

514

687-6671

~~XXX~~ 602 West Hastings Street, Vancouver, British Columbia, Canada * Telephone ~~02000002~~

DISCUSSION OF MAGNETOMETER SURVEY ON DUCKLING CLAIMS
FOR
DONNA MINES LTD. (N.P.L.)

Submitted to: DONNA MINES LTD. (N.P.L.)

E. O. Chisholm, P.Eng.
Consulting Geologist

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

INTRODUCTION

A magnetometer survey was completed over a portion
of the DUCKLING claim group in the Germansen Landing
area of the Omineca M.D. from June 7 to June 10, 1971.
The survey was undertaken by 2 men employed by Donna
Mines Ltd. and under the writer's supervision.

No. 3536 MAP

The survey covered claims, in part or in full,
DUCKLING 3, 4, 5, 4 fraction, and 5 fraction.

A total of 258 readings were taken to give 5 line
miles of survey.

The object of the survey was to locate additional
zones of chalcopryrite since it seemed to be associated
with magnetite in this area.

#1 Grid Map
2 Contour Map

Mining Recorder's Office
RECORDED
JAN 27 1972
AT
SMITHERS, B.C.

GEOLOGY

The geology is largely taken from Woodcock and Chisholm.

The property lies on a contact of the Takla Volcanics of Upper Triassic and Jurassic Age with the Hogem Batholith of Upper Jurassic or Lower Cretaceous Age. The intrusive in the claims area is largely syenite and the volcanics, andesite.

As Chisholm points out, the larger ore zones to date have been found in a contact zone "of mixed or hybrid rocks that are difficult to classify but are generally darker coloured than the syenite intrusive itself and contain abundant augite." The copper mineralization is in the form of chalcopyrite and is associated with pyrite, magnetite, and pyrrhotite.

On the Donna property, there have been 4 showings uncovered. Three of them are in the Takla andesites (as shown on geochem map) and the fourth, the Timber showing, is in the syenite hybrid zone. The Discovery showing has been 'cat' trenched and diamond drilled. The chalcopyrite is associated with pyrrhotite, is vein-type in form, and appears to pinch out with depth. Therefore, the exploration target on these claims has become a porphyry copper type within the syenite which to date makes the Timber showing the prime prospect.

INSTRUMENTATION

A portable, vertical component, fluxgate magnetometer, Model G-110, manufactured by GEOTRONICS SURVEYS LTD. of Vancouver, B.C., was used. It is a visual-null type, utilizing a meter, with a digital dial readout that has a range of 100,000 gammas and a reading accuracy of 10 gammas. Its temperature coefficient is approximately 2 gammas per 1° change on the centigrade scale. The G-110 incorporates a self-levelling device, an oil-damped gimbal that will level the sensing element within $\pm 16^{\circ}$.

DATA TREATMENT

All readings were corrected for diurnal change. A value of 55,000 gammas was then subtracted from these corrected readings which subsequently were then plotted on sheet 1 at a scale of $1" = 400'$. These values were then contoured on an overlay with a contour interval of 200 gammas.

DISCUSSION OF RESULTS

The readings varied from under 300 gammas to 5,000 gammas with the average around 2,000 to 2,500 gammas.

The contour map shows a number of sporadic highs and lows that seem to have a depth to the center of their source of no more than 50 feet. They are therefore an erratic, surface distribution of magnetite and/or pyrrhotite which is not uncommon with syenites.

There is no strong correlation between the mineral showings and/or geochemistry and the magnetics.

The anomaly labelled A which is small and of moderate magnitude correlates directly with the Timber showing. Anomaly F could be its extension.

Anomalies B, C, and D seem to be part of a magnetic pattern that strikes N80E and overlies and parallels to the north geochem anomaly A which also strikes in this direction. Anomaly D at the eastern end of the magnetic lineation and geochem anomaly is the most promising anomaly of the survey area since it extends northerly and is open on its north and east sides. It is relatively large and is of moderately high amplitude. No geochemistry has been done on the northern part of the anomaly or its possible extension.

Anomaly E is a one-value high (it was rechecked) with an amplitude of 5,000 gammas. It is more probably due to a vertical, pyrrhotite lens since it is not a dipole anomaly which is more often characteristic of magnetite. It weakly correlates with geochemistry.

Anomaly F, on the other hand, because of 2 dipole anomalies, probably represents a horizontal magnetite lens striking in a north-south direction, with a length of 500 feet and an unknown width not likely more than 500 feet. It is a possible extension of anomaly A and the Timber showing.

It is difficult to say whether the magnetics reflect the syenite/andesite contact as not enough surveying has been completed across the contact zone. However, as shown on the contour map, there is a lineation of contours in a N70W direction that possibly reflects the contact.

Tyee Lake Resources Ltd. on their Rondah group of claims to the north of the Donna property did a magnetometer survey. There was good coincidence between a magnetic high and their main copper showing. However, the contact between the syenites and andesites had no apparent magnetic expression. This is probably due to an equal amount of background magnetite between the two rocks. Perhaps, though, a smaller contour interval than 500 gammas, as is on the Tyee map, would magnetically reveal the contact.

CONCLUSIONS AND RECOMMENDATIONS

The magnetic survey achieved the objective to a limited degree in that one anomaly correlates directly

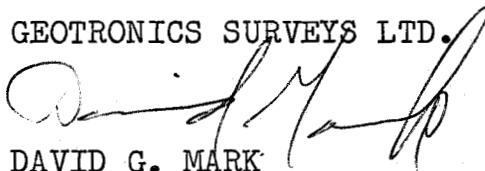
with the Timber showing and a lineation of 3 anomalous highs somewhat correlates with a promising geochem anomaly.

However, the writer feels that it would have been advantageous if a larger area was surveyed. An easier and perhaps a more correct interpretation would have been given, anomaly D, the most promising, would be more fully delineated and the possibility of the magnetics as a lithological mapping tool could be more properly assessed.

It is therefore recommended to continue the magnetic survey, especially in a northern and eastern direction and preferably in a southern and western direction also. The geochem survey should be continued likewise. It is desirable to fully cover magnetic anomaly D and its possible extension.

Respectfully submitted,

GEOTRONICS SURVEYS LTD.


DAVID G. MARK
Geophysicist

DGM:ly
June 21, 1971



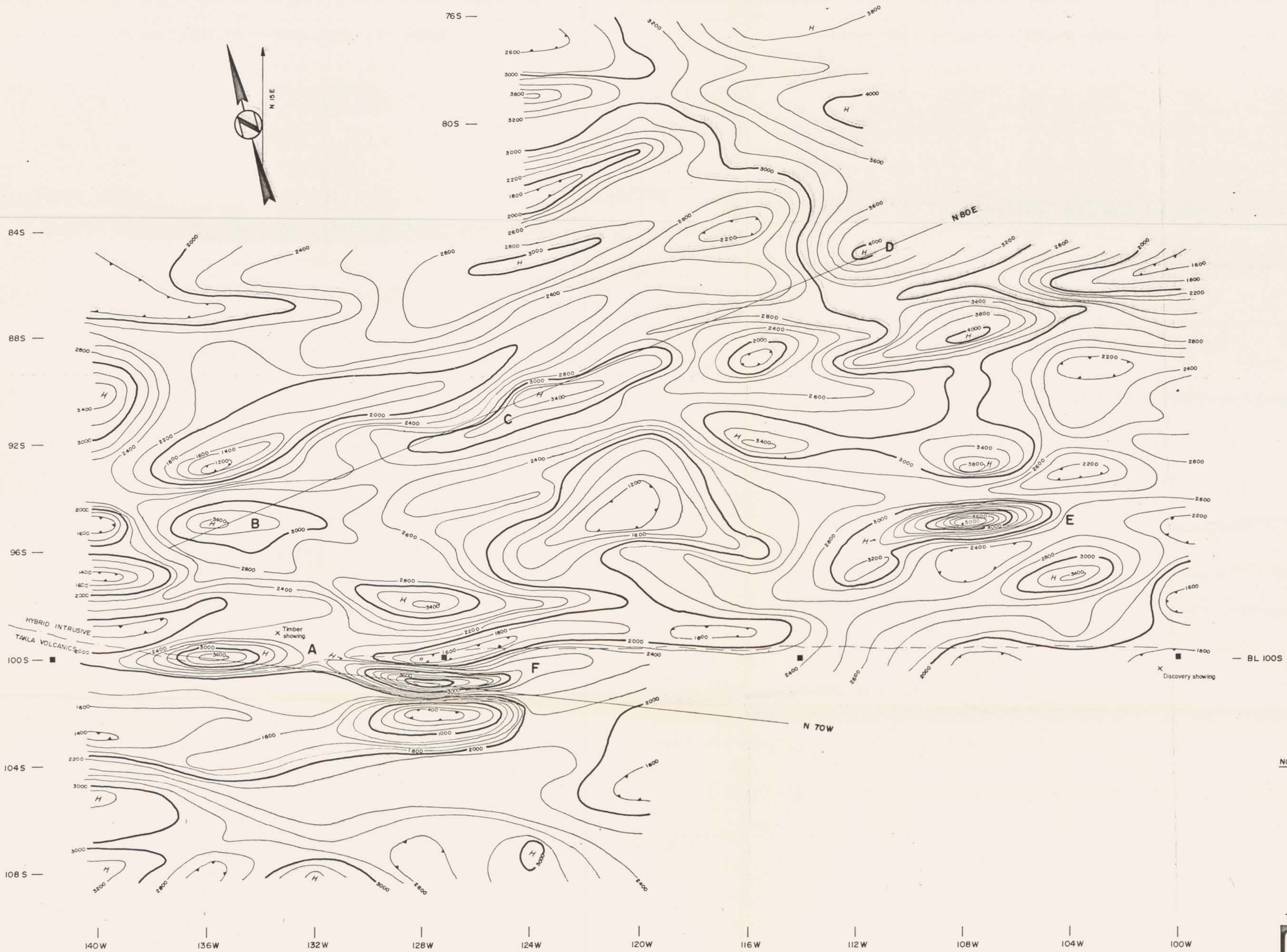
REFERENCES

Armstrong, J.E.: Fort St. James Map-area, Cassiar and Coast Districts, British Columbia; Geol. Surv. of Canada, Memoir 252, 1949.

Chisholm, E.O.; Progress Report - The Duckling Claim Group, Omineca District, of Donna Mines Ltd. (N.P.L.) January, 1971.

Woodcock, J.R.: The Duckling Creek Properties, Tye Lake Resources, August, 1970.

Magnetometer Survey Map, Rondah Claim Group, Tye Lake Resources, 1970.



LEGEND

- Claim post
- ⤵ Magnetic low
- H Magnetic high

NOTE: CONTOUR INTERVAL IS 200gamma

TO ACCOMPANY GEOPHYSICAL REPORT BY D. MARK, B. Sc.

DONNA MINES LTD. (NPL)			
DUCKLING CREEK AREA, B.C.			
OMINECA M.D.			
MAGNETOMETER SURVEY			
type of survey CONTOUR MAP			
scale 1" = 200'	date JUNE 1971	job no. 71-61	sheet no. 2
drawn by P.P.			

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3536 MAP. #2

76-S

80-S

84-S

88-S

92-S

96-S

100-S

104-S

108-S



LEGEND

- Survey line, station & readings
- Claim post
- Claim boundary
- 2, 2 FR. Claim No. (DUCKLING CLAIMS)

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3536 MAP #1

NOTE : Absolute value of readings is 55 000 plus plotted readings.
Instrument used - G110 magnetometer

To accompany geophysical report by D.G. Mark, B.Sc.

DONNA MINES LTD.				
DUCKLING CREEK AREA, B.C.				
OMINECA M.D.				
MAGNETOMETER SURVEY				
type of survey GRID MAP				
scale 1" = 200'	date JUNE 1971	job no. 71-61	sheet no. 1	drawn by P.R.
		Geotronics Surveyors Ltd. <small>Geophysical Surveys, Ground & Airborne</small>		
<small>337 - 602 West Hastings Street, Vancouver, British Columbia</small>				

3536 M-1