



Company: PDC Energy

Well: Adamson 28-2

API: 05-123-19417

Rig Name: Production / V.E.S.

State/County: Colorado / Weld

Latitude: 40.365, Longitude: -104.562

Directions are relative to True North

VS-Azi: 0.000 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = Ground Level

DRILLOG GYRO SURVEY CALCULATIONS

Filename: survey.ut

Minimum Curvature Method

Report Date/Time: 7/16/2014 / 18:38

VES Survey International

Henderson Colorado

303-853-4976

Norman Cowan

| Measured Depth FT | Incl Angle Deg | Drift Direction Deg | TVD FT | +N/-S FT | +E/-W FT | Vertical Section FT | Closure Distance FT | Closure Direction Deg | Dogleg Severity Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | **** |
| 100.000 | 0.301 | 36.486 | 100.000 | 0.211 | 0.156 | 0.211 | 0.263 | 36.486 | 0.301 |
| 200.000 | 0.566 | 22.570 | 199.997 | 0.878 | 0.502 | 0.878 | 1.011 | 29.744 | 0.283 |
| 300.000 | 1.111 | 40.456 | 299.986 | 2.072 | 1.320 | 2.072 | 2.457 | 32.511 | 0.599 |
| 400.000 | 2.093 | 43.701 | 399.945 | 4.130 | 3.211 | 4.130 | 5.231 | 37.869 | 0.985 |
| 500.000 | 2.111 | 41.214 | 499.878 | 6.835 | 5.686 | 6.835 | 8.891 | 39.757 | 0.093 |
| 600.000 | 2.540 | 31.822 | 599.796 | 10.104 | 8.068 | 10.104 | 12.930 | 38.609 | 0.572 |
| 700.000 | 2.436 | 28.559 | 699.702 | 13.853 | 10.253 | 13.853 | 17.235 | 36.505 | 0.175 |
| 800.000 | 2.608 | 26.385 | 799.605 | 17.759 | 12.280 | 17.759 | 21.591 | 34.664 | 0.197 |
| 900.000 | 3.007 | 32.657 | 899.485 | 22.005 | 14.707 | 22.005 | 26.467 | 33.756 | 0.503 |
| 1000.000 | 2.958 | 20.660 | 999.350 | 26.628 | 17.032 | 26.628 | 31.609 | 32.605 | 0.625 |
| 1100.000 | 2.731 | 35.224 | 1099.228 | 30.988 | 19.317 | 30.988 | 36.515 | 31.938 | 0.755 |
| 1200.000 | 3.245 | 33.125 | 1199.092 | 35.304 | 22.237 | 35.304 | 41.724 | 32.206 | 0.525 |
| 1300.000 | 3.239 | 27.414 | 1298.932 | 40.182 | 25.084 | 40.182 | 47.369 | 31.975 | 0.323 |
| 1400.000 | 2.734 | 43.728 | 1398.798 | 44.413 | 28.033 | 44.413 | 52.520 | 32.260 | 0.984 |
| 1500.000 | 2.322 | 25.410 | 1498.702 | 47.965 | 30.551 | 47.965 | 56.869 | 32.494 | 0.901 |
| 1600.000 | 2.465 | 21.950 | 1598.615 | 51.789 | 32.224 | 51.789 | 60.996 | 31.890 | 0.203 |
| 1700.000 | 2.390 | 10.414 | 1698.526 | 55.834 | 33.404 | 55.834 | 65.064 | 30.891 | 0.493 |
| 1800.000 | 1.628 | 14.008 | 1798.464 | 59.264 | 34.125 | 59.264 | 68.386 | 29.934 | 0.772 |
| 1900.000 | 2.249 | 13.909 | 1898.406 | 62.547 | 34.941 | 62.547 | 71.645 | 29.189 | 0.622 |
| 2000.000 | 2.428 | 22.086 | 1998.323 | 66.415 | 36.209 | 66.415 | 75.644 | 28.599 | 0.378 |
| 2100.000 | 2.250 | 36.203 | 2098.240 | 69.962 | 38.165 | 69.962 | 79.694 | 28.613 | 0.601 |
| 2200.000 | 2.585 | 51.140 | 2198.152 | 72.961 | 41.080 | 72.961 | 83.731 | 29.382 | 0.710 |
| 2300.000 | 2.701 | 63.464 | 2298.047 | 75.428 | 44.944 | 75.428 | 87.803 | 30.789 | 0.579 |
| 2400.000 | 2.824 | 73.899 | 2397.931 | 77.164 | 49.419 | 77.164 | 91.633 | 32.637 | 0.517 |
| 2500.000 | 2.653 | 93.887 | 2497.819 | 77.690 | 54.095 | 77.690 | 94.668 | 34.849 | 0.965 |
| 2600.000 | 2.521 | 100.865 | 2597.717 | 77.119 | 58.564 | 77.119 | 96.835 | 37.213 | 0.341 |
| 2700.000 | 2.419 | 84.837 | 2697.626 | 76.894 | 62.826 | 76.894 | 99.296 | 39.250 | 0.696 |
| 2800.000 | 1.936 | 87.592 | 2797.553 | 77.155 | 66.615 | 77.155 | 101.934 | 40.807 | 0.493 |
| 2900.000 | 2.185 | 82.122 | 2897.489 | 77.488 | 70.192 | 77.488 | 104.553 | 42.172 | 0.317 |
| 3000.000 | 1.319 | 93.467 | 2997.441 | 77.679 | 73.229 | 77.679 | 106.755 | 43.311 | 0.929 |
| 3100.000 | 1.095 | 59.966 | 3097.420 | 78.088 | 75.205 | 78.088 | 108.414 | 43.923 | 0.728 |
| 3200.000 | 1.083 | 62.128 | 3197.402 | 79.008 | 76.868 | 79.008 | 110.231 | 44.213 | 0.043 |
| 3300.000 | 1.633 | 85.105 | 3297.374 | 79.571 | 79.122 | 79.571 | 112.213 | 44.838 | 0.764 |
| 3400.000 | 2.100 | 57.905 | 3397.323 | 80.666 | 82.094 | 80.666 | 115.093 | 45.503 | 0.988 |

| Measured Depth FT | Incl Angle Deg | Drift Direction Deg | TVD FT | +N-S FT | +E-W FT | Vertical Section FT | Closure Distance FT | Closure Direction Deg | Dogleg Severity Deg/100 |
|--|----------------------|---------------------------|-----------|------------|------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 3500.000 | 2.459 | 61.811 | 3497.244 | 82.653 | 85.537 | 82.653 | 118.946 | 45.982 | 0.391 |
| 3600.000 | 1.788 | 43.161 | 3597.176 | 84.805 | 88.496 | 84.805 | 122.569 | 46.220 | 0.955 |
| 3700.000 | 1.403 | 66.343 | 3697.138 | 86.434 | 90.684 | 86.434 | 125.277 | 46.375 | 0.744 |
| 3800.000 | 1.457 | 78.611 | 3797.107 | 87.176 | 93.052 | 87.176 | 127.508 | 46.867 | 0.310 |
| 3900.000 | 1.305 | 73.698 | 3897.078 | 87.747 | 95.392 | 87.747 | 129.611 | 47.390 | 0.193 |
| 4000.000 | 1.762 | 46.384 | 3997.043 | 89.127 | 97.598 | 89.127 | 132.170 | 47.597 | 0.849 |
| 4100.000 | 1.874 | 33.108 | 4096.993 | 91.557 | 99.604 | 91.557 | 135.291 | 47.410 | 0.435 |
| 4200.000 | 1.798 | 30.745 | 4196.942 | 94.275 | 101.299 | 94.275 | 138.381 | 47.057 | 0.107 |
| 4300.000 | 1.764 | 45.098 | 4296.894 | 96.709 | 103.191 | 96.709 | 141.425 | 46.857 | 0.446 |
| 4400.000 | 1.912 | 68.086 | 4396.844 | 98.419 | 105.830 | 98.419 | 144.521 | 47.078 | 0.747 |
| 4500.000 | 2.558 | 81.331 | 4496.768 | 99.378 | 109.583 | 99.378 | 147.934 | 47.796 | 0.822 |
| 4600.000 | 2.315 | 73.499 | 4596.678 | 100.288 | 113.725 | 100.288 | 151.628 | 48.593 | 0.411 |
| 4700.000 | 2.231 | 69.130 | 4696.599 | 101.555 | 117.481 | 101.555 | 155.290 | 49.159 | 0.192 |
| 4800.000 | 2.665 | 88.730 | 4796.509 | 102.300 | 121.624 | 102.300 | 158.927 | 49.932 | 0.936 |
| 4900.000 | 2.165 | 68.793 | 4896.422 | 103.035 | 125.709 | 103.035 | 162.539 | 50.661 | 0.970 |
| 5000.000 | 1.874 | 91.411 | 4996.361 | 103.678 | 129.105 | 103.678 | 165.581 | 51.234 | 0.842 |
| 5100.000 | 1.194 | 92.609 | 5096.325 | 103.590 | 131.780 | 103.590 | 167.622 | 51.830 | 0.681 |
| 5200.000 | 1.580 | 116.457 | 5196.296 | 102.928 | 134.055 | 102.928 | 169.012 | 52.483 | 0.686 |
| 5300.000 | 1.133 | 79.844 | 5296.270 | 102.489 | 136.263 | 102.489 | 170.504 | 53.052 | 0.952 |
| 5400.000 | 1.019 | 97.587 | 5396.252 | 102.546 | 138.118 | 102.546 | 172.024 | 53.408 | 0.351 |
| 5500.000 | 1.112 | 47.141 | 5496.237 | 103.088 | 139.711 | 103.088 | 173.627 | 53.578 | 0.912 |
| 5600.000 | 1.054 | 95.569 | 5596.221 | 103.659 | 141.337 | 103.659 | 175.275 | 53.743 | 0.890 |
| 5700.000 | 1.162 | 82.552 | 5696.203 | 103.701 | 143.258 | 103.701 | 176.853 | 54.100 | 0.273 |
| 5800.000 | 0.830 | 32.208 | 5796.189 | 104.445 | 144.650 | 104.445 | 178.416 | 54.169 | 0.899 |
| 5900.000 | 1.195 | 48.013 | 5896.174 | 105.755 | 145.811 | 105.755 | 180.125 | 54.047 | 0.456 |
| 6000.000 | 0.297 | 8.270 | 5996.164 | 106.709 | 146.623 | 106.709 | 181.343 | 53.954 | 0.985 |
| 6100.000 | 0.253 | 245.882 | 6096.164 | 106.875 | 146.459 | 106.875 | 181.308 | 53.881 | 0.482 |
| 6200.000 | 0.551 | 326.727 | 6196.162 | 107.187 | 145.993 | 107.187 | 181.116 | 53.714 | 0.569 |
| 6300.000 | 0.989 | 304.477 | 6296.153 | 108.077 | 145.018 | 108.077 | 180.862 | 53.304 | 0.522 |
| 6400.000 | 0.386 | 324.561 | 6396.145 | 108.840 | 144.112 | 108.840 | 180.595 | 52.938 | 0.640 |
| 6500.000 | 0.500 | 333.586 | 6496.142 | 109.506 | 143.722 | 109.506 | 180.686 | 52.695 | 0.133 |
| 6600.000 | 0.268 | 104.676 | 6596.141 | 109.837 | 143.754 | 109.837 | 180.913 | 52.618 | 0.705 |
| 6700.000 | 0.543 | 186.822 | 6696.139 | 109.307 | 143.924 | 109.307 | 180.727 | 52.784 | 0.572 |
| HORIZONTAL DISPLACEMENT IS 180.727 FEET AT 52.784 DEGREES | | | | | | | | | |