



Company: Noble Energy
Rig: Production/Core-tech
API # 05-123-22849
Date: 3/24/2014
Surveyor: Nick Kula
VS: 0.000
Lat : 40.459
Long: -104.524

Well: Carpio A 26-5
Location: Weld County, Colorado
North Reference: GRID
Convergence: GRID North is 0.630 Degrees East
Declination: 8.37
Depth Reference: Ground Level
Elevation: 4640'
Total Depth as Drilled: 6983'

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	0.657	329.844	0.496	-0.288	99.998	0.657	0.496	0.573	329.844
200.000	0.391	329.793	1.286	-0.748	199.994	0.266	1.286	1.488	329.832
300.000	0.089	169.274	1.505	-0.905	299.993	0.476	1.505	1.756	328.982
400.000	0.133	214.382	1.333	-0.956	399.993	0.094	1.333	1.640	324.360
500.000	0.119	317.537	1.314	-1.091	499.993	0.197	1.314	1.708	320.294
600.000	0.131	243.464	1.340	-1.263	599.992	0.151	1.340	1.841	316.678
700.000	0.086	151.432	1.223	-1.330	699.992	0.159	1.223	1.807	312.606
800.000	0.090	346.629	1.233	-1.312	799.992	0.174	1.233	1.801	313.231
900.000	0.090	346.506	1.386	-1.349	899.992	0.001	1.386	1.934	315.787
1000.000	0.254	311.708	1.610	-1.533	999.992	0.187	1.610	2.223	316.418
1100.000	0.410	304.514	1.961	-1.993	1099.990	0.161	1.961	2.796	314.532
1200.000	0.440	276.602	2.207	-2.669	1199.987	0.207	2.207	3.464	309.591
1300.000	0.512	268.905	2.243	-3.497	1299.984	0.096	2.243	4.155	302.674
1400.000	0.696	277.502	2.314	-4.546	1399.978	0.205	2.314	5.101	296.973
1500.000	0.531	267.844	2.376	-5.612	1499.973	0.194	2.376	6.094	292.944
1600.000	0.448	292.527	2.508	-6.436	1599.969	0.225	2.508	6.908	291.288
1700.000	0.323	222.242	2.449	-6.987	1699.967	0.455	2.449	7.404	289.319
1800.000	0.397	263.947	2.204	-7.520	1799.965	0.265	2.204	7.837	286.337
1900.000	0.458	296.122	2.344	-8.223	1899.963	0.244	2.344	8.551	285.908
2000.000	0.583	356.057	3.027	-8.617	1999.959	0.531	3.027	9.133	289.355
2100.000	0.792	11.086	4.212	-8.519	2099.952	0.274	4.212	9.504	296.309
2200.000	0.723	35.276	5.405	-8.022	2199.944	0.324	5.405	9.673	303.973
2300.000	1.206	31.346	6.819	-7.110	2299.929	0.487	6.819	9.851	313.804
2400.000	1.257	28.703	8.680	-6.036	2399.906	0.077	8.680	10.572	325.187
2500.000	1.264	28.521	10.612	-4.982	2499.882	0.008	10.612	11.723	334.850
2600.000	1.199	21.115	12.557	-4.078	2599.859	0.172	12.557	13.203	342.007
2700.000	1.245	10.852	14.600	-3.497	2699.836	0.223	14.600	15.013	346.532
2800.000	1.179	9.155	16.683	-3.129	2799.814	0.075	16.683	16.974	349.379
2900.000	0.980	7.103	18.548	-2.859	2899.796	0.203	18.548	18.767	351.237
3000.000	0.799	6.353	20.089	-2.676	2999.784	0.182	20.089	20.267	352.412
3100.000	0.637	8.997	21.331	-2.512	3099.776	0.165	21.331	21.479	353.284
3200.000	0.231	14.632	22.075	-2.374	3199.773	0.408	22.075	22.202	353.861
3300.000	0.198	77.198	22.308	-2.155	3299.772	0.224	22.308	22.412	354.482
3400.000	0.154	131.043	22.258	-1.886	3399.772	0.164	22.258	22.338	355.157
3500.000	0.237	128.499	22.041	-1.622	3499.771	0.084	22.041	22.100	355.791

3600.000	0.116	312.637	21.980	-1.534	3599.771	0.353	21.980	22.034	356.007
3700.000	0.367	11.701	22.362	-1.543	3699.770	0.323	22.362	22.416	356.052
3800.000	0.172	27.907	22.809	-1.408	3799.769	0.207	22.809	22.853	356.468
3900.000	0.341	47.572	23.143	-1.118	3899.768	0.188	23.143	23.170	357.235
4000.000	1.150	100.450	23.162	0.090	3999.760	0.983	23.162	23.162	0.222
4100.000	1.635	117.547	22.320	2.342	4099.730	0.633	22.320	22.443	5.989
4200.000	1.751	120.462	20.886	4.923	4199.687	0.145	20.886	21.458	13.264
4300.000	1.857	120.534	19.288	7.636	4299.637	0.106	19.288	20.745	21.599
4400.000	1.971	119.628	17.614	10.527	4399.581	0.117	17.614	20.520	30.864
4500.000	2.098	116.391	15.951	13.661	4499.518	0.171	15.951	21.001	40.579
4600.000	2.632	127.775	13.731	17.116	4599.433	0.708	13.731	21.943	51.262
4700.000	2.951	126.313	10.800	21.004	4699.314	0.327	10.800	23.618	62.789
4800.000	2.532	120.543	8.153	24.981	4799.200	0.501	8.153	26.278	71.925
4900.000	1.998	118.383	6.202	28.418	4899.121	0.541	6.202	29.087	77.689
5000.000	1.921	119.887	4.538	31.405	4999.063	0.093	4.538	31.731	81.778
5100.000	1.975	124.058	2.738	34.285	5099.005	0.152	2.738	34.394	85.435
5200.000	2.021	125.147	0.758	37.154	5198.944	0.059	0.758	37.162	88.832
5300.000	2.350	127.202	-1.497	40.229	5298.872	0.338	-1.497	40.257	92.131
5400.000	1.898	128.069	-3.757	43.165	5398.803	0.453	-3.757	43.329	94.975
5500.000	1.293	129.877	-5.502	45.335	5498.763	0.608	-5.502	45.667	96.919
5600.000	0.729	135.579	-6.679	46.646	5598.747	0.571	-6.679	47.122	98.149
5700.000	0.600	151.260	-7.593	47.343	5698.741	0.222	-7.593	47.948	99.112
5800.000	0.321	158.095	-8.313	47.700	5798.737	0.284	-8.313	48.419	99.886
5900.000	0.339	199.383	-8.852	47.706	5898.736	0.233	-8.852	48.520	100.512
6000.000	0.262	253.821	-9.194	47.389	5998.735	0.283	-9.194	48.272	100.980
6100.000	0.412	254.597	-9.354	46.822	6098.733	0.151	-9.354	47.747	101.297
6200.000	0.298	232.519	-9.607	46.269	6198.731	0.176	-9.607	47.256	101.730
6300.000	0.333	225.672	-9.969	45.854	6298.730	0.051	-9.969	46.926	102.265
6400.000	0.287	202.443	-10.404	45.551	6398.728	0.133	-10.404	46.724	102.865
6500.000	0.232	213.118	-10.805	45.344	6498.727	0.073	-10.805	46.614	103.403
6600.000	0.345	203.414	-11.251	45.114	6598.726	0.122	-11.251	46.496	104.004
6700.000	0.364	206.866	-11.811	44.851	6698.724	0.028	-11.811	46.380	104.753

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