



Company: Noble Energy
 Rig: Production / V.E.S.
 API # 05-123-11089
 Date: 5/17/2013
 Surveyor: Norman Cowan
 VS: 0.000
 Lat : 40.324
 Long: -104.798

Well: Monfort Gilcrest K 8-10
 Location: Weld County, Colorado
 North Reference: GRID
 Convergence: Grid north is -0.45 Deg of True N
 Declination: 8.62 Degrees
 Depth Reference: Ground Level
 Elevation: 4699 Feet
 Total Depth as Drilled: 7350 Feet

Lat & Long obtained by handheld GPS at wellhead

HA 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 | 0.299 | 284.389 | 0.065 | -0.253 | 100.000 | 0.299 | 0.065 | 0.261 | 284.389 |
| 200.000 | 0.098 | 39.202 | 0.196 | -0.452 | 199.999 | 0.352 | 0.196 | 0.492 | 293.468 |
| 300.000 | 0.345 | 302.352 | 0.423 | -0.652 | 299.998 | 0.369 | 0.423 | 0.777 | 303.012 |
| 400.000 | 0.354 | 307.105 | 0.771 | -1.152 | 399.997 | 0.031 | 0.771 | 1.386 | 303.781 |
| 500.000 | 0.281 | 298.361 | 1.074 | -1.615 | 499.995 | 0.088 | 1.074 | 1.939 | 303.627 |
| 600.000 | 0.317 | 332.136 | 1.435 | -1.960 | 599.994 | 0.177 | 1.435 | 2.429 | 306.215 |
| 700.000 | 0.390 | 323.724 | 1.954 | -2.291 | 699.992 | 0.089 | 1.954 | 3.011 | 310.472 |
| 800.000 | 0.255 | 314.890 | 2.386 | -2.650 | 799.990 | 0.144 | 2.386 | 3.566 | 312.002 |
| 900.000 | 0.218 | 305.449 | 2.654 | -2.963 | 899.989 | 0.054 | 2.654 | 3.978 | 311.851 |
| 1000.000 | 0.200 | 284.474 | 2.808 | -3.287 | 999.989 | 0.078 | 2.808 | 4.323 | 310.506 |
| 1100.000 | 0.243 | 250.754 | 2.782 | -3.656 | 1099.988 | 0.135 | 2.782 | 4.594 | 307.267 |
| 1200.000 | 0.215 | 299.159 | 2.803 | -4.019 | 1199.987 | 0.189 | 2.803 | 4.900 | 304.891 |
| 1300.000 | 0.345 | 275.109 | 2.921 | -4.482 | 1299.986 | 0.173 | 2.921 | 5.350 | 303.091 |
| 1400.000 | 0.332 | 258.292 | 2.889 | -5.066 | 1399.984 | 0.100 | 2.889 | 5.832 | 299.694 |
| 1500.000 | 0.603 | 267.665 | 2.809 | -5.876 | 1499.981 | 0.280 | 2.809 | 6.512 | 295.548 |
| 1600.000 | 0.573 | 261.598 | 2.714 | -6.896 | 1599.976 | 0.069 | 2.714 | 7.411 | 291.483 |
| 1700.000 | 0.699 | 279.583 | 2.742 | -7.992 | 1699.970 | 0.234 | 2.742 | 8.449 | 288.941 |
| 1800.000 | 0.699 | 273.705 | 2.883 | -9.202 | 1799.962 | 0.072 | 2.883 | 9.643 | 287.399 |
| 1900.000 | 0.921 | 267.410 | 2.886 | -10.614 | 1899.952 | 0.239 | 2.886 | 10.999 | 285.214 |
| 2000.000 | 0.735 | 276.104 | 2.918 | -12.054 | 1999.942 | 0.224 | 2.918 | 12.403 | 283.609 |
| 2100.000 | 0.710 | 263.598 | 2.917 | -13.308 | 2099.934 | 0.159 | 2.917 | 13.624 | 282.365 |
| 2200.000 | 0.710 | 260.327 | 2.744 | -14.534 | 2199.926 | 0.041 | 2.744 | 14.791 | 280.692 |
| 2300.000 | 0.774 | 261.327 | 2.538 | -15.813 | 2299.918 | 0.066 | 2.538 | 16.016 | 279.119 |
| 2400.000 | 0.583 | 267.522 | 2.414 | -16.990 | 2399.911 | 0.204 | 2.414 | 17.160 | 278.088 |
| 2500.000 | 0.581 | 272.414 | 2.414 | -18.005 | 2499.906 | 0.050 | 2.414 | 18.166 | 277.636 |
| 2600.000 | 0.546 | 273.560 | 2.465 | -18.987 | 2599.901 | 0.036 | 2.465 | 19.147 | 277.396 |
| 2700.000 | 0.574 | 280.565 | 2.586 | -19.955 | 2699.896 | 0.074 | 2.586 | 20.122 | 277.384 |
| 2800.000 | 0.842 | 253.679 | 2.471 | -21.153 | 2799.889 | 0.420 | 2.471 | 21.297 | 276.664 |
| 2900.000 | 0.936 | 260.051 | 2.124 | -22.662 | 2899.877 | 0.136 | 2.124 | 22.761 | 275.354 |
| 3000.000 | 0.877 | 267.153 | 1.945 | -24.231 | 2999.864 | 0.126 | 1.945 | 24.309 | 274.589 |
| 3100.000 | 1.022 | 269.611 | 1.901 | -25.888 | 3099.850 | 0.150 | 1.901 | 25.958 | 274.199 |
| 3200.000 | 0.843 | 275.288 | 1.962 | -27.512 | 3199.837 | 0.202 | 1.962 | 27.582 | 274.080 |
| 3300.000 | 0.512 | 269.766 | 2.028 | -28.691 | 3299.830 | 0.337 | 2.028 | 28.763 | 274.044 |
| 3400.000 | 0.357 | 339.790 | 2.319 | -29.246 | 3399.828 | 0.514 | 2.319 | 29.337 | 274.533 |
| 3500.000 | 1.049 | 50.490 | 3.193 | -28.647 | 3499.821 | 0.990 | 3.193 | 28.824 | 276.359 |

| | | | | | | | | | |
|----------|-------|---------|--------|---------|----------|-------|--------|--------|---------|
| 3600.000 | 1.093 | 74.471 | 4.030 | -27.022 | 3599.804 | 0.447 | 4.030 | 27.321 | 278.483 |
| 3700.000 | 1.138 | 76.506 | 4.517 | -25.138 | 3699.785 | 0.060 | 4.517 | 25.540 | 280.187 |
| 3800.000 | 0.809 | 88.317 | 4.770 | -23.466 | 3799.770 | 0.383 | 4.770 | 23.946 | 281.489 |
| 3900.000 | 0.564 | 79.941 | 4.876 | -22.276 | 3899.763 | 0.265 | 4.876 | 22.804 | 282.347 |
| 4000.000 | 0.416 | 42.390 | 5.230 | -21.548 | 3999.760 | 0.345 | 5.230 | 22.173 | 283.643 |
| 4100.000 | 0.401 | 332.013 | 5.807 | -21.467 | 4099.758 | 0.471 | 5.807 | 22.239 | 285.137 |
| 4200.000 | 0.473 | 356.508 | 6.528 | -21.657 | 4199.755 | 0.198 | 6.528 | 22.619 | 286.775 |
| 4300.000 | 0.375 | 280.495 | 7.000 | -22.004 | 4299.753 | 0.528 | 7.000 | 23.090 | 287.648 |
| 4400.000 | 0.395 | 253.276 | 6.961 | -22.656 | 4399.751 | 0.182 | 6.961 | 23.701 | 287.078 |
| 4500.000 | 0.655 | 275.378 | 6.915 | -23.555 | 4499.746 | 0.324 | 6.915 | 24.549 | 286.360 |
| 4600.000 | 0.661 | 274.846 | 7.017 | -24.699 | 4599.740 | 0.009 | 7.017 | 25.677 | 285.860 |
| 4700.000 | 0.589 | 300.263 | 7.325 | -25.718 | 4699.734 | 0.284 | 7.325 | 26.741 | 285.898 |
| 4800.000 | 0.622 | 299.780 | 7.853 | -26.633 | 4799.729 | 0.034 | 7.853 | 27.767 | 286.429 |
| 4900.000 | 0.769 | 280.793 | 8.249 | -27.763 | 4899.721 | 0.271 | 8.249 | 28.963 | 286.547 |
| 5000.000 | 0.732 | 295.552 | 8.650 | -28.999 | 4999.713 | 0.196 | 8.650 | 30.261 | 286.609 |
| 5100.000 | 0.468 | 289.919 | 9.064 | -29.959 | 5099.707 | 0.270 | 9.064 | 31.300 | 286.834 |
| 5200.000 | 0.529 | 252.386 | 9.064 | -30.782 | 5199.704 | 0.326 | 9.064 | 32.089 | 286.407 |
| 5300.000 | 0.460 | 277.986 | 8.980 | -31.619 | 5299.700 | 0.229 | 8.980 | 32.870 | 285.855 |
| 5400.000 | 0.569 | 263.054 | 8.976 | -32.510 | 5399.696 | 0.172 | 8.976 | 33.726 | 285.435 |
| 5500.000 | 0.592 | 277.678 | 8.985 | -33.515 | 5499.691 | 0.150 | 8.985 | 34.698 | 285.007 |
| 5600.000 | 0.784 | 272.825 | 9.087 | -34.710 | 5599.684 | 0.200 | 9.087 | 35.880 | 284.671 |
| 5700.000 | 0.972 | 287.274 | 9.373 | -36.203 | 5699.672 | 0.289 | 9.373 | 37.397 | 284.515 |
| 5800.000 | 1.028 | 280.234 | 9.784 | -37.896 | 5799.657 | 0.135 | 9.784 | 39.139 | 284.477 |
| 5900.000 | 1.350 | 282.838 | 10.205 | -39.928 | 5899.635 | 0.326 | 10.205 | 41.211 | 284.338 |
| 6000.000 | 1.450 | 290.192 | 10.904 | -42.263 | 5999.605 | 0.205 | 10.904 | 43.647 | 284.467 |
| 6100.000 | 1.437 | 292.922 | 11.829 | -44.605 | 6099.574 | 0.070 | 11.829 | 46.147 | 284.852 |
| 6200.000 | 1.252 | 301.773 | 12.892 | -46.689 | 6199.546 | 0.277 | 12.892 | 48.436 | 285.437 |
| 6300.000 | 0.975 | 302.379 | 13.923 | -48.336 | 6299.527 | 0.278 | 13.923 | 50.301 | 286.069 |
| 6400.000 | 0.697 | 313.040 | 14.793 | -49.498 | 6399.517 | 0.317 | 14.793 | 51.662 | 286.640 |
| 6500.000 | 0.726 | 280.942 | 15.329 | -50.565 | 6499.509 | 0.394 | 15.329 | 52.837 | 286.865 |
| 6600.000 | 0.676 | 295.604 | 15.704 | -51.719 | 6599.502 | 0.186 | 15.704 | 54.051 | 286.890 |
| 6700.000 | 1.059 | 286.350 | 16.219 | -53.139 | 6699.490 | 0.407 | 16.219 | 55.559 | 286.973 |
| 6800.000 | 0.655 | 304.936 | 16.807 | -54.495 | 6799.479 | 0.486 | 16.807 | 57.027 | 287.141 |
| 6900.000 | 0.642 | 294.239 | 17.364 | -55.474 | 6899.473 | 0.122 | 17.364 | 58.129 | 287.381 |
| 7000.000 | 0.420 | 315.171 | 17.854 | -56.244 | 6999.468 | 0.292 | 17.854 | 59.010 | 287.612 |
| 7100.000 | 0.355 | 339.716 | 18.405 | -56.610 | 7099.466 | 0.177 | 18.405 | 59.526 | 288.011 |
| 7200.000 | 0.423 | 319.386 | 18.976 | -56.958 | 7199.464 | 0.153 | 18.976 | 60.036 | 288.426 |

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