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R E P O R T

F O R

CYPRUS MINES LIMITED, VANCOUVER

Evaluation of Gravity Survey over the ZAN - JET Claim Group

Whitehorse Mining District

conducted by Robert Chaplin for

Mercury Explorations Limited (June 6, 1969)

May 1970

Report for Cyprus Mines Limited, Vancouver, Evaluation
of Gravity Survey over the ZAN - JET Claim Group, Whitehorse
Mining District, conducted by Robert Chaplin for Mercury
Explorations Limited (June 6, 1969)

GENERAL CONDUCT OF SURVEY:

Since the field notes were not available gravity meter drifts and elevation closures could not be examined for accuracy. Station elevations were established by use of barometers rather than levels. The report states that closures were maintained at ± 3.0 feet per mile, ie $\pm .20$ milligals per mile. This is not sufficient accuracy, since it means an error of .40 milligals is possible (the magnitude of the anomaly is only 1.00 milligals). Transit surveys are 10 times more accurate.

Major defect in the survey is the lack of proper treatment of the gravity data. No terrain corrections were applied, which in the rugged terrain surveyed are essential and can be simply worked out without even computer assistance. An elevation correction factor of .0628 milligals per foot was used, which is too high. This precludes an average rock density in the survey area of 2.5. Rock density is more likely 2.7 with a proper correction factor of .060 milligals per foot.

This mistake results in gravity contours following elevation contours. The determination of the Residual anomaly from the Bouguer gravity is in my opinion poorly done.

CONCLUSIONS:

The broad .90 milligal anomaly between lines 340 and 390 would be reduced by .30 to .60 milligals if terrain corrections had been applied. This reduction places the anomaly in the questionable category.

The anomaly between lines 440 and 480 occurs in an area of uniform slope. Terrain corrections were calculated for three stations on line 450 - at 203 feet (.21 milligals); at 481 feet (.55 milligals); at 828 feet (.67 milligals). Terrain corrections would enhance this anomaly and expand it southward.

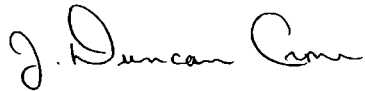
The best anomaly from my work occurs between 8 + 00N and 28 + 00N lines 420 and 430 and is probably connected to the anomaly between lines 440 and 480. Proper computations would probably increase the magnitude of this anomaly.

RECOMMENDATIONS:

A valid gravity anomaly in the order of 1.00 to 1.50 milligals occurs between lines 410 and 460. Rather than

repeat the gravity anomaly; I would suggest a detailed I. P. survey of this area using 200', 500', and 1000' array spreads. This would either support or reject the possibility that the gravity anomaly is caused by metallic mineralization within 500 feet of surface.

Respectfully submitted;

A handwritten signature in cursive script that reads "J. Duncan Crone". The signature is written in black ink and is positioned above the typed name.

J. Duncan Crone; B.A., P.Eng.
Geophysicist.