265	-2.300	3099.940	0.187	6.265	6.674	339.838
3200.000	1.130	22.609	7.441	-1.934	3199.932	0.864	7.441	7.688	345.430
3300.000	1.998	32.473	9.821	-0.619	3299.894	0.905	9.821	9.841	356.393
3400.000	2.186	58.806	12.280	1.948	3399.829	0.970	12.280	12.433	9.016
3500.000	2.762	63.574	14.340	5.737	3499.736	0.611	14.340	15.445	21.807

3600.000	3.567	55.415	17.178	10.456	3599.583	0.921	17.178	20.110	31.329
3700.000	3.156	52.339	20.626	15.197	3699.411	0.448	20.626	25.619	36.382
3800.000	3.165	57.919	23.774	19.715	3799.259	0.308	23.774	30.885	39.668
3900.000	2.315	60.074	26.248	23.804	3899.144	0.856	26.248	35.434	42.205
4000.000	1.667	70.994	27.729	26.930	3999.083	0.748	27.729	38.654	44.163
4100.000	0.818	95.011	28.140	29.016	4099.059	0.979	28.140	40.421	45.878
4200.000	0.246	226.789	27.931	29.571	4199.056	0.998	27.931	40.677	46.633
4300.000	0.527	284.642	27.901	28.970	4299.054	0.448	27.901	40.221	46.077
4400.000	1.230	300.702	28.565	27.602	4399.042	0.737	28.565	39.722	44.018
4500.000	1.049	301.817	29.596	25.902	4499.022	0.182	29.596	39.329	41.192
4600.000	1.552	309.866	30.947	24.084	4598.996	0.534	30.947	39.214	37.892
4700.000	1.419	332.971	32.918	22.482	4698.963	0.609	32.918	39.862	34.332
4800.000	0.813	8.079	34.723	22.019	4798.945	0.887	34.723	41.116	32.380
4900.000	1.017	33.215	36.168	22.604	4898.933	0.445	36.168	42.651	32.005
5000.000	0.331	108.203	36.820	23.365	4998.926	0.985	36.820	43.608	32.398
5100.000	0.695	45.601	37.154	24.073	5098.923	0.617	37.154	44.271	32.940
5200.000	1.063	31.109	38.372	24.986	5198.911	0.427	38.372	45.790	33.070
5300.000	1.131	6.391	40.148	25.575	5298.893	0.474	40.148	47.601	32.498
5400.000	0.925	16.826	41.902	25.918	5398.877	0.278	41.902	49.270	31.739
5500.000	0.496	325.758	43.032	25.909	5498.870	0.725	43.032	50.229	31.051
5600.000	0.440	176.737	43.006	25.687	5598.869	0.902	43.006	50.093	30.850
5700.000	0.943	248.499	42.321	24.943	5698.863	0.907	42.321	49.124	30.515
5800.000	1.314	224.469	41.201	23.374	5798.844	0.594	41.201	47.369	29.567
5900.000	1.047	221.531	39.699	21.965	5898.822	0.274	39.699	45.370	28.956
6000.000	3.179	241.004	37.671	18.934	5998.750	2.220	37.671	42.162	26.685
6100.000	4.852	285.581	37.463	12.434	6098.523	3.415	37.463	39.472	18.361
6200.000	1.798	320.440	39.809	7.359	6198.351	3.529	39.809	40.484	10.474
6300.000	3.258	7.663	43.835	6.739	6298.260	2.426	43.835	44.350	8.740
6400.000	6.230	41.991	50.687	10.749	6397.924	3.986	50.687	51.814	11.974
6500.000	8.609	52.612	59.266	20.328	6497.085	2.737	59.266	62.655	18.932
6600.000	3.105	65.498	64.939	28.746	6596.528	5.625	64.939	71.017	23.878

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