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C O N T E N T

	<u>Page</u>
Introduction - - - - -	1
Land Survey - - - - -	2
Geomagnetic Survey - - - - -	2
Geomagnetic Results and Interpretations -	2
Conclusions and Recommendations - - - - -	4

Report on a Geomagnetic Survey of the Property of

BRUIN YELLOWKNIFE MINES LIMITED

Price Township Province of Ontario.

INTRODUCTION

The property of Bruin Yellowknife Mines Limited consists of 21 claims (TRP 31737 to 31745 (inclusive) and TRP 31575 to 31586 (inclusive) located in the northwestern portion of Price Township, Ontario, a little over one mile to the east of the power development at Wawaitin Falls on the Mattagami River.

The property can be reached from Timmins, Ontario, which lies about ten miles to the northeast, either overland or, in the summer, by way of the Mattagami River.

Most of northern Price Township is extensively covered by glacial deposits through which very few outcrops appear. The scanty information available indicates that the northwestern corner of Price is underlain by Temiskaming sediments, including banded iron-formation, with Keewatin volcanics lying to the west and south, which have been intruded in the southeastern portion of the Township by granite and related porphyries.

Several outcrops of sediments, including iron formation, occur on the northern half of the Bruin property, striking roughly east-west, and although no volcanic outcrops have been mapped within half a mile of the property boundaries, it has been assumed, on the basis of the regional geology, that the contact between sediments and volcanics traverses the Bruin ground, striking in an east-west direction at the west end of the property and swinging rather abruptly to a trend slightly east of north in the eastern portion of the property.

Since the limit of error in locating this contact by ordinary geological mapping is in the order of one-half mile, a geomagnetic survey was undertaken with the objects; (a) of locating and tracing this contact; (b) of

tracing the band of iron formation which outcrops in two places on the Bruin claims, using it as a marker horizon to indicate structural features possibly favourable to mineralization; (c) of outlining serpentinized zones, two outcrops of which have been observed within the property limits, and thus determining in general the geological conditions to be expected beneath the drift-covered portions of the property.

#### LAND SURVEY

The control grid for the geomagnetic survey was laid by Mr. R. P. Miquelon. The number 3 post of Claim TRP 31575 was chosen as the point of origin for a baseline extending due east for 6800 feet. Picket lines were turned off at right angles to the baseline and extended by picketting to the property boundaries. Stations for geomagnetic observations were established by chaining at 100 foot intervals along the lines thus laid out.

#### GEOMAGNETIC SURVEY

Observations of vertical magnetic intensity were made at 100 foot intervals with closer spacing of observations in areas of magnetic disturbance. All observations were corrected for diurnal variation of the earth's field by periodic checking of control stations. Values of magnetic intensity were calculated in gammas, the unit of magnetic intensity and plotted in the form of magnetic profiles, on a scale of 200 gammas to the inch. From the profiles thus obtained, the accompanying geomagnetic contour map was prepared.

#### GEOMAGNETIC RESULTS AND INTERPRETATIONS

Geomagnetic anomalies encountered on the Bruin property form a complex pattern in which three types of anomaly may be differentiated:

Type 1. A long, narrow linear anomaly can be traced in a direction S 60° E from the north boundary of the property in the vicinity of Line 16 to 650 feet south on line 52E, a distance of 4,000 feet. At places along this zone intensity rises to over 4500 gammas. This anomaly indicates the course of a band of iron formation,

two outcrops of which occur in the vicinity of 1100 feet north Line 20E and about 300 feet north on line 36E.

East of Line 52E the course of the iron formation band becomes somewhat obscure due to involvement of the iron formation anomaly with anomalies of type 2 discussed below. There is a fair possibility, however, that the band is involved here in complex folding as indicated on the map, swinging sharply to the west after crossing Line 52E and trending in a direction slightly south of west for about 1000 feet to Line 44, where it again folds sharply back to the east and continues to the east and northeast, with minor folding, beyond the limits of the property.

Type 2. Includes irregularly-shaped anomalies in which intensity occasionally rises to over 5000 gammas. Eight of these anomalies are shown on the geomagnetic map. These anomalies are considered indicative of the presence of bodies of serpentine or serpentized gabbro of Haileyburian age, two outcrops of which have been found near the centre of the property. The doubtful trend of the iron formation band east of Line 52E is a result of the presence of an anomaly in this area which may be ascribed either to the presence of an irregular-mass of serpentine which has cut off the iron formation or to complex folding of the sediments in this vicinity. Both possibilities have, therefore, been shown on the interpretative map.

Type 3. In the extreme southern portion of the property an east-west trending anomaly was encountered, only the northern flank of which lies within the property boundary. Intensity along this zone is greatest near the west boundary where intensity rises to over 2900 gammas, suggesting the presence of another of the serpentine bodies discussed above. To the east, however, intensity along the anomaly is considerably lower suggesting that this zone is underlain by basic to intermediate volcanic rocks of Keewatin age. The contact between volcanics and sediments cannot be located with great accuracy but its probable approximate

position has been shown on this map. The trend of this anomaly shows no tendency to swing to the north as Government geological maps of this area indicate for the volcanics-sediments contact which it should parallel.

CONCLUSIONS AND RECOMMENDATIONS

The geomagnetic survey indicates that the Bruin property is, for the most part, underlain by sediments of Temiakaming age, including a band of iron formation which was traced magnetically for 4000 feet. This band may be involved in complex folding in the western portion of the property, or may be cut off by a body of Haileyburian serpentized gabbro, several intrusive masses of which, are indicated by the magnetic results.


The extreme southern portion of the property including a belt along the south boundary of the property may be underlain by Keewatin volcanics.

The first step in further exploration of the property should be diamond drilling to determine whether the iron formation continues in a series of drag-folds to the eastern boundary of the property or whether these anomalies are due to the presence of an irregular serpentine mass. Two pilot diamond drill holes are suggested to test this area and simultaneously to explore the favorable fold areas should the anomalies prove to be due to the presence of the iron formation band (also see map).

Hole No.	Location	Direction	Dip	Slope Length
1	4400' E 1050' S	Due South	45°	850'
2	6400' E 350' S	Due South	45°	1130'

Respectfully submitted,

MINING GEOPHYSICS CORPORATION LTD.

  
John H. Low  
Geologist and Geophysicist.



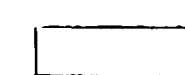
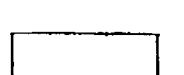
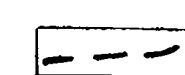
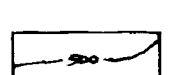
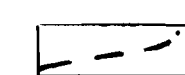
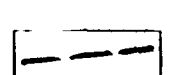


  
N. B. Keevil  
Consulting Geophysicist.

Geomagnetic Contour Map  
with Interpreted Geology

# BRUIN YELLOWKNIFE MINES LTD.

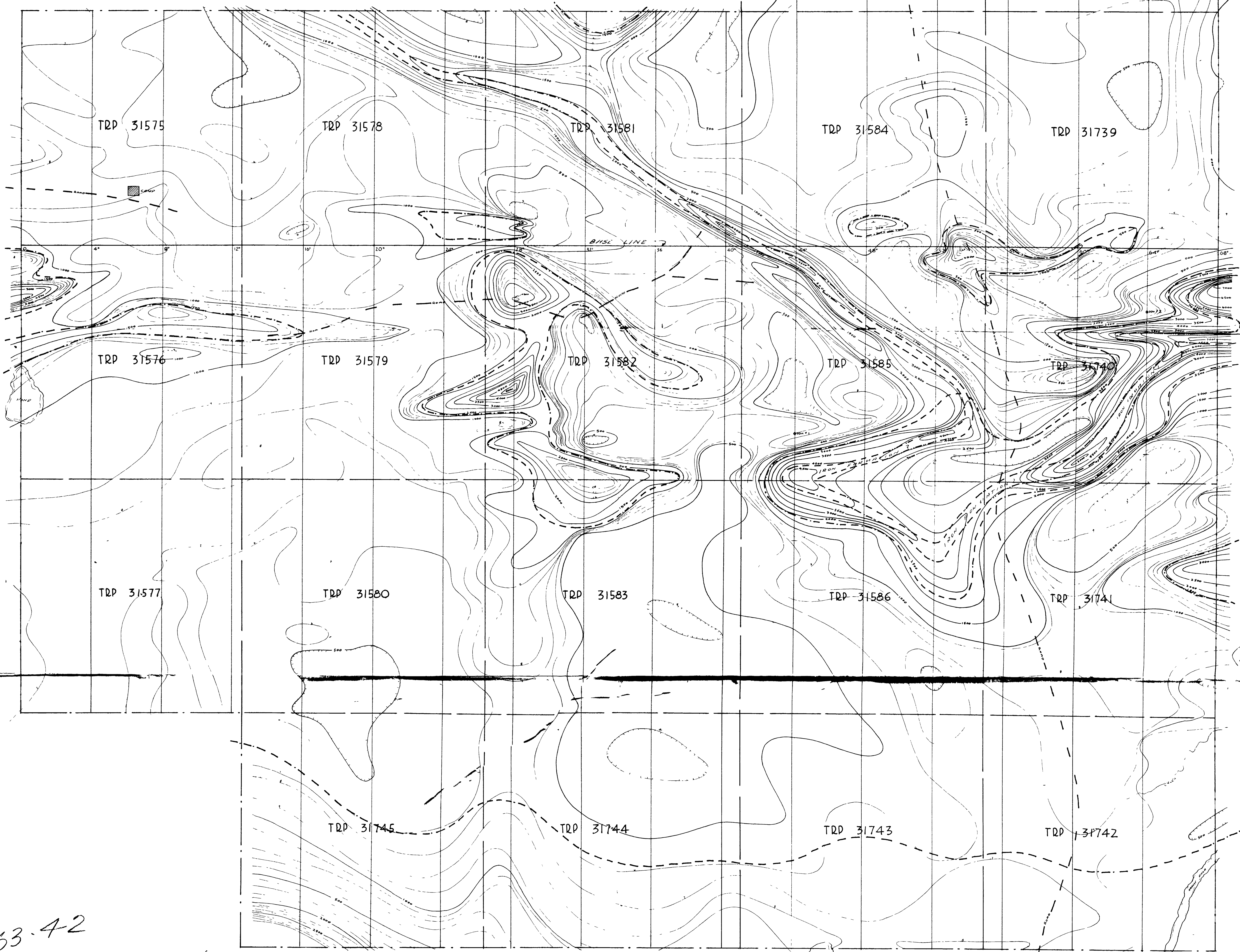
Price Township, District of Timiskaming Ont  
Scale 1"=200'  
Contour Interval 100 and 500 gamma

### LEGEND

- |   |  |
|---|--|
|  Serpentine and/or Gabbro        |  Iron formation                           |
|  Conglomerate Greywacke          |  Intermediate to basic volcanics          |
|  Approximate Geological Boundary |  Geomagnetic contour, with value in gamma |
|  Assumed Geological Boundary     |  Road                                     |
|  Proposed DDH                    |  Claim boundaries approximate             |

LAND SURVEY BY R.P. MIDGELON

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