

GyroTracer Directional:

Date: 10/31/2018
 Operator : Jordan Hucke
 API: 05-123-22558
 Well Name: **Stroh N 35-23**
 Field : Noble Energy Inc
 Tool Type And Number: 1717
 Bottom Depth : 7200.00
 Total Well Depth: 7950.00
 Latitude : 40.35246 N
 Longitude : 104.85593 W
 Grid Offset : 0.42

**Starting Point Coordinates (in local grid):**

Northing: 0.00 Easting: 0.00 Altitude: 4869.00

Description:

Azimuth measured in degrees and referenced to local grid

Inclination measured from Vertical

Length measured in US survey feet

Start Time: 10/31/2018 11:27

End Time: 10/31/2018 12:39

| Depth | Inclination | Azimuth | Closure Direction | True Depth | Coordinates | | Dogleg Severity | Closure Distance |
|----------|-------------|---------|----------------------|------------|-------------|---------|--------------------|---------------------|
| | | | | | +N/-S | +E/-W | | |
| 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 100.000 | 0.590 | 287.527 | 261.634 | 99.990 | -0.150 | -1.020 | 0.590 | 1.031 |
| 200.000 | 0.656 | 269.936 | 268.825 | 199.984 | -0.044 | -2.122 | 0.196 | 2.122 |
| 300.000 | 0.614 | 251.785 | 268.091 | 299.977 | -0.107 | -3.211 | 0.190 | 3.213 |
| 400.000 | 0.641 | 273.050 | 267.100 | 399.971 | -0.218 | -4.305 | 0.298 | 4.310 |
| 500.000 | 0.699 | 275.211 | 267.485 | 499.965 | -0.238 | -5.414 | 0.150 | 5.419 |
| 600.000 | 0.740 | 272.769 | 267.645 | 599.956 | -0.275 | -6.681 | 0.157 | 6.687 |
| 700.000 | 0.900 | 256.090 | 266.495 | 699.946 | -0.493 | -8.041 | 0.311 | 8.056 |
| 800.000 | 0.918 | 246.831 | 264.585 | 799.935 | -0.896 | -9.448 | 0.192 | 9.490 |
| 900.000 | 1.093 | 259.079 | 262.977 | 899.922 | -1.348 | -10.944 | 0.354 | 11.026 |
| 1000.000 | 1.244 | 235.919 | 260.450 | 999.904 | -2.132 | -12.671 | 0.681 | 12.849 |
| 1100.000 | 1.070 | 231.817 | 257.508 | 1099.883 | -3.185 | -14.377 | 0.125 | 14.726 |
| 1200.000 | 1.127 | 227.846 | 254.491 | 1199.860 | -4.464 | -16.086 | 0.066 | 16.694 |
| 1300.000 | 1.216 | 240.055 | 252.092 | 1299.835 | -5.763 | -17.834 | 0.266 | 18.742 |
| 1400.000 | 1.331 | 233.022 | 250.516 | 1399.808 | -7.007 | -19.806 | 0.194 | 21.010 |
| 1500.000 | 1.196 | 237.904 | 248.836 | 1499.779 | -8.411 | -21.724 | 0.157 | 23.295 |
| 1600.000 | 1.374 | 239.136 | 247.664 | 1599.748 | -9.776 | -23.793 | 0.047 | 25.723 |
| 1700.000 | 1.464 | 243.194 | 247.171 | 1699.715 | -10.970 | -26.059 | 0.096 | 28.274 |
| 1800.000 | 1.286 | 263.448 | 247.618 | 1799.680 | -11.759 | -28.555 | 0.511 | 30.881 |
| 1900.000 | 1.440 | 276.394 | 249.268 | 1899.645 | -11.798 | -31.170 | 0.340 | 33.328 |
| 2000.000 | 1.486 | 288.377 | 251.219 | 1999.611 | -11.470 | -33.728 | 0.343 | 35.625 |
| 2100.000 | 1.348 | 300.918 | 253.914 | 2099.577 | -10.407 | -36.088 | 0.334 | 37.559 |
| 2200.000 | 1.105 | 324.852 | 257.061 | 2199.543 | -8.748 | -38.078 | 0.592 | 39.070 |
| 2300.000 | 1.434 | 309.012 | 260.086 | 2299.509 | -6.991 | -39.999 | 0.376 | 40.605 |

| | | | | | | | | |
|----------|-------|---------|---------|----------|---------|---------|-------|--------|
| 2400.000 | 0.739 | 314.642 | 262.420 | 2399.484 | -5.540 | -41.631 | 0.664 | 41.997 |
| 2500.000 | 0.553 | 310.367 | 263.535 | 2499.477 | -4.810 | -42.443 | 0.277 | 42.715 |
| 2600.000 | 0.507 | 300.971 | 264.265 | 2599.473 | -4.333 | -43.140 | 0.135 | 43.357 |
| 2700.000 | 0.750 | 293.911 | 264.754 | 2699.468 | -4.045 | -44.057 | 0.273 | 44.242 |
| 2800.000 | 0.861 | 284.763 | 265.206 | 2799.459 | -3.804 | -45.358 | 0.278 | 45.517 |
| 2900.000 | 0.971 | 291.426 | 265.748 | 2899.448 | -3.476 | -46.751 | 0.161 | 46.880 |
| 3000.000 | 1.086 | 287.847 | 266.419 | 2999.434 | -3.026 | -48.355 | 0.069 | 48.449 |
| 3100.000 | 0.891 | 263.051 | 267.133 | 3099.418 | -2.507 | -50.070 | 0.442 | 50.133 |
| 3200.000 | 0.811 | 293.884 | 267.742 | 3199.402 | -2.042 | -51.777 | 0.445 | 51.817 |
| 3300.000 | 0.930 | 298.635 | 268.679 | 3299.388 | -1.226 | -53.190 | 0.052 | 53.204 |
| 3400.000 | 0.600 | 61.059 | 269.336 | 3399.383 | -0.617 | -53.266 | 1.226 | 53.270 |
| 3500.000 | 1.210 | 72.181 | 269.880 | 3499.370 | -0.108 | -51.761 | 0.641 | 51.761 |
| 3600.000 | 1.664 | 70.190 | 271.299 | 3599.331 | 1.119 | -49.325 | 0.455 | 49.338 |
| 3700.000 | 2.234 | 68.103 | 273.276 | 3699.262 | 2.631 | -45.958 | 0.752 | 46.034 |
| 3800.000 | 2.259 | 61.361 | 276.096 | 3799.184 | 4.541 | -42.526 | 0.358 | 42.768 |
| 3900.000 | 1.698 | 59.364 | 278.893 | 3899.126 | 6.189 | -39.554 | 0.555 | 40.036 |
| 4000.000 | 1.065 | 80.968 | 281.183 | 3999.091 | 7.360 | -37.231 | 0.784 | 37.951 |
| 4100.000 | 1.413 | 75.152 | 283.125 | 4099.063 | 8.156 | -34.979 | 0.201 | 35.917 |
| 4200.000 | 0.921 | 97.906 | 284.080 | 4199.039 | 8.240 | -32.855 | 0.628 | 33.872 |
| 4300.000 | 0.446 | 121.073 | 284.119 | 4299.028 | 7.918 | -31.478 | 0.527 | 32.459 |
| 4400.000 | 0.352 | 183.950 | 283.514 | 4399.024 | 7.422 | -30.880 | 0.519 | 31.759 |
| 4500.000 | 0.538 | 222.661 | 282.505 | 4499.022 | 6.948 | -31.330 | 0.387 | 32.091 |
| 4600.000 | 1.201 | 185.732 | 280.603 | 4599.014 | 5.979 | -31.937 | 0.908 | 32.492 |
| 4700.000 | 1.584 | 170.221 | 276.123 | 4698.979 | 3.406 | -31.749 | 0.629 | 31.931 |
| 4800.000 | 1.661 | 190.026 | 270.813 | 4798.935 | 0.454 | -31.981 | 0.529 | 31.984 |
| 4900.000 | 1.497 | 187.527 | 266.575 | 4898.902 | -1.962 | -32.791 | 0.073 | 32.850 |
| 5000.000 | 1.368 | 207.902 | 263.040 | 4998.874 | -4.116 | -33.716 | 0.464 | 33.966 |
| 5100.000 | 1.139 | 216.786 | 260.339 | 5098.851 | -5.923 | -34.791 | 0.166 | 35.291 |
| 5200.000 | 1.096 | 227.947 | 258.801 | 5198.836 | -7.126 | -35.995 | 0.134 | 36.694 |
| 5300.000 | 1.002 | 224.526 | 257.689 | 5298.824 | -8.118 | -37.197 | 0.098 | 38.073 |
| 5400.000 | 0.741 | 227.720 | 256.809 | 5398.815 | -8.954 | -38.202 | 0.037 | 39.237 |
| 5500.000 | 0.471 | 196.373 | 256.189 | 5498.810 | -9.573 | -38.943 | 0.370 | 40.103 |
| 5600.000 | 0.443 | 190.793 | 255.365 | 5598.807 | -10.259 | -39.289 | 0.257 | 40.606 |
| 5700.000 | 0.393 | 207.414 | 254.309 | 5698.801 | -11.161 | -39.731 | 0.117 | 41.268 |
| 5800.000 | 0.467 | 241.273 | 253.475 | 5798.797 | -11.943 | -40.253 | 0.303 | 41.987 |
| 5900.000 | 0.999 | 252.003 | 253.038 | 5898.790 | -12.556 | -41.168 | 0.518 | 43.041 |
| 6000.000 | 0.883 | 255.713 | 253.395 | 5998.780 | -12.690 | -42.554 | 0.085 | 44.406 |
| 6100.000 | 0.655 | 265.348 | 253.486 | 6098.771 | -12.990 | -43.814 | 0.337 | 45.699 |
| 6200.000 | 0.769 | 261.954 | 253.851 | 6198.765 | -12.988 | -44.852 | 0.258 | 46.695 |
| 6300.000 | 0.276 | 310.250 | 254.330 | 6298.760 | -12.830 | -45.736 | 0.588 | 47.501 |
| 6400.000 | 0.586 | 325.947 | 255.089 | 6398.755 | -12.380 | -46.493 | 0.349 | 48.113 |
| 6500.000 | 0.827 | 345.968 | 256.346 | 6498.748 | -11.408 | -46.961 | 0.296 | 48.327 |
| 6600.000 | 0.915 | 351.033 | 257.910 | 6598.738 | -10.149 | -47.380 | 0.193 | 48.455 |
| 6700.000 | 0.470 | 346.760 | 259.112 | 6698.733 | -9.165 | -47.646 | 0.411 | 48.519 |
| 6800.000 | 0.109 | 294.999 | 259.700 | 6798.731 | -8.694 | -47.840 | 0.374 | 48.624 |
| 6900.000 | 0.082 | 251.533 | 259.960 | 6898.730 | -8.502 | -48.022 | 0.128 | 48.769 |
| 7000.000 | 0.158 | 191.040 | 260.002 | 6998.729 | -8.503 | -48.232 | 0.154 | 48.976 |
| 7100.000 | 0.105 | 323.375 | 259.965 | 7098.729 | -8.571 | -48.435 | 0.288 | 49.187 |
| 7200.000 | 0.030 | 170.630 | 259.886 | 7198.728 | -8.642 | -48.451 | 0.168 | 49.215 |