

Gyro vs Single Shot @ Dy Property91DY-01

| | Northy | Easty | Displ. |
|---------------------|--------|---------|--------|
| Gyro @ 1440' | 71.15' | -68.67' | 98.88' |
| Single shot @ 1410' | 72.09' | -50.75' | 88.12' |
| <u>Error :</u> | +0.94' | -17.92' | |

91DY-02

| | Northy | Easty | Displ. |
|---------------------|-----------|----------|---------|
| Gyro @ 1825' | 185.74' | -143.46' | 234.69' |
| Single shot @ 1816' | 202.18' | -124.27' | 237.29' |
| <u>Error :</u> | +16.44' N | -19.0' E | |

Single shot tends to over estimate Northings
and under estimate eastings. (?)

DY PROJECT - DEVIATION ANALYSIS

J. ZBEETNOFF
91DY-01

| TOTAL DEPTH | DIRECTION DEG | ANGLE DEG | VERTICAL DEPTH | LATITUDE FEET | DEPARTURE FEET | VERTICAL SECTION | DOG LRG |
|----------------|------------------|--------------|-------------------|------------------|-------------------|---------------------|------------|
| 0 | 0.0 | 0.00 | 0.00 | 0.00 N | 0.00 E | 0.00 | 0.00 |
| 160 | 33.0 | 0.80 | 159.99 | 0.94 N | 0.61 E | 0.45 | 0.50 |
| 268 | 20.6 | 0.60 | 267.99 | 2.10 N | 1.22 E | 1.08 | 0.23 |
| 400 | 324.0 | 0.87 | 399.98 | 3.56 N | 0.87 E | 2.49 | 0.56 |
| 530 | 327.0 | 1.50 | 529.95 | 5.78 N | 0.63 W | 5.18 | 0.49 |
| 630 | 323.0 | 3.05 | 629.87 | 9.00 N | 2.95 W | 9.14 | 1.56 |
| 770 | 319.0 | 4.75 | 769.54 | 16.35 N | 8.99 W | 18.61 | 1.23 |
| 910 | 317.0 | 5.45 | 908.98 | 25.59 N | 17.33 W | 30.90 | 0.52 |
| 1029 | 322.0 | 6.25 | 1027.36 | 34.83 N | 25.17 W | 42.93 | 0.80 |
| 1280 | 326.0 | 7.00 | 1276.69 | 58.28 N | 42.14 W | 71.84 | 0.35 |
| 1410 | 330.0 | 7.40 | 1405.66 | 72.09 N | 50.75 W | 88.12 | 0.49 |
| 1580 | 325.0 | 10.50 | 1573.57 | 94.27 N | 65.12 W | 114.54 | 1.88 |
| 1756 | 329.0 | 11.80 | 1746.25 | 122.83 N | 83.58 W | 148.55 | 0.86 |
| 1825 | 324.5 | 12.30 | 1813.73 | 134.86 N | 91.49 W | 162.95 | 1.54 |
| 1876 | 330.0 | 12.70 | 1863.52 | 144.14 N | 97.44 W | 173.97 | 2.46 |
| 1976 | 335.0 | 12.70 | 1961.08 | 163.62 N | 107.58 W | 195.82 | 1.10 |

THE DOGLEG SEVERITY IS IN DEGREES PER 100 FEET
THE VERTICAL SECTION WAS COMPUTED ALONG AZ. 326.67

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE
DISPLACEMENT IS 195.82 FEET, IN THE DIRECTION OF AZ. 326.67

Single shot

DY PROJECT - DEVIATION ANALYSIS

J. ZBEETNOFF
91DY-02

| TOTAL DEPTH | DIRECTION DEG | ANGLE DEG | VERTICAL DEPTH | LATITUDE FEET | DEPARTURE FEET | VERTICAL SECTION | DOG LEG |
|----------------|------------------|--------------|-------------------|------------------|-------------------|---------------------|------------|
| 0 | 0.0 | 0.00 | 0.00 | 0.00 N | 0.00 E | 0.00 | 0.00 |
| 206 | 8.5 | 1.38 | 205.98 | 2.45 N | 0.37 E | 1.92 | 0.67 |
| 316 | 334.0 | 1.13 | 315.96 | 4.74 N | 0.09 E | 4.03 | 0.71 |
| 400 | 316.0 | 3.70 | 399.87 | 7.43 N | 2.16 W | 7.49 | 3.15 |
| 550 | 304.0 | 5.60 | 549.38 | 15.01 N | 11.59 W | 18.82 | 1.42 |
| 700 | 312.0 | 7.10 | 698.46 | 25.30 N | 24.55 W | 34.29 | 1.16 |
| 916 | 317.0 | 8.25 | 912.52 | 45.57 N | 45.04 W | 62.19 | 0.62 |
| 1076 | 329.0 | 9.80 | 1070.55 | 65.64 N | 59.88 W | 87.02 | 1.52 |
| 1156 | 330.5 | 10.20 | 1149.33 | 77.64 N | 66.88 W | 100.91 | 0.60 |
| 1246 | 333.0 | 11.30 | 1237.75 | 92.44 N | 74.80 W | 117.68 | 1.33 |
| 1406 | 332.5 | 11.50 | 1394.60 | 120.55 N | 89.29 W | 149.25 | 0.14 |
| 1516 | 331.0 | 12.90 | 1502.11 | 141.02 N | 100.30 W | 172.47 | 1.30 |
| 1726 | 343.0 | 12.70 | 1706.93 | 183.60 N | 118.42 W | 218.33 | 1.27 |
| 1816 | 342.0 | 12.30 | 1794.79 | 202.18 N | 124.27 W | 237.29 | 0.51 |
| 1900 | 339.0 | 12.50 | 1876.83 | 219.18 N | 130.30 W | 254.98 | 0.80 |

THE DOGLEG SEVERITY IS IN DEGREES PER 100 FEET
THE VERTICAL SECTION WAS COMPUTED ALONG AZ. 329.27

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE
DISPLACEMENT IS 254.98 FEET, IN THE DIRECTION OF AZ. 329.27

Single shot