



31M04SW0115 63.900 STRATHY

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FOREWORD

A geological survey of the Ibsen mining property in the Temagami Area was undertaken in the Fall of 1957 in conjunction with a magnetometer survey. The work was conducted from a grid of picket lines spaced 300' apart on which stations were marked at 100' intervals. Accompanying this report is a geological map on a scale of 1" to 200' showing the outline of the 23 claim property and the distribution of the various rock types.

At the present time there is some interest in the development of the Keewatin banded iron formation of the locality as a source of iron ore. Two recognised iron zones, the "Iron Lake" and the "Temagami" iron zones, border the north and south boundaries of the Ibsen property. The geological investigation was carried out to determine the close location of these zones with respect to the property boundaries and to search for favourable rock structures which might be host to base metal or gold deposits.

PROPERTY & ACCESS

The Ibsen property is composed of a block of 23 unpatented mining claims, approximately 920 acres, filed in the Temiskaming Mining Recording Office at Haileybury as follows:

T.37026 to T.37032 inc.	7 claims
T.37842 to T.37848 inc.	7 claims
T.37983 to T.37990 inc.	8 claims
T.39581	1 claim

23 claims

The bulk of these claims are in the southwest

corner of Strathy Township though a small part of the property extends south to Strathcona Township and west into Briggs and Chambers Townships.

Two access routes were used during work on the property. From the Town of Temagami a car may be driven north on No. 11 Highway one mile, and thence two miles west through the lumbering town of Milne to the west end of Link Lake. The remaining distance of one mile to the east part of the Ibsen property may be driven in a 4 wheel drive vehicle. A canoe route was also used to the property. This route leaves the Government Park on No. 11 Highway just south of Temagami Station. By travelling two miles to Ferguson Bay on the north shore of the Northeast Arm of Temagami Lake two short portages may be taken through Turtle Lake to Tetapaga Lake which is on the Ibsen Property.

The property shows many rock outcrops though the northeast part is overburdened with low ground and cedar swamp.

#### GEOLOGY

As shown on the accompanying geological map the rocks on the property are composed largely of Keewatin volcanics striking in a direction N 75° E. The formations are steep dipping with those to the north of Tetapaga Lake dipping to the south and those formations south of the lake showing north dips. This evidence would indicate a synclinal axis in the Tetapaga Lake basin as reported by W. V. Moorehouse in his report on this section of the Temagami Area for the Ontario Department of Mines.

The Keewatin consists of volcanic flows of ande-

site and rhyolite with beds of rhyolite agglomerate and tuff. Two Keewatin banded iron formations are present, one at the northwest corner of the property and the other on the south claim of the property, T.39581.

The south edge of the north iron band (formation #1 purple colour) is exposed on claim T.37030. This iron zone is indicated to be 400' to 500' wide on the adjoining property to the north. This width may include some interbedded tuff. The formation is an extension of the "Iron Lake Zone" which is traceable from Iron Lake in Chambers Township to Vermilion Lake north of the Ibsen Property, a length of  $2\frac{1}{2}$  miles. The formation consists of magnetite, quartzite and jasper in alternating bands and dips southeast at an angle of  $80^{\circ}$  into the Ibsen Property.

The south iron formation crosses the central part of Ibsen claim T.39581 where outcrops show a width of 450'. In this width are several bands of interbedded tuff. The formation is composed of layers of magnetite and cherty quartzite with lesser amounts of jasper. This is part of the "Temagami Iron Zone" an extension of which may be seen crossing the No. 11 Highway just north of the town of Temagami. Like the "Iron Lake Zone" it is considered to have economic possibilities at the present time.

The south iron zone dips to the north steeply with dips indicated to be about  $80^{\circ}$ . This would suggest that the two iron zones might be the same representing north and south limbs of a syncline. The distance however from the north iron to the indicated synclinal axis at Tetapaga Lake is 3000' and from the south iron to the same location only 1500'. This would mean a very asymmetrical

*Sherman  
mine*

syncline. In a deep syncline such as probably exists it is possible that formation members may have terminated and be absent on the south limb. A more likely explanation however is that fault movement, perhaps in the regional shear zone crossing the property, may have duplicated formations on the north limb or diminished them on the south limb. The indications in either case are that both iron formations dip into the Ibsen property at steep angles and underly the property at depth.

Crossing the Ibsen property in a direction closely parallel to the formation strike is a zone of highly sheared and carbonated volcanics with the schistosity dipping steeply south. The material often breaks down into rusty, platy fragments where exposed. This formation is shown as #9 (yellow) on the map and is traceable across the full width of Strathy Township.

The geology and topography indicate the existence of two north-south faults crossing the property. The most westerly of these faults follows the drainage creek basin between Vermilion and Tetapaga Lakes. Formations along the strike of this fault are interrupted indicating that the east side has moved north. This is also shown by the iron formation which is offset in the south bay of Vermilion Lake. There is an indicated extension of this fault to the north in the Mayfair Property.

A second fault occurs a claim distance east striking north-south through claims T.37028, 37026, 37848, and 37986. This fault has a right hand displacement with the east side moved to the south. The amount of lateral displacement is about the same in both faults and may represent a movement north of the block of ground be-

tween the two faults.

### MINERAL DEPOSITS

The economic minerals known to occur in the locality may be briefly grouped chronologically as follows, beginning with the oldest:

- (1) Keewatin banded iron formation.
- (2) Sulphide replacement deposits of pyrite, pyrrhotite, and chalcopryite, and combinations of these minerals with which nickel values may be associated. Where nickel values are found pre-Algoman basic intrusives are usually present.
- (3) Vein deposits containing gold and silver with some chalcopryite, sphalerite, and galena present.
- (4) High grade chalcopryite deposits similar to those of Temagami Island.

(1) The proximity of the iron formation to the Ibsen property boundaries would probably make the Ibsen claims essential to any iron operation carried on in this part of the iron formation. If underground iron mining is undertaken it would lead down dip into Ibsen ground. Preliminary investigation has been carried out during the past year to determine the economic possibilities of this zone as an iron ore deposit.

(2) A pyrite occurrence with a small amount of chalcopryite shows on the Ibsen property in an old pit on picket line 600W at 800' north in claim T.37847. This pit is present in the shear zone (formation #9) near a north-south fault location. Other sulphide occurrences are reported near the Tetapaga-Vermilion Lake portage but were not located during the survey. Also in the shear zone there are indications by geophysical work that sulphides may occur

near the east boundary of the Ibsen property.

(3) While there has been little incentive to explore for gold deposits in recent years there are many known gold vein deposits in Strathy Township. On the Ibsen property a close prospecting near the fault areas and near the iron formation might be rewarded. Subsidiary shearing and fractures related to the major shearing are also locations where values in gold, silver, copper, and zinc have been found.

(4) The high grade copper deposits of Temagami Island are possibly the youngest sulphide occurrences in the area and may be related to the presence or former presence of the Nipissing diabase sill. This valuable type of ore might be found again in the area and where present at rock surface under overburden should give a good reaction to self potential types of surveys.

#### RECOMMENDATIONS

The writer has long been optimistic about the mine making possibilities of the eastern section of the Temagami Area. This optimism is based on abundant pyritization and other mineralization found through the Keewatin rock area with numerous occurrences of gold, copper, and nickel in the presence of Algoman and pre-Algoman intrusives. A shallow covering of overburden and a difficult bush are deterrents to a complete prospecting so that the district still affords chance of surface discoveries. The exploration procedure recommended by the writer is close prospecting from picket lines such as have been completed on the Ibsen Property and geophysics, preferably magnetometer, followed by Self-Potential or Electromagnetic Surveys. Where a district is highly

elevated such as Temagami with shallow, usually moist overburden and vertical formation, the Self-Potential method of geophysical survey should locate bed-rock sulphide occurrences.

On the Ibsen Property a magnetometer survey recently completed has indicated the chance of sulphide occurrence in the shear zone near the east boundary of the property and in a subsidiary zone striking northwest from the main shear.

It is recommended that a Self-Potential or Electromagnetic Survey be carried out over the areas of claims T.37845 and T.37842 using the existing picket lines to determine the possibility of sulphide ore occurrence.

It is also recommended that a close prospecting of the property be carried out particularly in the locality of the two indicated north-south faults and near the iron formation for both sulphide occurrences and gold deposits.

Respectfully submitted by,

December 15th, 1957  
Haileybury, Ontario

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



31M04SW0115 63.900 STRATHY

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FOREWORD

A magnetometer survey was undertaken on the Ibsen mining property to investigate the possibility of magnetic iron occurrence and sulphide occurrences which might contain copper, nickel, or zinc. The sulphides it was thought might be revealed by associated pyrrhotite or magnetite mineralization or structurally by locating favourable magnetic rock types such as peridotite.

A geological survey was carried out simultaneously with the magnetometer survey and is reported separately.

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The bulk of these claims are in the southwest corner of Strathy Township though a small part of the property extends south to Strathcona Township and west into Briggs and Chambers Township.

Two access routes were used during work on the property. From the Town of Temagami a car may be driven north on No. 11 Highway one mile, and thence two miles west through the



lumbering town of Milnes to the west end of Link Lake. The remaining distance of one mile to the east part of the Ibsen property may be driven in a 4 wheel drive vehicle. A canoe route was also used to the property. This route leaves the Government Park on No. 11 Highway just south of Temagami Station. By travelling two miles to Ferguson Bay on the north shore of the Northeast Arm of Temagami Lake two short portages may be taken through Turtle Lake to Tetapaga Lake which is on the Ibsen Property.

The property shows many rock outcrops though the northeastern part is overburdened with low ground and cedar swamp.

#### GEOLOGY & MINERAL DEPOSITS

The rocks underlying the Ibsen property are composed largely of a series of interbedded Keewatin volcanic rocks folded in the form of a tight syncline with the axis indicated to lie in the basin of Tetapaga Lake and to strike N 75° E.

The Keewatin rocks are lava flows of andesite and rhyolite with pyroclastics and banded iron formation. These are intruded by small dykes of Algonian feldspar porphyry and later dykes of Keweenawan olivine diabase.

Crossing the central part of the property in a direction N 75° E is a regional shear zone composed of platy schist-  
ed and carbonatized Keewatin rocks 400 to 800 feet wide. This shear zone is traceable several miles to the east. In the area subsidiary fractures and shears striking off from this major shearing have been

found mineralized with sulphides of copper, zinc, and iron, as well as containing gold and silver values. It is therefore considered a favourable prospecting location.

One former prospect pit was found and is located on picket line 600 west in the regional shear zone, claim T.37847. The mineral occurrence is chiefly pyrite with a little chalcopyrite in silicified shearing striking parallel to the general shearing, N 75° E. The pit location is close to a projected north-south fault.

#### SURVEY PROCEDURE

The survey was carried out from a No. 1 base line which crossed the east part of Tetapaga Lake. This was established from old land surveys using ice conditions on the lake. Picket lines were spaced 300' apart and extended north and south to the property boundaries. A No. 2 base line was established 1800' north of the main base line and extended across the east half of the property. Picket lines were tied in by chaining the east-west property boundaries. Magnetic stations were read at 100' intervals on all picket lines, base lines and east-west property boundaries.

The survey was carried out using a Sharpe Schmidt type A-2 Vertical Magnetometer with a sensitivity of 19.7 gammas per scale division. The Main Control Station is located at 00 on picket line 0+00. A total of 35.4 miles of line were cut, chained, and picketed and 2055 magnetic stations were read and recorded.

A tie-in was made November 29, 1957 with an Ontario Department of Mines Magnetometer Station located on the Teck-Label Township boundary near Kirkland Lake at 03:30 P.M. reading 1458 gammas with the reported value of the station being 58,030 gammas absolute. The normal correction for the enclosed map is zero.

#### INTERPRETATION OF RESULTS

Accompanying this report is a geomagnetic contour map on a scale of one inch to 200 feet. The purple area represents the highest readings, up to 25,000 gammas, and the pink areas the lowest readings to minus 126 gammas. The general background of magnetic intensity varies from 400 to 1200 gammas and shows a gradual increase from south to north on all picket lines. This is caused by a deep seated magnetic source to the north probably the "Iron Lake" magnetic iron formation.

Two high anomalies show on the geomagnetic map of the Ibsen property both caused by magnetite iron formation.

In the northwest part of the property at the north end of claim T.37030 an outcrop of Keewatin banded iron was located. This formation strikes N 75° E and dips south at 70° into the Ibsen ground. The magnetometer results show that the outcrop is the south edge of the "Iron Lake Iron Formation" which is several hundred feet wide on the adjoining ground to the north. As this iron formation is considered to be of commercial interest the fact that it dips into Ibsen ground may be of some importance.

The second high anomaly is in the south part of the property crossing claim T.39581 and is also caused by an iron formation zone approximately 450' wide including interbedded tuff. This iron formation is known to be quite extensive traceable for several miles east and west of the Ibsen claim T.39581 and referred to as the "Temagami Iron Formation".

Geological correlation indicates that the two iron formation bands described above may be the same representing two limbs of a syncline whose axis is in Tetapaga Lake. Thus at depth the iron formation might underly a large part of the Ibsen property. However geomagnetic evidence indicates that the south iron formation dips south and away from the Ibsen while the north iron zone dips south and into the Ibsen. More evidence is required both by geological observation and magnetic survey of adjoining ground.

The iron occurrences near Temagami are favoured by good access and transportation facilities and are of potential importance.

Magnetic anomalies occur in claims T.37842 and T.37845 which may be of some significance for base metal sulphide occurrence such as chalcopyrite (copper), sphalerite (zinc), and pyrite (sulphur-iron). The high anomaly of 3173 gammas shown on the east boundary of claim T.37845 and the three small anomalies in brown aligned to the west lie in the regional shear zone. While these anomalies are not high they are the type to be expected with the mineral association in the area where only minor amounts of

magnetite and pyrrhotite are found with the chalcopyrite, sphalerite, and pyrite.

In the same part of the property a second anomalous area extends N 75° W from the east boundary of claim T.37845 across this claim and the north part of claim T.37842. This anomaly is also of interest for sulphide occurrence and may represent a mineralized subsidiary shear or fracture neighbouring the regional shear zone.

The area of claims T.37842 and T.37845 indicate possibilities of sulphide occurrence according to the survey interpretation.

#### RECOMMENDATIONS

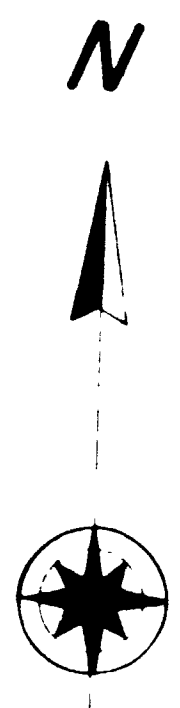
It is recommended that the areas of claims T.37842 and T.37845 as outlined on the enclosed map be covered by Electromagnetic or Self Potential surveys which will aid in the interpretation of the results gained by the magnetometer survey. This will amount to approximately 4 miles of work on picket lines already prepared. Depending on results drilling may be recommended.

A close prospecting of the entire property should be carried out.

Respectfully submitted by

Haileybury, Ontario  
November 28, 1957.

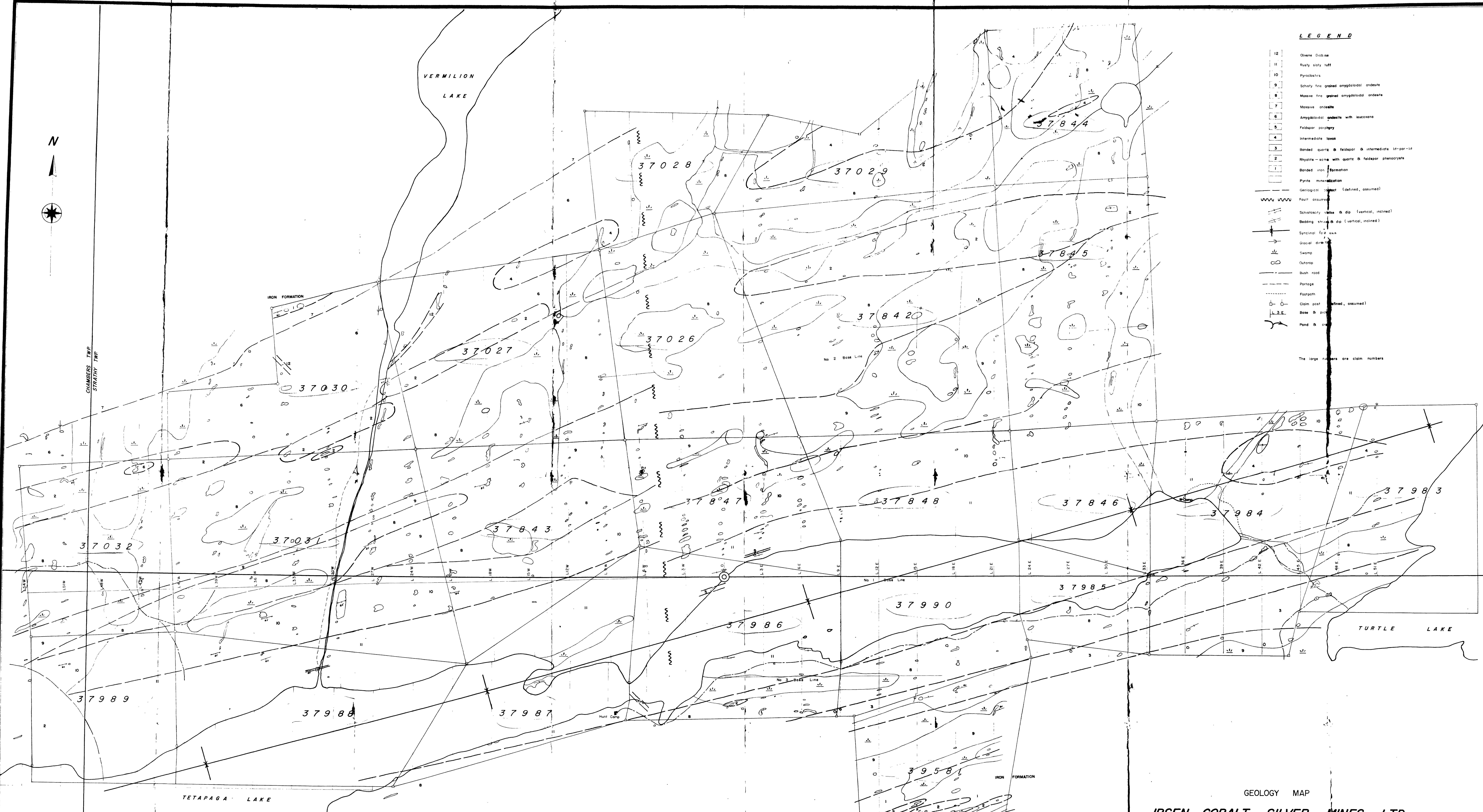
.....*E. L. MacVeigh*.....  
E. L. MacVeigh, B.A., M.S.



LEGEND

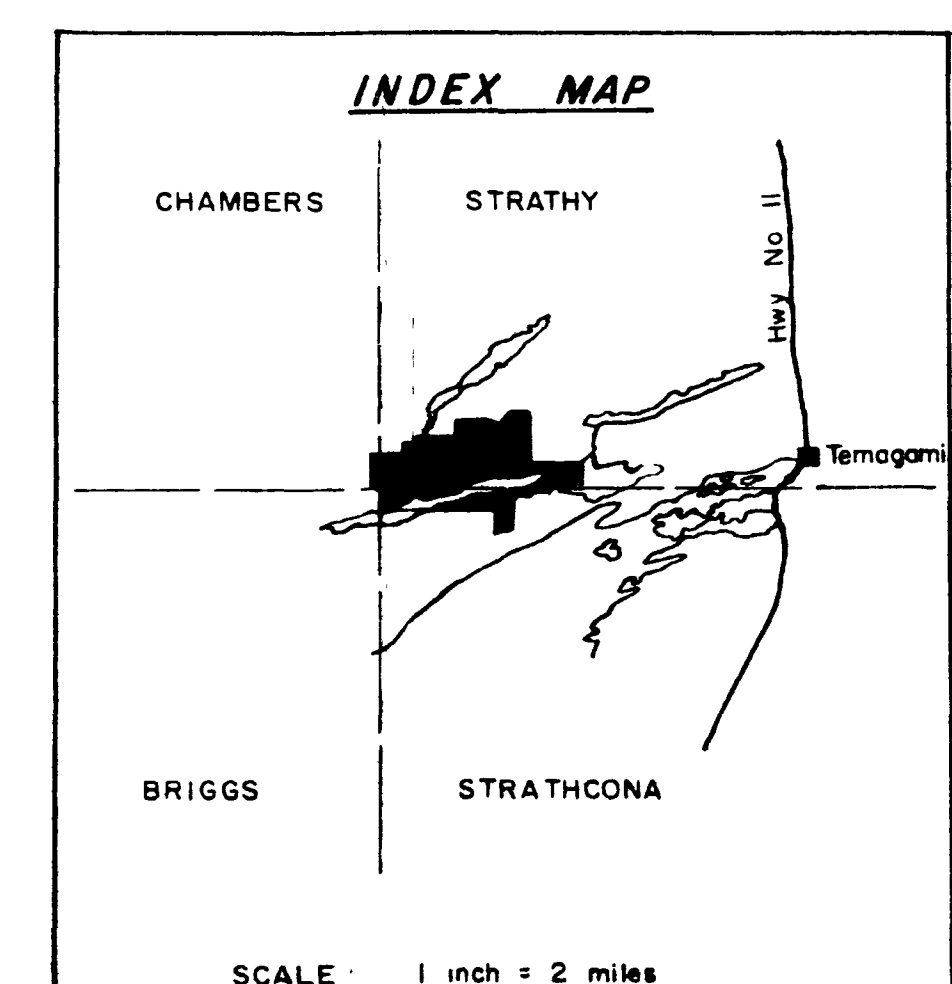
- 12 Olivine Diabase
- 11 Rusty silt loam
- 10 Pyroclastics
- 9 Schaly fine grained amygdaloidal andesite
- 8 Massive fine grained amygdaloidal andesite
- 7 Massive andesite
- 6 Amygdaloidal andesite with leucocene
- 5 Feldspar porphyry
- 4 Intermediate lavas
- 3 Banded quartz & feldspar & intermediate lat-por-ph
- 2 Rhyolite - some with quartz & feldspar phenocrysts
- 1 Banded iron formation
- Pyrite mineralization
- Geological contact (defined, assumed)
- Fault assumed
- Schistosity strike & dip (vertical, inclined)
- Bedding strike & dip (vertical, inclined)
- Synclinal fold axis
- Glacial direction
- Swamp
- Outcrop
- Bush road
- Portage
- Footpath
- Claim post (defined, assumed)
- Base & pit
- Pond & stream

The large numbers are claim numbers

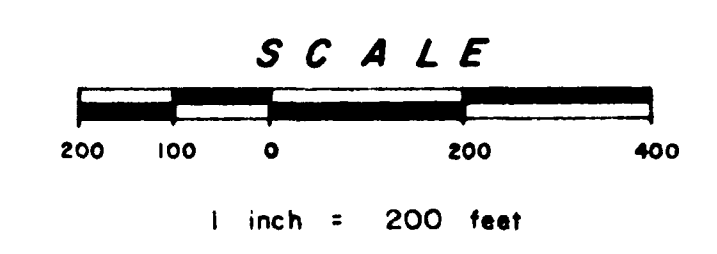


CHAMBERS TWP  
STRATHY TWP

BRIGGS TWP  
STRATHCONA TWP



GEOLOGY MAP  
**IBSEN COBALT SILVER MINES LTD.**  
 STRATHY TOWNSHIP  
 TEMAGAMI AREA, ONT



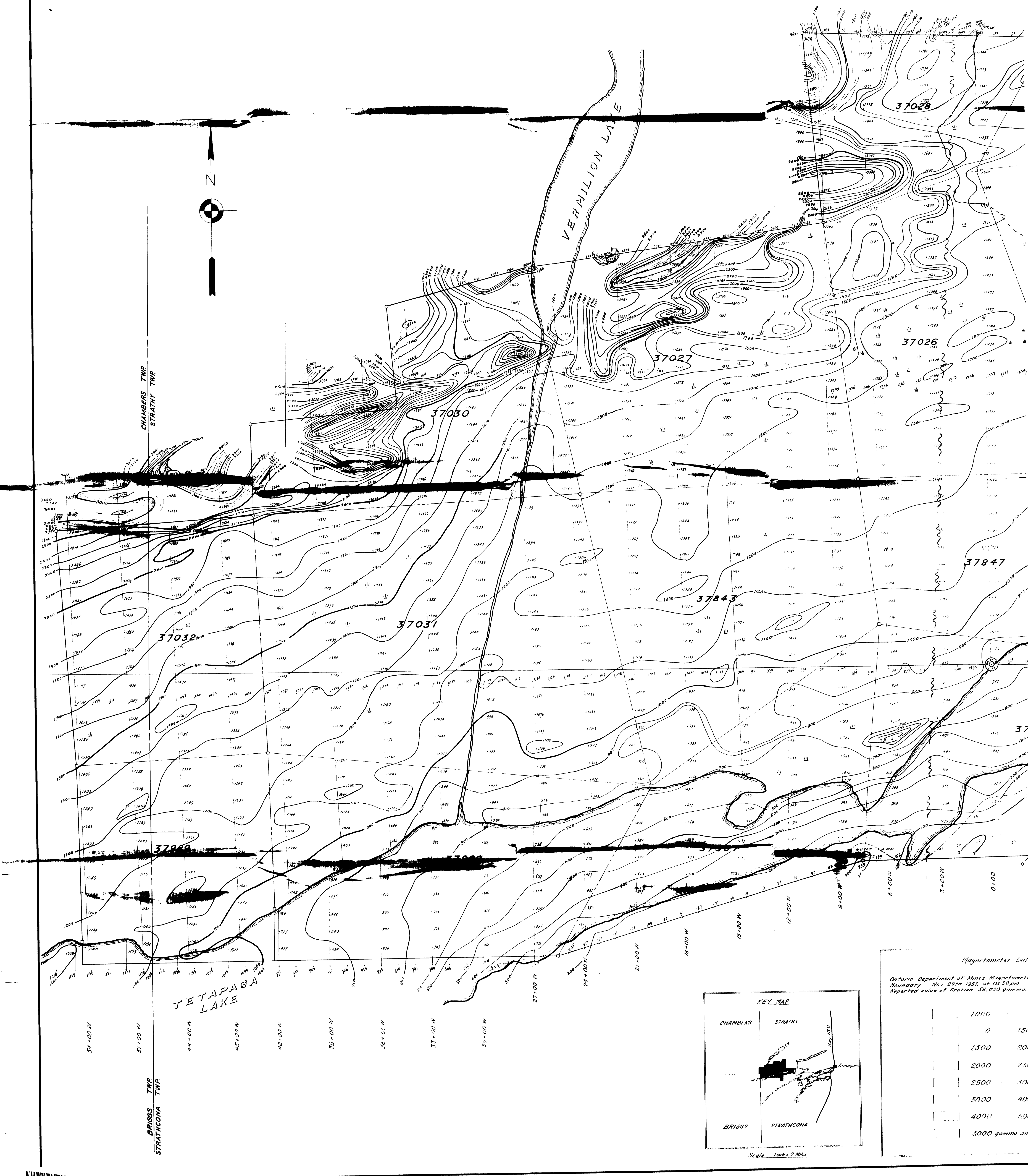
*Shanley*  
S.A. M.S.

*Quilley P.C.*

# IBSEN COBALT SILV

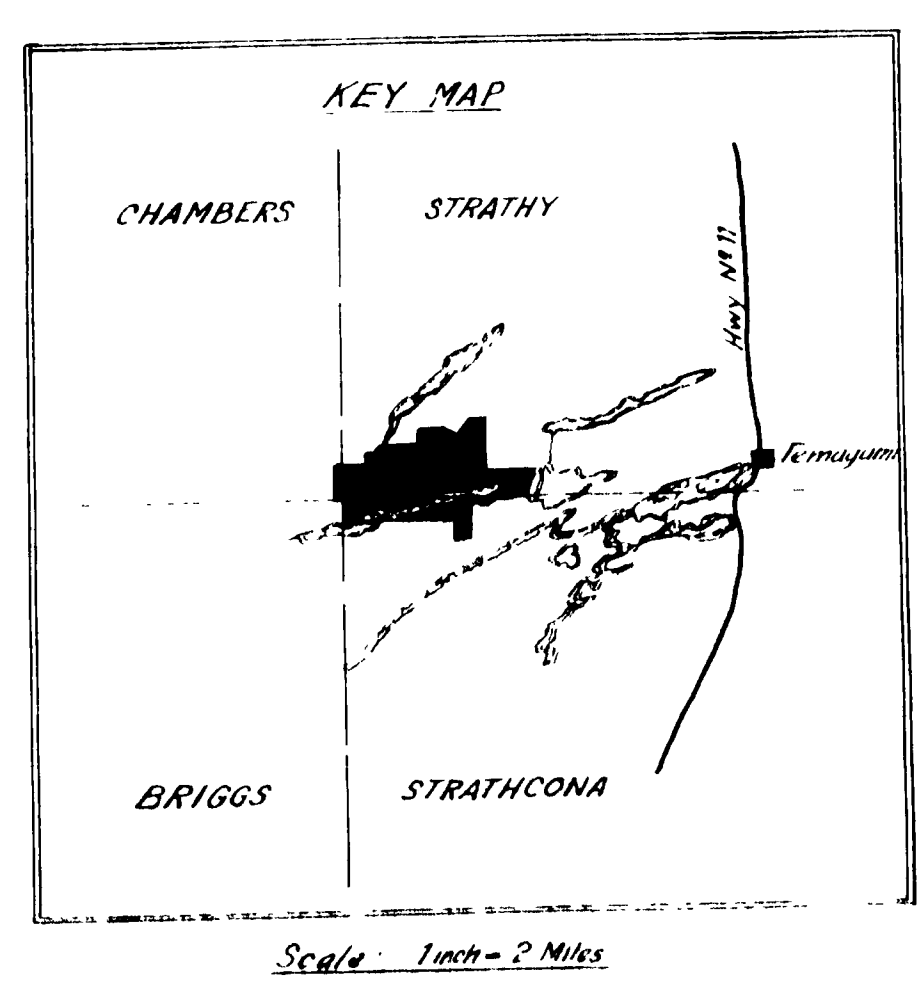
STRATHY  
TEMAGAN  
ONTA

Scale - 1 inch  
200'



Magnetometer Data  
Ontario Department of Mines Magnetometer  
Boundary Nov 29th 1952, at 03:30 pm  
Reported value of Station 58, 050 gamma.

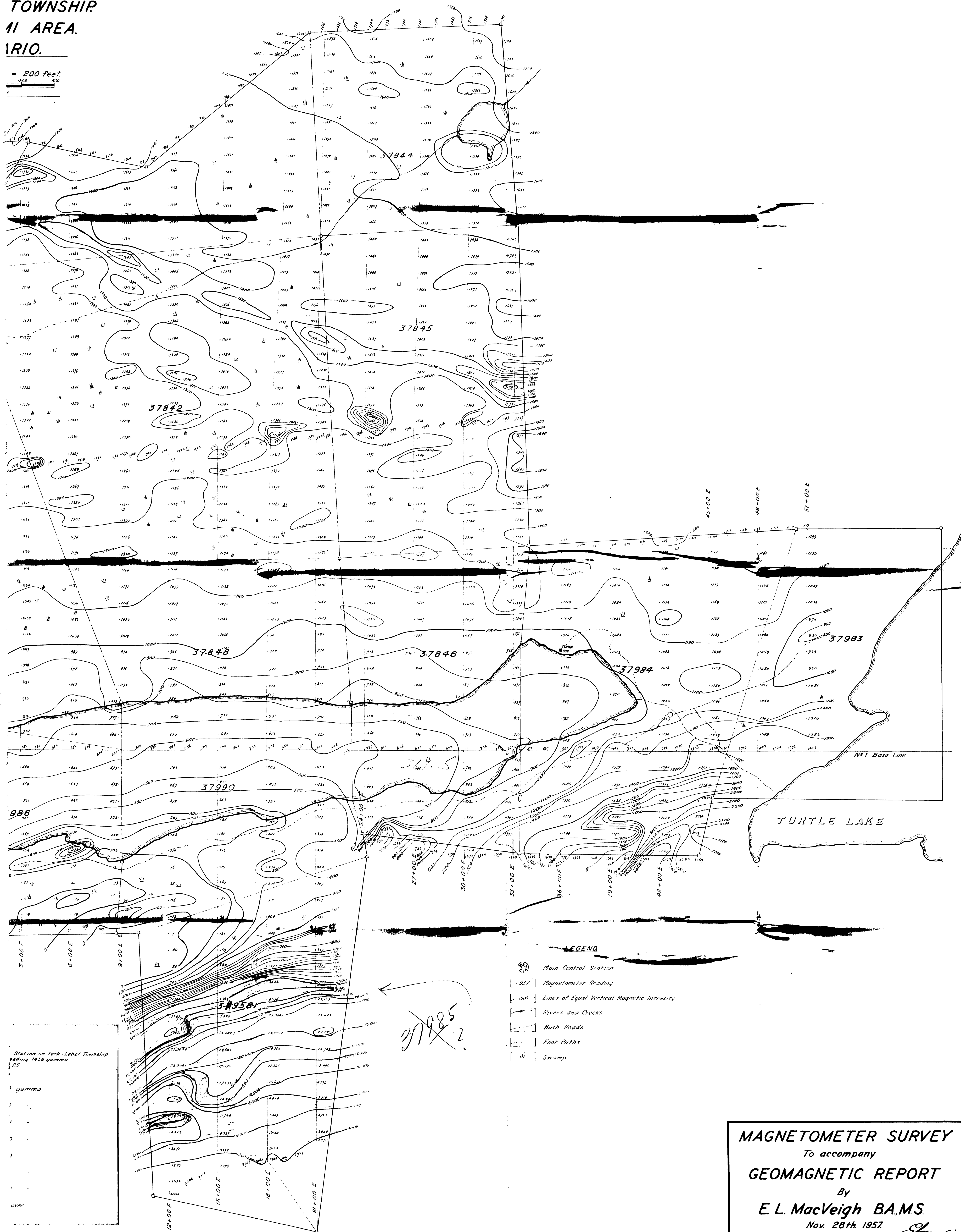
1000	0
1500	150x
2000	250x
2500	300x
3000	400x
4000	500x
5000	gamma and



# VER MINES, LIMITED.

TOWNSHIP  
11 AREA.  
MIRIO.

1" = 200 feet



**MAGNETOMETER SURVEY**  
To accompany  
**GEOMAGNETIC REPORT**  
By  
**E. L. MacVeigh B.A.M.S.**  
Nov. 28th. 1957. *MacVeigh*