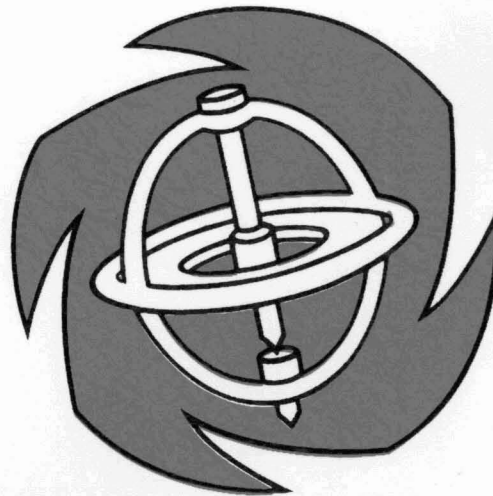


001653

sperry-sun

OF CANADA LTD

GYROSCOPIC DIRECTIONAL SURVEY
FOR
CYPRUS ANVIL MINING CORPORATION
80-X-08



canadian directional drilling services

sperry-sun

DIRECTIONAL SURVEY REPORT

FOR

CYPRUS ANVIL MINING CORPORATION



TYPE OF SURVEY: GYROSCOPIC DIRECTIONAL SURVEY

SURVEY DEPTH: FROM 00 m TO 976 m

LEASE: 80-X-08

FIELD:/AREA: FARO

PROVINCE: YUKON JOB NO. LRG-E-420

DATE OF SURVEY: 1980 07 30

OFFICE: EDMONTON, ALBERTA

SPERRY-SUN OF CANADA
GYROSCOPIC DIRECTIONAL SURVEY

PAGE 1

CYPRUS ANVIL MINING CORP.
30-X-08

LRG1.75-E-419
19800730

| TOTAL DEPTH | DIRECTION DEG | ANGLE DEG MIN | VERTICAL DEPTH | LATITUDE METRES | DEPARTURE METRES | VERTICAL SECTION | DOG LEG |
|-------------|---------------|---------------|----------------|------------------------|-------------------------|------------------|---------|
| 0 | 0.0 | 0 0 | 0.00 | 0.00 N | 0.00 E | 0.00 | 0.00 |
| 30 | 357.2 | 0 35 | 29.88 | 0.15 N | 0.02 W | 0.14 | 0.60 |
| 60 | 5.2 | 1 25 | 60.05 | 0.68 N | 0.02 E | 0.66 | 0.85 |
| 90 | 5.1 | 3 3 | 89.91 | 1.84 N | 0.12 E | 1.81 | 1.67 |
| 120 | 0.1 | 4 27 | 120.02 | 3.81 N | 0.20 E | 3.73 | 1.45 |
| 150 | 347.2 | 4 12 | 149.82 | 6.03 N | 0.05 W | 5.82 | 1.03 |
| 180 | 354.4 | 4 50 | 179.61 | 8.35 N | 0.42 W | 7.96 | 0.87 |
| 210 | 348.3 | 7 59 | 209.60 | 11.67 N | 0.97 W | 11.02 | 3.25 |
| 240 | 343.2 | 9 56 | 239.11 | 16.17 N | 2.14 W | 15.07 | 2.14 |
| 270 | 336.1 | 11 58 | 269.04 | 21.58 N | 4.18 W | 19.77 | 2.44 |
| 300 | 337.2 | 12 5 | 297.97 | 27.24 N | 6.62 W | 24.60 | 0.26 |
| 330 | 336.3 | 11 57 | 327.19 | 32.95 N | 9.07 W | 29.48 | 0.24 |
| 360 | 341.9 | 12 0 | 356.66 | 38.78 N | 11.30 W | 34.54 | 1.18 |
| 390 | 340.6 | 12 37 | 385.91 | 44.82 N | 13.36 W | 39.84 | 0.69 |
| 420 | 344.5 | 13 42 | 415.29 | 51.38 N | 15.41 W | 45.64 | 1.42 |
| 450 | 345.5 | 14 47 | 444.26 | 58.48 N | 17.31 W | 52.01 | 1.13 |
| 480 | 344.3 | 16 26 | 473.03 | 66.24 N | 19.41 W | 58.96 | 1.71 |
| 510 | 349.5 | 16 10 | 502.00 | 74.48 N | 21.34 W | 66.42 | 1.49 |
| 540 | 348.3 | 17 29 | 530.60 | 82.96 N | 23.01 W | 74.18 | 1.38 |
| 570 | 346.1 | 18 42 | 559.29 | 92.10 N | 25.08 W | 82.47 | 1.41 |
| 600 | 344.4 | 17 50 | 587.66 | 101.16 N | 27.47 W | 90.60 | 1.05 |
| 630 | 350.9 | 15 5 | 616.32 | 109.40 N | 29.31 W | 98.09 | 3.37 |
| 660 | 350.7 | 16 45 | 645.34 | 117.57 N | 30.64 W | 105.64 | 1.68 |
| 690 | 351.7 | 17 5 | 673.93 | 126.16 N | 31.97 W | 113.59 | 0.45 |
| 720 | 354.7 | 17 50 | 702.43 | 135.06 N | 33.02 W | 121.92 | 1.20 |
| 750 | 355.9 | 17 22 | 731.20 | 144.16 N | 33.77 W | 130.51 | 0.58 |
| 777 | 349.7 | 17 56 | 757.35 | 152.40 N | 34.83 W | 138.19 | 2.17 |
| 810 | 341.8 | 17 3 | 788.46 | 161.88 N | 37.22 W | 146.74 | 2.35 |
| 840 | 340.9 | 16 20 | 817.08 | 170.02 N | 39.96 W | 153.88 | 0.77 |
| 870 | 339.1 | 15 33 | 846.10 | 177.81 N ⁷⁶ | 42.79 W ^{42.3} | 160.67 | 0.95 |
| 900 | 342.3 | 14 3 | 874.99 | 185.00 N | 45.33 W | 166.97 | 1.74 |
| 930 | 351.5 | 12 43 | 904.06 | 191.71 N | 46.92 W | 173.04 | 2.56 |
| 960 | 347.6 | 11 32 | 933.57 | 197.94 N | 48.06 W | 178.76 | 1.46 |
| 976 | 347.6 | 11 2 | 949.41 | 201.03 N | 48.74 W | 181.57 | 0.94 |

THE DOGLEG SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.
THE VERTICAL SECTION WAS COMPUTED ALONG AZ. 15.0

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE
DISPLACEMENT IS 206.85 METRES, IN THE DIRECTION OF AZ. 346.4
BOTTOM HOLE DISPLACEMENT IS RELATIVE TO WELLHEAD.

CYPRUS ANVIL MINING CORPORATION

80-X-08

TSD 976 m
TVD 949.41 m

200

175

150

125

100

75

50

25

0



N

HORIZONTAL DISPLACEMENT IS 206.85 m

IN THE DIRECTION OF AZ 346.4

420 m

HORIZONTAL PROJECTION
SCALE 2 cm = 25 m

50

25

0

25

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OF CANADA LTD.

DRWG BY: *[Signature]*

CHKD BY: *[Signature]*

DATE Aug 5/80