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Report on the Geomagnetic Survey of the Hermiston-Oslund Group of Claims, Strathy Township, Ontario.

SUMMARY

The geomagnetic survey of the Hermiston-Oslund group of claims in Strathy Township was conducted for the Glenor Mining Company Limited who currently hold an option on the ground.

The geology of the claims is exposed by numerous outcrops but due to snow conditions at the time of the survey no attempt was made to map the rocks in detail. It is the intention of the Company to supplement the geomagnetic survey by a detailed geological survey in the summer of 1951. The general geology shows the property to be underlain chiefly by acid volcanics (rhyolite porphyry and rhyolite agglomerate) striking in a northeast-southwest direction and dipping to the southeast. The presence of small basic flows (andesite) occur with the rhyolite. Intrusions of pipe-like and sill-like masses of basic rocks intrude the Keewatin at several locations. These rocks which are referred to as diorite, quartz-diorite, gabbro, peridotite, and metadiabase, are assumed to be of Algonian or pre-Algonian age. The shear directions on the property are in general parallelism with the regional strike of the rocks, northeast-southwest. One prominent strike fault is indicated on the property as underlying the south bay of Cedar Lake and the creek draining into this lake across claims TRT6690 and 6692.

High magnetic readings were obtained in the south part of claims TRT6691 and TRT6689. In the south part of claim TRT6691 (Map Area - A) the high readings are found over an area 600 feet long and 200 feet wide with the long axis trending northeast-southwest and extending across the south property boundary. The high readings, recorded up to 10,000 gammas, drop off rapidly to the north, east, and west, indicating a vertical dip for the feature. The surrounding readings reach a normal background for the rhyolite readings found over most of the claims. Bordering the north side of this anomaly widely scattered sulphide "burns" appear in the rhyolite in rock exposure with pyrrhotite as an associated mineral. The evidence favors the interpretation that the anomaly is a concentration of a magnetic vein mineral probably pyrrhotite, and the presence of gold and silver values found nearby with some massive pyrrhotite mineralization makes the anomaly of economic interest.

In the south part of claim TRT6689 (Map Area - B) the largest area of high readings was obtained, the anomaly extending across the south part of the claim in a northeast-southwest direction. Unfortunately the readings could not be investigated over Cook Lake nor beyond the south property boundary so the anomaly is

incompletely known. The feature, over which readings exceeding 7,000 gammas were obtained, is indicated to dip north underlying the rhyolite and is probably an intrusion of ultrabasic rocks. Readings taken over exposures of quartz-diorite and gabbro on this and the adjoining Consolidated Smelters Property are in the neighborhood of 500 to 1000 gammas. Map Area - B may thus be one of the ultrabasic rocks of this intrusive group, possibly peridotite. Abundant pyrite mineralization along the north shore of Cook Lake suggests that the anomaly may have base metal possibilities.

Magnetic readings higher than the normal background are found in the north central part of claim TKT6690 (Map Area - D). These are located over an known area of quartz diorite in which are found gold bearing quartz veins. The higher readings show the diorite body to strike northwest-southeast, and to lens out to the southeast and to terminate against the above mentioned strike fault on the northwest. Assuming that the diorite is the favorable host rock for the gold veins at this location, the magnetometer indicates the extensions of the diorite areas under the overburden which might localize extensions of the vein structure and present favorable drilling chances.

In the southeast corner of claim TKT6691 (Map Area - C) the southwestern extension of the Consolidated Smelters quartz diorite body is indicated by higher readings to strike through the northwest corner of Clenor claim TKT4257. This diorite occurrence which contains the gold bearing veins on the Consolidated Smelters Property is an exploration bet for Clenor within reach of the established shaft workings.

The possibility of copper-nickel occurrence along the common boundary of these claims with the Trebor Property is not indicated by the survey.

INTRODUCTION

A magnetometer survey was carried out over the Hemmiston-Oslund group of claims during October-November-December of 1950 for the purpose of locating evidence of any base metal deposits of the Trebor Mines type which property adjoins on the west. The association in the Trebor orebody of copper-nickel with magnetic pyrrhotite in a serpentinized peridotite host rock indicates the magnetometer as a suitable method of search for such an occurrence beneath overburden. It was also considered important to outline the rock structures as a basis for systematic drilling of known gold bearing veins on the property.

HERMISTON-OSLUND

- 3 -

PROPERTY & LOCATION

The Hermiston-Oslund group consists of five unpatented claims recorded as TMT6689-91-92-93-90 located in the central part of Strathy Township in the Timagami Area, Ontario. The claims adjoin east of the Ireber Mining Property and west of property holdings of Consolidated Smelters, International Nickel, and Glenor Mines. Access is gained by way of Goward, a small lumbering community on the Ferguson highway three miles north of Timagami Station. From Goward an auto road leads west two and a half miles to the Glenor Mining Camp and shaft from whence a bush road or trail may be travelled $\frac{1}{4}$ of a mile west to the claims.



SURVEY PROCEDURE

A north-south trending base line being the east boundary of claim TMT6689, the common boundary between claims TMT6690 and TMT6691 and its projection north through claim TMT6692 was established from which east-west lines were turned off. For the north part of claim TMT6693 the west boundary was used as a base line from which east lines were turned off. The interval between all lines was 200 feet.

Magnetic observations were made with a Sharpe Askaniis type magnetometer with a sensitivity of 10 gammas per scale division at 100 foot intervals along the picket lines, the north-south base lines, and the claim boundaries.

During the work a tie-in with the Department of Mines magnetic station at the "Y" South Porcupine was made October 25th, 1950 with a reading of 870 gammas. The normal correction applied to the readings on the accompanying map is plus 1000 gammas.

GENERAL GEOLOGY

The Keewatin rocks which are the country rocks of the immediate area form a tightly folded syncline trending northeast-southwest and have an axis located two miles to the south of the property herein reported (E.W. Moorhouse). These Keewatin rocks are acid and basic flows with some tuffs, agglomerate, and iron formation. The Keewatin rocks on the north limb of the syncline, which include those of the Hermiston-Oslund property, are in normal attitude facing and dipping south. The Keewatin is intruded by a series of basic rocks not clearly separated from the algonan but generally classified as pre-algonan in age. Differentiates in this series appear to vary from quartz-diorite to peridotite and are variously termed. Large Algonan granite sections are found in the district with associated acid dykes. Cobalt sediments and later diabase dyke intrusions are also found in the area.

LOCAL GEOLOGY

Observations made on the many rock outcroppings in the immediate area of the claims show a concordant rock structure composed of parallel Keewatin flows, elastics, and iron formation. Sill-like and pipe-like masses of basic intrusives, prominent strike faults and shear directions, all usually parallel the strike of the formation. The whole strikes in a northeast-southwest direction. Crossing this structure is a system of cross faults trending northwest-southeast.

The rocks are host to a variety of metals of economic interest chief of which are gold bearing vein deposit and copper-nickel replacement sulphide deposits. The gold bearing vein deposits are classified by W.S. Moorhouse as follows:

1. Arsenical gold ores, in places with high silver values. These usually strike north 30 degrees west to north 30 degrees east.
2. Pyritic ores.
3. Ores containing lead and zinc sulphides as well as pyrite.

Examples of the last two types of gold veins are found on the property herein reported. On the property of Trebor lines adjoining to the west a low grade copper-nickel ore body is located in a mineralized serpentinized peridotite. Trebor ore disclosures by underground work and extensive drilling are estimated at 254,500 tons available by open cut methods running 0.78% copper and 0.71% nickel.

INTERPRETATION

Keewatin Flows and Elastics: ----- Most of the area of the claims is occupied by acid volcanics consisting of rhyolite flows (quartz-porphry) and rhyolite agglomerate. Over these rocks low magnetic readings are found being slightly higher in outcrop areas than in overburdened areas. This difference is well shown on the accompanying map, the yellow (200 to 500 gammas) being the general outcrop location of the rhyolite, and the orange (less than 200 gammas) being the overburdened rhyolite areas. An occurrence of andesitic flows observed in outcrop on the east boundary of claim 1826693 also gave very low readings indicating a low magnetite content. Whether this is typical of the more basic Keewatin rocks in the area is not known as only minor occurrences of Keewatin other than acid phases are indicated by the geology of the property.

Basic Intrusives (Pre-Algonian?): -----As described by R.S. Moorehouse these rocks may be partly or wholly of Algonian age. The writer's observation would favor the possibility that the more acid quartz-diorite as found on claim TRT6690 (Map Area-D) and the neighboring occurrence on the Consolidated Smelters Property is of Algonian age and related to the granite of the area. The ultrabasic intrusives are probably of pre-Algonian age. As far as observed all the intrusives in the area are pre-Cobalt with the exception of the late diabase dykes.

Magnetic readings taken over the quartz-diorite outcrops mentioned above show a range of 500 to 1000 gammas and hence are distinguishable from the local Keewatin rocks. Employing this evidence the writer would conclude that the "altered diorite" in the southeast corner of claim TRT6691 is not the projected strike of the Consolidated Smelters quartz-diorite occurrence as shown on map 51e, as only low readings typical of Keewatin volcanics were found over the "altered diorite" outcrops. A build-up of readings appearing in the extreme southeast corner of claim TRT6691 (Map Area-C) indicates that the extension of the quartz diorite is through the adjoining Glenor claim TRT4257. This diorite occurrence is of possible economic interest to Glenor as it is host rock to the gold veins on the Consolidated Smelter property and on Glenor ground is within mining distance of the Glenor shaft.

The quartz-diorite occurrence on claim TRT6691 of the Hermiston-Oslund Group (Map Area-D) is also host to gold bearing quartz veins to which some diamond drilling has been carried out. The higher magnetic readings indicate an extension of the diorite in this section beyond the drilled area which may be of interest for further exploration.

Ultra basic intrusives such as the peridotite occurrence on the Trebor were not found in outcrop on the Hermiston-Oslund group of claims. These rocks, particularly where serpentinized as they are in the Trebor zone, are magnetic due to the presence of abundant magnetite probably resulting from the alteration of the ferro-magnesian minerals. One object of the survey was to investigate the west boundary of the claims adjoining Trebor for indications of base metals. Readings near the boundary however were generally low. One known occurrence of diorite in the northwest corner of claim TRT6692 shows slightly higher readings than the surrounding background of Keewatin rocks. In the south end of claim TRT6689 (Map Area-B), near and under Cook Lake, an area of high readings was found to show over 7,000 gammas. Locally only two other geological features might account for such a high anomaly, one being the iron formation and the other a concentration of magnetic pyrrhotite. There is sufficient rock exposure on strike of the anomaly to rule out the possibility of iron formation and moreover the magnetic readings indicate a dip to the north whereas

HERMISTON-OSLUND

- 6 -

the regional dip of the iron and most other formations is to the south. The size of the anomaly would indicate that the area of Cook Lake is underlain by one of the serpentinized ultra-basic rocks of the area and might be investigated as a base metal prospect.

Magnetic Mineral Deposits: -----In the south part of claim TRT6691 high readings were obtained over an area 600 feet long and 200 feet wide (Map Area-A). The readings, which exceed 10,000 gammas fall away rapidly to the north, east, and west, indicating a vertical feature. The south end of the anomaly crosses the property boundary. The anomaly is surrounded by rock exposures of rhyolite which on the northwest side of the anomaly show the presence of scattered sulphide burns. Two pits nearby have gold and silver values and considerable pyrrhotite mineralization in a northeast shearing in the rhyolite. The evidence favors the possibility that the anomaly is a concentration of a magnetic mineral deposit probably with associated pyrrhotite and as such provides a likely exploration possibility.

During the property survey a vein was discovered in the southwest corner of the Hermiston-Oslund claim TRT6690 carrying quite high values in gold and several ounces of silver. Only a very limited exposure of the vein could be made because of winter conditions. The vein is located in a carbonated shearing in rhyolite and appears to strike about north 70 degrees east. Associated minerals are pyrite, chalcopyrite and tetrahedrite or tenanite. The magnetic readings do not indicate any related structure with this vein discovery. However a shearing with non-magnetic minerals associated would probably not be distinguishable from the regional background unless associated with an appreciable fault or localized by a contact which might be traced.

CONCLUSION

The magnetometer was found suitable for outlining the local rock structures and indicating the areas where base metals might occur. This is due to the difference in the magnetic permeability of the several rock types and the association of base metals in the district with either or both magnetic ultrabasic rocks or magnetic pyrrhotite.

The Map Areas marked A-B-C-D as outlined by the magnetometer readings present interesting exploration chances for mineral occurrence.

HERMISTON-OSLUUD

DETAILS OF SURVEY

The survey was begun September 15th, 1950 and completed December 15th, 1950. A total of 10.1 miles of line were out, chained, and picketed including one mile of base line. A total of 713 stations were established at which magnetic readings were taken. The base control station is at the No. 1 post of claim TR16689.

The following is a breakdown of the actual man-days required to complete the survey:

(a) Line Cutters - 2 men September 15 to Nov. 1st Paul Hermiston - Contractor 30 man days x 4		120 days
(b) Instrument Operators & Assistants November 1st - December 15th Magnetometer E.L. MacVeigh 12 days x 4 P. Hermiston 12 days x 4		48 " 48 "
(c) Consultants - Field Work E.L. MacVeigh 6 days x 4 G.F. Greenacre 4 days x 4		24 " 16 "
(d) Office Work E.L. MacVeigh 11 days x 4 G.F. Greenacre 9 days x 4		44 " 36 "
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	Total	330 " ✓

ASSESSMENT WORK DISTRIBUTION

on each of claims TR16689 to TR16693 inclusive 40 days.

Halleybury, Ontario
February 2nd, 1951

Respectfully submitted

E.L. MacVeigh B.A., M.Sc.

Handwritten notes and calculations: 336, 336/4 = 84, 84/3 = 28, 28/2 = 14, 14/2 = 7. There are also some scribbles and a checkmark.

CLENOR MINING COMPANY, LTD. (CLENOR OPTION.)



Township of Strathy.
District of Nipissing.

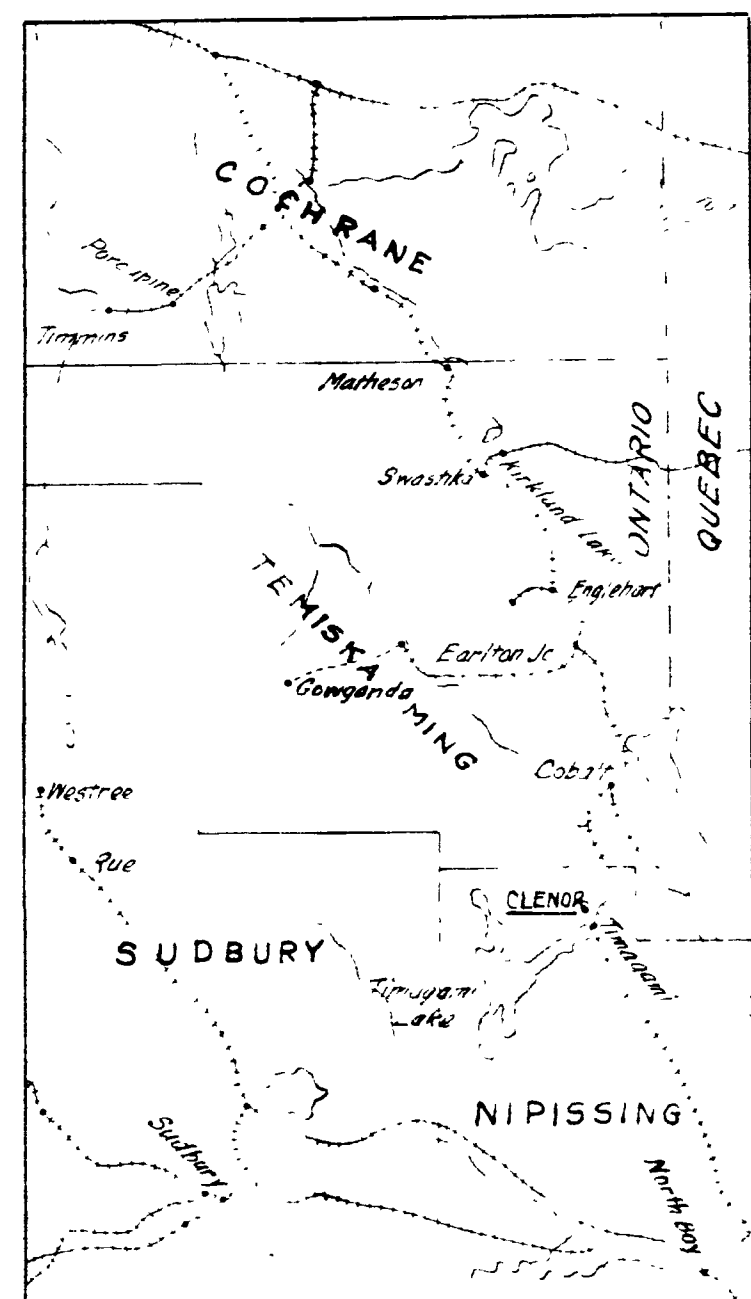
63-233

Scale: 1 inch = 200 feet.

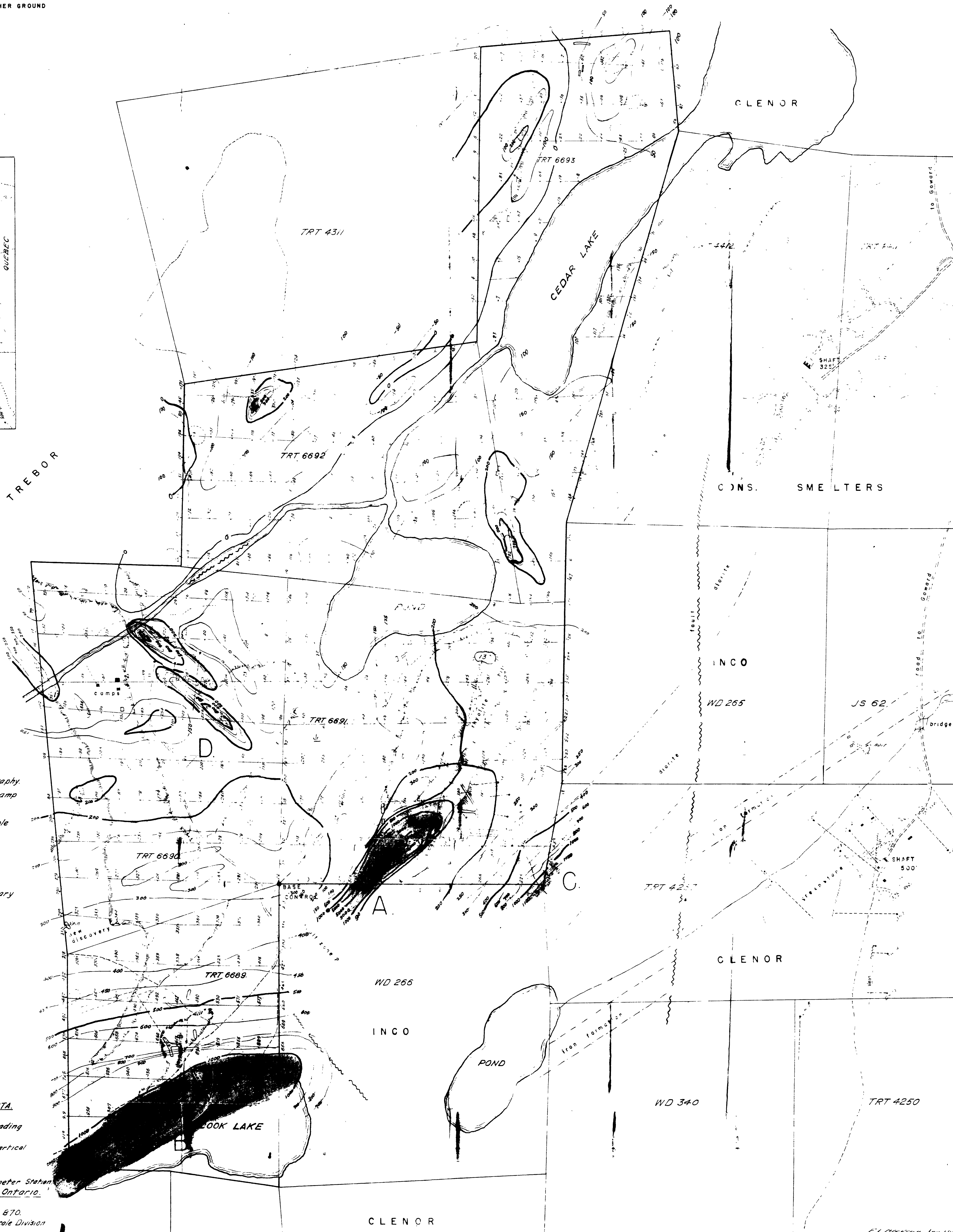


- LEGEND
- 200 - 200 gammas
 - 200 - 500 gammas
 - 500 - 1,000 gammas
 - 1,000 - UP

- LINES CUT AND CHAINED, MAGNETIC READINGS OBSERVED
- MAGNETIC CONTOUR
- FAULT INDICATED
- DIAMOND DRILL HOLES
- OUTCROP
- TRENCH
- OUTLINE OF HIGHER GROUND



Scale 1 inch to 30 miles



LEGEND

- Fault
- Outline of Topography
- Low Ground & Swamp
- Outcrop
- Diamond Drill Hole
- Trench
- Trail
- Road
- Building
- Geological Boundary

GEOLOGY

MAGNETOMETER DATA

- 870 Magnetometer Reading
- Contours of equal vertical intensities

Dept. of Mines Magnetometer Station at "Y", South Porcupine, Ontario.

Oct. 29, 1950. Reading = 870.
Scale Constant = 16.5 per Scale Division

