



TELEPHONE PLAZA 5909

M. E. YOUNG
PAUL YOUNG
W. H. GROSS77 YORK STREET
TORONTO, ONT.

Report on the
Geophysical and Geological Surveys
of the Property of Walcoro Porcupine Mines Ltd.
Robb Township, Porcupine Area, Ontario.

SUMMARY AND CONCLUSIONS

The object of the survey was to investigate the economic possibilities of the property. Over three quarters of the property is covered by deep drift and swamp. For this reason a magnetic geophysical survey was undertaken in order to indicate rock contacts and structures and to act as an aid to the geological work.

The property is believed to be underlain principally by gabbro. Two types of gabbro occur; one gives high magnetic readings, the other gives low values. A quartz vein containing low gold values occurs in the gabbro of low magnetic property. The magnetic survey indicates that the gabbro of low magnetic susceptibility may extend to the western boundary of the property. The strength of the shearing containing the vein, the width of the vein itself and the westward continuation of the low anomaly of the vein area strongly suggest that the vein zones extend to the western boundary of the property. The logical method of testing the westward extension of the vein under the overburdened areas is by diamond drilling. Although gold values have been low where the vein has previously been exposed by surface trenching and diamond drilling, approximately 2,000 feet of the structure between the most westerly

drill hole and the west boundary of the property has been untouched and unexplored.

FIELD WORK

Field work for the magnetic survey was started on May 8 and was completed on May 28th. The geological work started on May 17th and was completed on May 28th.

PERSONNEL

F. Dunn was in charge of the geophysical survey. W. H. Gross and geologist assistants mapped the geology.

LOCATION AND ACCESSIBILITY

The property of Walcoro Porcupine Mines Ltd. is located in Robb Township, Timmins Mining Division, District of Cochrane, Ontario. The group consists of twelve claims whose numbers are P-32852-54 and P-31360 to P-31368 inclusive.

The north-east corner of the group lies one half mile south-west of Kamiskotia Lake. The township line between Robb and Turnbull Townships forms the southern boundary of the property.

The property is roughly 15 miles north-west of Timmins and can be reached via the Kamiskotia road. A good trail leads from Jamieson's camp on the Kamiskotia road to the core shack on the property. The trail is about three miles long.

LAND SURVEY

Three base lines were used as a survey control on this group. The south boundary of Robb Township was used as

the main base line. Two parallel sub-base lines were cut in the central and northern part of the property. Cross lines were turned off from the base lines at 300 foot intervals and they were cut to the limits of the property. These lines were chained and picketed at 100 foot intervals.

A total of 15 miles of line was cut which included 1.5 miles of base line and 13.5 miles of cross lines.

The line cutting proved to be a major task since the area covered by the claims is heavily wooded and even the township line had to be partially recut.

MAPS

Three maps, Nos. W-17, W-18, and W-19, each drawn to a scale of 1 inch to 200 feet, accompany this report.

Map No. W-17 shows the magnetic readings in gammas at each station where an observation was made.

Map No. W-18 shows our interpretation of the magnetic results and is based on a correlation of the isomagnetic lines and the geological data.

Map No. W-19 is a geological map of the Walcoro group as well as pertinent geology from surrounding groups.

TOPOGRAPHY

The Walcoro ground is generally low and swampy with the exception of Kamiskotia hill in the north-western part of the property. The hill rises some 250' to 300' above the general level. On the southern part of the hill a tail of sand, gravel, and boulders forms an esker-like ridge which stretches to the southern boundary of the property.

GENERAL GEOLOGY

Most of the rock outcrops on the property occur in the vicinity of Kamiskotia hill. The rock is medium to coarse-grained, of basic composition, and was classified as gabbro in the field. Irregular bands and patches of gabbro pegmatite consisting of coarse crystals of feldspar, hornblende, and magnetite occur in places in the finer-grained gabbro. Small granite dikes up to 10" wide with strikes of N. 5° E. and N. 30°-40° W. cut the basic rocks. Part of the gabbro is well banded in a north-west direction. Small shears, 2' to 3' wide, strike roughly parallel to this banding.

In the south-west corner of the property a medium to fine-grained acidic rock outcrops. It is possible that this rock is a rhyolite flow. However, no flow structures could be identified in the rock and it is therefore more likely to be an acid intrusive. This rock is cut by northerly trending diabase and smaller basic dikes.

A granite stock outcrops to the east of the property. Its contacts with the gabbro are shown on the accompanying Map W-19.

ECONOMIC GEOLOGY

The main showing lies in the south central part of Claim 31360. It consists of a quartz-carbonate vein cutting the gabbro country rock. The vein strikes N. 70°-75° E. and dips from 35° to 45° to the north. The vein varies in width from two to three feet and is exposed in two trenches over a strike length of roughly 200'. Sulphides, including pyrite, pyrrhotite and chalcopyrite make up about 1% of the vein.

The vein lies in a shear zone which is up to 20' wide. The shear strikes parallel to the vein but dips 55° to 60° to the north.

The vein has been explored for about 1,000' along the strike by diamond drilling. The location of drill holes and sample sections where available are plotted on Map W-19. Much of the core was relogged but all the vein material was missing as apparently the core was not split when samples were taken. The gabbro was checked for sulphide mineralization. One representative five-foot section containing up to 1% pyrrhotite was assayed for nickel but none was found to be present.

Cross sections were made through Drill Holes 9A, 10A, 11A, and 12A to check the drill results with the surface structure. In several drill holes more than one quartz vein occurred but generally speaking the main intersections of quartz in the drill holes lined up with the surface dip of the vein. Assay results from the section of the vein were too low to be of economic value. However, the vein structure, as indicated by the width of quartz intersected in the deeper holes, appears to be fairly strong and continuous and it is possible that ore shoots may occur in the vein further to the west.

The gabbro outcrops on Kamiskotia hill were carefully inspected for the presence of sulphides. A small amount of pyrite, believed to be primary, was found disseminated in the rock. Some hydrothermal pyrite associated with quartz and carbonate was found in two old pits whose location is shown

on Map W-19. The mineralization extended over an area only about ten feet square and thus does not appear to be of economic interest.

GEOPHYSICAL SURVEY

General

Two magnetometers were used to make the magnetic observations on the property. One instrument was a Sharp, one-man, Schmidt-type magnetometer set to a sensitivity of 18.3 gammas per scale division; the other was a Schmidt-type magnetometer set to a sensitivity of 17.5 gammas per scale division. Base stations were established on the three base lines and corrections were made for diurnal variation, temperature changes, and possible changes in the centres of gravity of the instruments due to shock. With the above corrections applied to the field readings the magnetic values at each station stand in absolute relation to one another as though all of the readings had been taken simultaneously. The number of magnetic observations taken include 711 at surveyed stations and 24 intermediate readings taken where sharp changes in readings occurred.

Interpretations

Our interpretation of the magnetic readings is shown on Map No. W-17. The normal vertical magnetic intensity of the rocks on this property was assumed to be between 300 and 1,000 gammas. Areas above 1,000 gammas are coloured blue and areas below 300 gammas are coloured yellow. Deeper shades of blue and yellow indicate a greater departure of the magnetic values from the normal readings.

The area of higher than normal magnetic readings in the northern part of the property is underlain by gabbroic rocks. These rocks were examined in some detail and they were found to contain considerable magnetite. The amount and grain size of the magnetite was exceedingly variable but in places it makes up to 10-15% of the rock. Magnetite has a high magnetic susceptibility and is believed to have caused the high magnetic readings over the gabbro in this vicinity.

There is a sharp contrast between the higher than normal readings in the northern part of the property (coloured blue on Map No. W-18) and the lower than normal readings (coloured yellow) adjoining to the south. Outcrops of gabbroic looking rock occur in this yellow coloured area. Here, however, the gabbro is generally altered and has a low magnetite content. The reason for this alteration and reduction in the magnetite content is in doubt. It may be attributed to metamorphism caused by the large scale intrusion of granite, differentiation in the gabbro intrusion, or possibly two separate intrusions of gabbro one of which has a high content of magnetite. In order to differentiate between gabbro giving high and those giving low magnetic effects the outcrops are lettered 2 and 2A respectively.

It may be significant that the quartz vein of the main showing lies in this low magnetic area. It is also noteworthy that the quartz vein is closely overlain by a much lower than normal magnetic area which is closely parallel to the strike of the vein. The area of low anomaly extends westward across the property. The most westerly drill hole gave a good

width in quartz although the gold values were low. (Refer to Map No. W-19). Nevertheless, the drilling indicates a vein of good width, and shearing on the surface is quite strong. Furthermore, the geophysical survey suggests that the structure extends to the western boundary of the property. This would open up approximately 2,000' of favourable prospecting ground because although in general low gold values have been obtained from the vein to date, it is possible that ore shoots may occur on the westward extension of the vein.

The northerly trending anomaly in the south-west part of the property is caused by a diabase dike which is shown on the geological Map No. W-19. Detailed magnetic work showed that the dike gave higher than normal magnetic readings. Contacts of the diabase were checked for radioactivity with a Geiger counter. No activity above normal was noted.

The higher than normal readings in the south-east part of the property is considered to be the manifestation of the granite contact which closely parallels the anomaly.

RECOMMENDATIONS

The surveys were successful in indicating the westward continuation of the known shear zone and quartz vein and in indicating probable geological conditions under overburdened portions of the property. Although there were practically no outcrops except in the northern portion of the property, the magnetic survey indicates that the overburdened areas are underlain by gabbro of low magnetic susceptibility.

Future exploration possibilities on the property appear to be confined to the unexplored portion of the known

quartz vein. Approximately 2,000' of this structure, along strike, as indicated by the magnetometer survey, is covered by overburden and has not been explored by diamond drill holes. The strength and persistence of the vein structure, and the fact that low gold values are present, appear to justify a modest amount of exploratory diamond drilling between Diamond Drill Hole No. 19A and the western boundary.

Respectfully submitted,

YOUNG, YOUNG & GROSS, LIMITED



Per; W. H. Gross, P. Eng.

Toronto, June 1949

Encs. Maps Nos. W-17, W-18, W-19.

YOUNG, YOUNG & GROSS, LIMITED

ENGINEERS, GEOLOGISTS & GEOPHYSICISTS
MINING CONSULTANTS - EXPLORATION

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The following statement, which is certified to be correct by the undersigned, is to form an appendix to the Report on The Geophysical and Geological Surveys of the Property of Walcoro Porcupine Mines Ltd., Robb Township, Timmins Mining Division, District of Cochrane, Ontario, by Young, Young & Gross, Limited, dated June 15th, 1949.

- | | |
|---|---|
| 1. Name of Firm | Young, Young & Gross, Limited |
| 2. Dates of Field Work | Geophysical - May 8th-28th, 1949
Geological - May 17th-28th, 1949 |
| 3. Types of instruments, and Scale Constant | 2 Schmidt-type Magnetometers
18.3 and 17.5 gammas per scale division |
| 4. Total number of Stations established | 735 |
| 5. Number of miles of line cut | 15 |
| 6. Maps | W-17, W-18, W-19, submitted |
| 7. Report | June 1949, submitted |
| 8. Breakdown of man-days employed | |

(A) Geophysical

(a) Line-cutters

Archibald Henley, Timmins - May 8-26 - 19 days x 4
George Demeria, Timmins - May 8-26 - 19 days x 4

Geol
76 } $\frac{1}{2} = 76$
76

(b) Instrument Operators

F. S. Dunn - May 8-28 - 21 days x 4
W.H.Gross helped by Milne - May 8-16 - 18 days x 4

84 } $\frac{1}{2} = 76$
72

(cont'd)

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(B) Geological

(a) Field Work

W.H.Gross, K.Morgan, I.Milne- May 17-28 - 33 days x 4 132 132

(C) Office

(a) Drafting

A. B. Ferguson

-

6 days x 4 24

} 24

(b) Consultants (report, etc.) -

6 days x 4 24

TOTAL OF MAY-DAYS

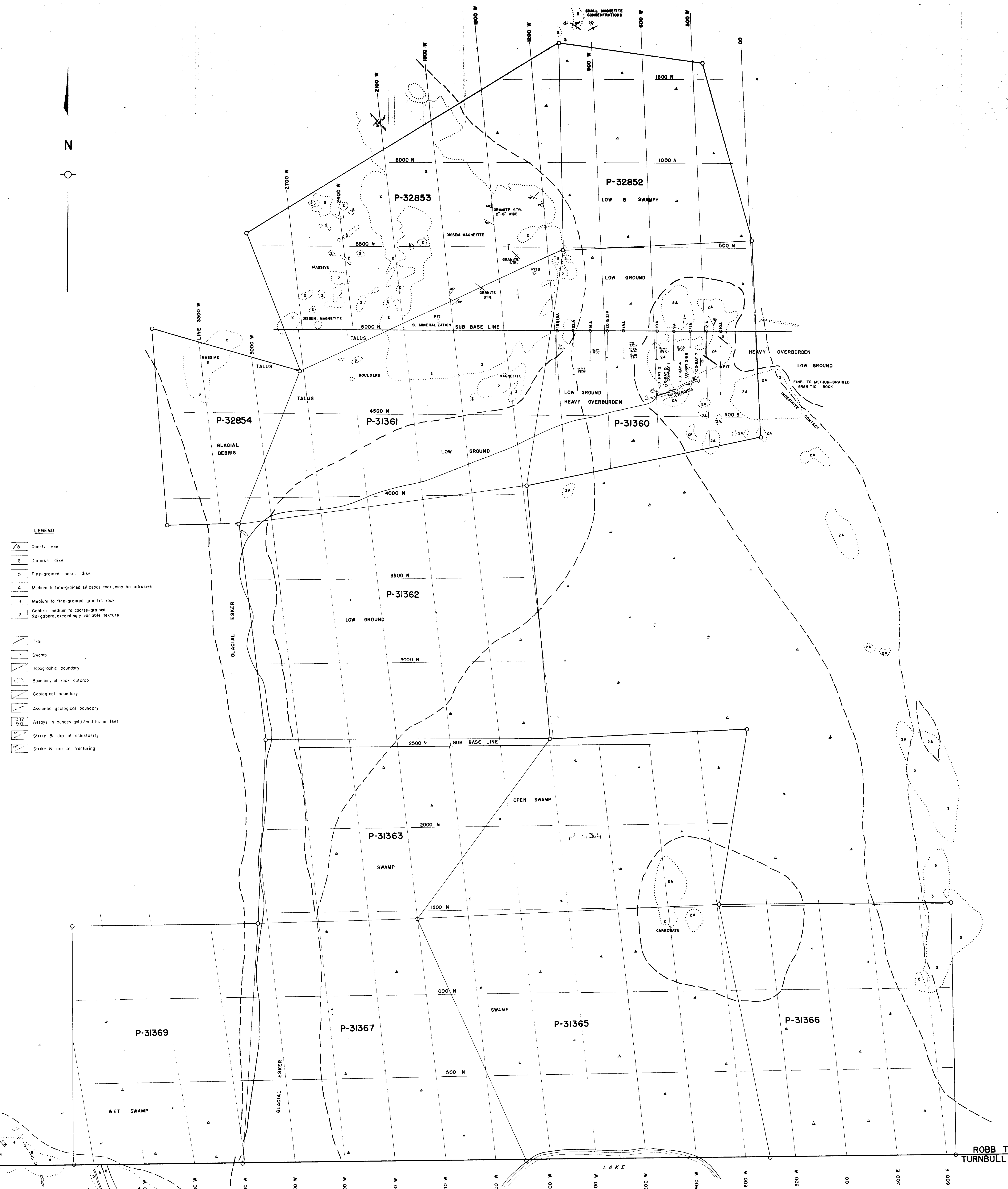
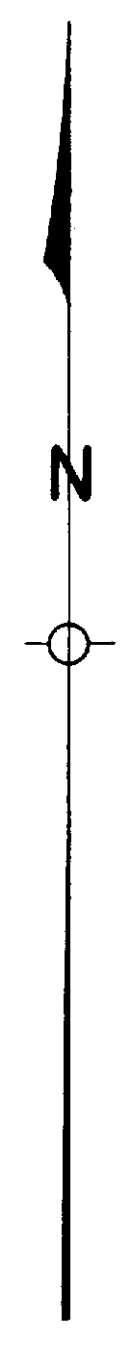
488 ~~2~~ 32
Genl.

YOUNG, YOUNG & GROSS, LIMITED,

W. H. Gross

Per; W. H. Gross,
Professional Engineer.

12) 232 19.33
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 112
 $\frac{108}{40}$
 $\frac{36}{40}$



LEGEND

- Quartz vein
- Diabase dike
- Fine-grained basic dike
- Medium to fine-grained siliceous rock, may be intrusive
- Medium to fine-grained granitic rock
- Gabbro, medium to coarse-grained
- Gabbro, exceedingly variable texture
- Trail
- Swamp
- Topographic boundary
- Boundary of rock outcrop
- Geological boundary
- Assumed geological boundary
- Assays in ounces gold / widths in feet
- Strike & dip of schistosity
- Strike & dip of fracturing

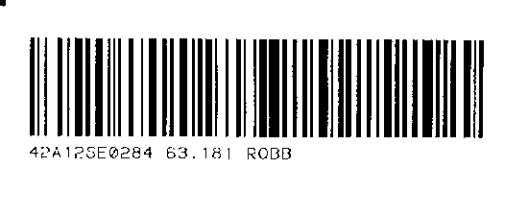
WALCORO PORCUPINE MINES, LTD.
 ROBB TOWNSHIP — DISTRICT OF COCHRANE

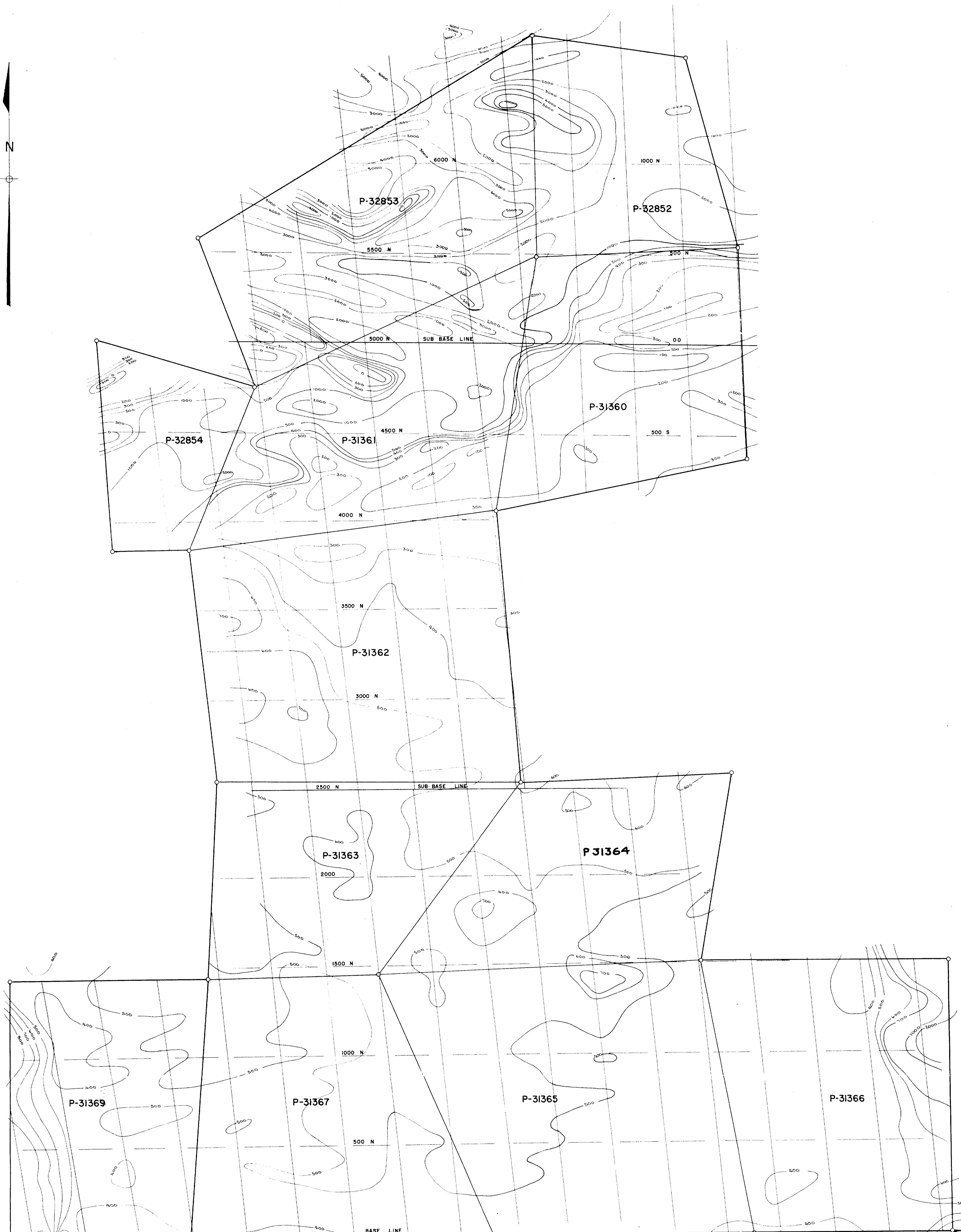
GEOLOGICAL PLAN

SCALE : 1" = 200' DATE : JUNE, 1949

0 50 100 200 400 600 800

MAP NO. W-19 YOUNG, YOUNG & GROSS, LTD.



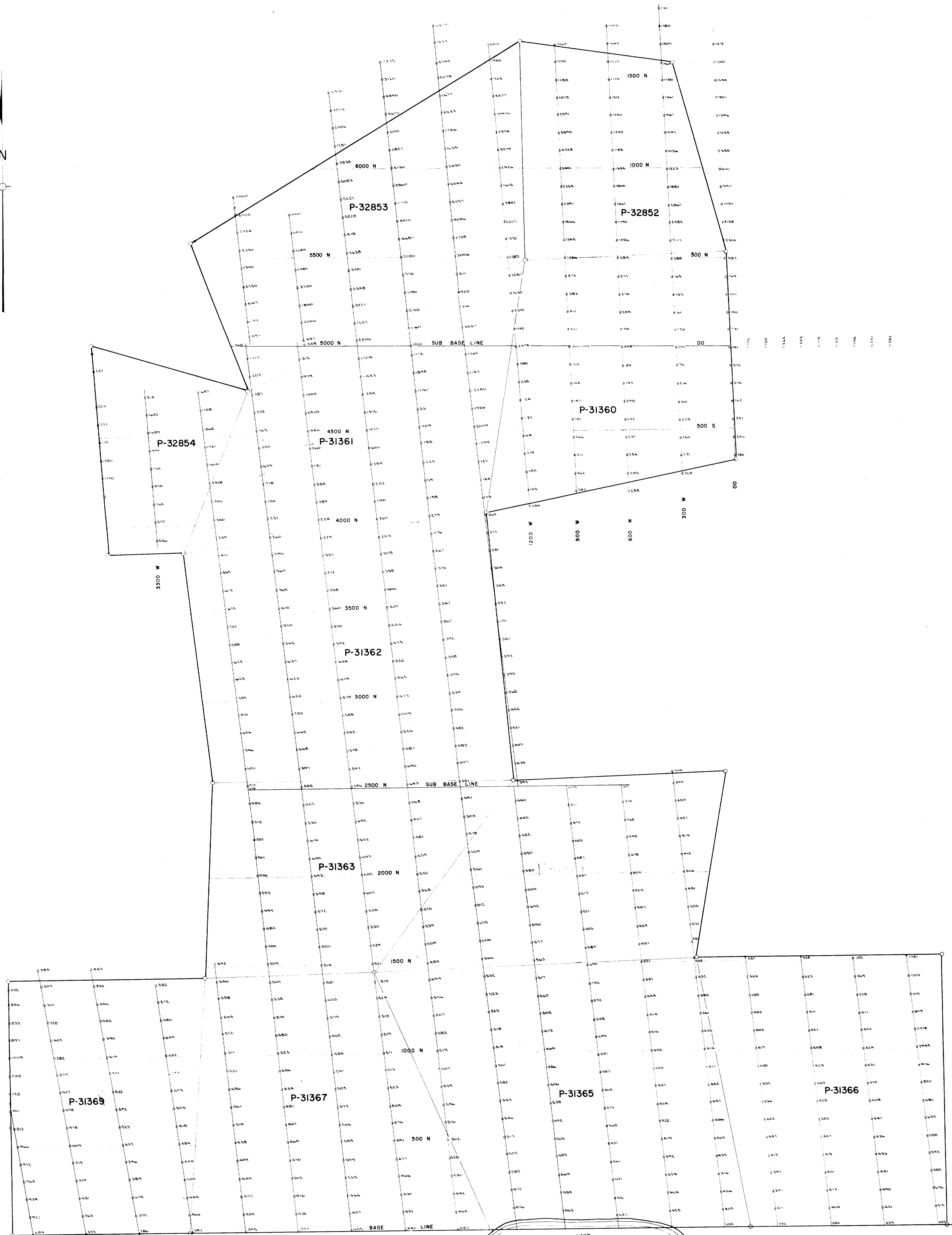
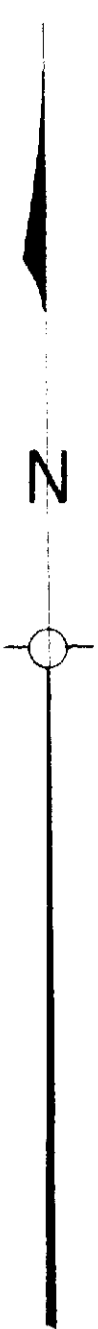


- NORMAL INTENSITY
- ABOVE NORMAL INTENSITY
- BELOW NORMAL INTENSITY

WALCORO PORCUPINE MINES, LTD.	
ROBB TOWNSHIP — DISTRICT OF COCHRANE	
MAGNETIC CONTOURS	
SCALE : 1" = 200'	DATE : JUNE, 1949
MAP NO. W/8	
YOUNG, YOUNG & GROSS, LTD.	

ROBB TWP.
TURNBULL TWP.





WALGORO PORCUPINE MINES, LTD.
 ROBB TOWNSHIP — DISTRICT OF COCHRANE
MAGNETIC READINGS
 SCALE: 1" = 200'
 DATE: JUNE, 1949
 MAP NO. IV17
 YOUNG, YOUNG & GROSS, LTD.

