



REPORT ON
A GEOLOGICAL AND
A GEOMAGNETIC AND ELECTRO-
MAGNETIC SURVEY ON MINING
CLAIM T. 50535, STRATHY TOWN-
SHIP, TEMAGAMI AREA, ONTARIO

Haileybury, Ontario,
May 1st, 1964

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FOREWORD & SUMMARY

The writer holds a mining claim in the central part of Strathy Township near Temagami, Ontario, on which interesting values in gold, copper and nickel have been found. The gold find is a new discovery in the middle of the claim and has been opened up by two rock trenches, one assaying 0.323 oz. of gold per ton across a vein width of 10.4' and one assaying 0.223 oz. of gold per ton across a vein width of 11.7 ft. Due to overburden no further work has been done. The copper-nickel sulphide location is in the southeastern part of the claim and was diamond drilled under the writer's supervision by two holes in 1951. Both holes showed an interesting amount of sulphide mineralization throughout in gabbro formation, the best section assaying 1.27 percent copper and 0.34 percent nickel for 19.0' of core from 131' to 150' in a 45° hole.

In the summer of 1963 a geological, geomagnetic and electromagnetic survey was carried out on the claim and a very high coincident magnetic and electromagnetic anomaly was obtained just ahead of the diamond drilling which was stopped in 1951.

It is recommended that the gold showing on the claim be further investigated by surface work and that diamond drilling be extended to investigate the interesting anomalous area which may indicate sulphide ore bearing copper, nickel, zinc and silver in the southeast part of the claim.

Enclosed with this report are three map sheets on a scale of 200' to 1 inch showing the geology, the geomagnetic contours and the electromagnetic readings.

HISTORY

The property was previously held by S. Beanland of Haileybury who patented the ground as Claim TRT.6033 and later sold it to Glenor Mining Co. Limited in 1949. The claim was acquired by the writer by staking in 1961 and is now numbered T. 50535.

PROPERTY & ACCESS

The property consists of one claim No. T.50535 recorded in the Temiskaming Mining Division. The acreage is 36.5 acres. The ground is reached by driving a mile west of Coward, Ontario on the Trobor Mine road and thence half a claim south by trail. Coward is a lumbering site on the Ontario Northland Railway and the No. 11 Highway three miles north of the Town of Temagami.

The property has a generally shallow soil overburden but a number of outcrops can be found. Some of the forest growth is now large although the area has been timbered.

GEOLOGY

The country rock in the central part of Strathy Township is composed of Keewatin acid and basic lava flows with some Keewatin type tuffs, agglomerate and iron formation.

These rocks are a part of an anticlinal-synclinal tightly folded system trending northeast-southwest. It would appear that the Keewatin in the central part of Strathy is located on the north limb of a syncline having an axis approximately two miles to the southeast and that the Keewatin rocks are in normal attitude facing and dipping southeast. The Keewatin is intruded by basic rocks probably Haileyburian in age which include diorite, gabbro and peridotite. The copper-nickel deposits of the area are assumed to be genetically associated with these intrusives. A later series of Algonian acid intrusives are found which include granite, porphyry and diorite and these are assumed to be the source of the gold deposits. At the east side of Strathy Township there are occurrences of flat lying cobalt sediments which overly the above rocks unconformably. The youngest Pre-cambrian rocks in the area are intrusions of Kaweenawan diabase. These rocks are present in dike form usually striking northwest-southeast. The Nipissing diabase sill outcrops in the general area.

The above rocks are cut by a system of strike faults in a direction northeast-southwest and cross faults in a direction northwest-southeast. These are frequently marked by lineal depressions. The ultra basic rocks such as the peridotite are present both as sill formation and in pipe-like bodies. The distribution of the basic intrusives with relation to the

Keewatin rock structure may be the key to the copper-nickel ore search in this part of the Temagami area.

On Claim T.50535, the property herein reported, the rock outcrops show that most of the claim is underlain by Keewatin basic volcanics. These are andesites and basalts with prominent flow top breccia development. The strike of these rocks is northeast-southwest and the dip vertical. In the southeast part of the claim is a sill like gabbro intrusive striking northeast-southwest. This is a fairly coarse grained rock composed of ferro-magnesium minerals and basic feldspars, which has been well fractured with numerous quartz injections and abundant sulphide mineralization. In places the gabbro contains interesting amounts of chalcopyrite and nickel bearing pyrrhotite. The intrusion appears to be about 700 ft. in width with the northwest contact crossing Claim T.50535 for a length of 800' to 900'. The southeast contact is on the adjoining International Nickel ground.

The magnetometer survey shows the presence of a diabase dike striking northwest-southeast through the pond area in the north part of the claim and a probable fault location striking in the same direction through the well mineralized area in the southeast part of the claim. A second fault location is indicated by a 20 ft. fault scarp striking north-northeast in the central part of the claim. This fault scarp dips 20° to the west.

One small outcrop of quartz-porphry was observed on the claim at 1150' N. on Line 10 E.

MINERAL DEPOSITS

Two relatively unexplored locations of possible commercial mineral deposits are known on the property. In the central part of the claim the writer opened up a gold deposit in the summer of 1962 which shows a quartz vein striking N. 17° W. and dipping 75° to the southwest. The vein, which is a 3 ft. zone composed of quartz stringers 2 to 6 inches wide, contains only low gold values but the central part of the out-crop area shows highly interesting gold values with sulphide mineralization distributed in the greenstone on the hanging wall of the quartz vein. Only a limited exposure could be made by hand methods due to depth of overburden. Two parallel rock trenches 15 ft. apart in the hanging wall returned by milled chip sample 0.323 oz. of gold per ton across 19.4 ft. and 0.223 oz. across 11.7 ft. The mineralized hanging wall may have a greater width than explored. The sulphides with which the gold is associated are composed of pyrite, pyrrhotite and chalcopyrite. Grab samples showed gold in amounts up to 1.39 oz. per ton or a value of \$48.65 per ton at \$35.00 per oz. Aside from the presence of the quartz filled fracture striking N. 17° W. in the Keewatin, there is no other evidence in the limited exposure as to what is controlling the gold bearing sulphide location.

In the southeast part of the claim sulphide mineralization may be observed on surface associated with the

intrusion of a gabbro sill which strikes northeast-southwest. Some work has been done on the adjoining property of International Nickel to investigate massive and disseminated sulphide occurrence along the contact of this same gabbro where copper and nickel bearing sulphides have been exposed by rock trenching in the adjacent Keewatin pillow lava.

In 1951, two diamond drill holes were put down by Clenor Mining Co. Ltd. on former patented Claim TRT.6033, which is now Claim T. 50535 herein reported. These two diamond drill holes were supervised and sampled by the writer and were drilled to lengths of 277' and 260' respectively at the locations shown on the accompanying geological map. Both holes continued in gabbro throughout showing varying amounts of replacement mineralization from the top to the bottom of both holes. Sampling of the core of this material showed the best section to be 1.27 percent copper and 0.34 percent nickel for 19 ft. from 131' to 150' in Hole S. 30, which is the most southerly of the two holes drilled. Both holes were directed south at -45° . In addition to the copper and nickel in this 19 ft. of core a high value of 0.64 oz. of silver for 5 ft. and 0.36 percent zinc for 5 ft. was obtained. The recent geophysical surveys indicate that massive sulphides probably exist under the overburdened ground.

GEOPHYSICAL SURVEY PROCEDURE & RESULTS.

(a) Geomagnetic Survey

The geomagnetic survey was conducted with a Sharpe A2 magnetometer using a sensitivity of 20 gammas per scale division. A total of 2.35 miles of line were cut, chained and picketed, and 124 stations established at which magnetic readings were recorded. The lines were spaced 200 ft. apart and directed north from the south boundary of the claim which is a due east-west line. The main control station is located on the north boundary of the claim 115 ft. west of No. 1 post. A normal correction of 1,000 gammas has been added to all readings plotted on the map. Accompanying this report is a geomagnetic contour map on a scale of 200 ft. to 1 inch.

The results of the geomagnetic survey show the presence of three highly magnetic anomalies on the claim. The highest anomaly reading +10,000 gammas is in the southeast corner of the ground and is known to cover a mineralized gabbro intrusive in which abundant magnetic pyrrhotite occurs. The nearby presence of a magnetic low is a di-polar effect and suggests the presence of a massive pyrrhotite body or a pyrrhotite and magnetite body at or near surface in the underlying rock. The known presence of copper, nickel, zinc and silver values in mineral showings at this location lends importance to this magnetic anomaly.

In the north part of the claim a high magnetic anomaly is located striking northwest-southeast through the small pond area. This is interpreted to be an olivine diabase dike based on an alignment of segments of olivine diabase outcropping to the northwest and southeast.

A third magnetic high is located on the west boundary of the property in overburdened ground. Nearby outcrops show only Keewatin volcanics. The anomaly possibly marks the extension of the diorite sill extending under the bed of the south arm of Net Lake. This sill is known by the writer to differentiate into a highly magnetic rock resembling a peridotite at Cooke Lake to the southwest of Net Lake.

A general interruption of the magnetic contours is probably due to a fault striking northwest-southeast in the central part of the claim.

The background of the geomagnetic map area, between 200 and 500 gammas, is considered to be Keewatin volcanic flows and the 500 to 1000 gamma range probably marks more basic Keewatin flows with a higher magnetite content.

(b) Electromagnetic Survey

The electromagnetic survey was conducted over the same picket line grid as the magnetometer survey using the Reaka Horizontal Loop method with a frequency of 876 cps. and a cable separation of 200 ft. An accompanying map on a scale of 200' to 1" shows the in-phase readings plotted on the

west side of the picket lines and the out-of-phase readings plotted on the east side. Sub-surface conductors such as sulphides are indicated by a deeper negative reading on the in-phase accompanied by a zero or positive reading on the out-of-phase. The method is useful in locating sulphide deposits sufficiently massive to be conductors. Disseminated types of metallic sulphides might be missed.

The results of the electromagnetic survey shows some extremely high readings in the southeast corner of the claim which are probably due to massive sulphides. The location shows a gabbro rock type with considerable mineralization including pyrite, pyrrhotite and some chalcopyrite. Surface outcrops do not show amounts of mineralization sufficient to cause such high electromagnetic readings which are recorded up to 65 percent on the in-phase. It is suggested that massive sulphides occur at or near surface under the overburden. If such massive sulphides apex beneath the rock surface they are at a depth of probably less than 200 ft. The conductor is indicated to strike northeast-southwest. No other electromagnetic conductors were located during the survey.

RECOMMENDATIONS

An interesting gold find was made in the central part of Mining Claim T.50535 in the summer of 1961 by the writer. The location is along the hanging wall of a quartz vein striking N. 17° W. in Keewatin volcanics. Exploration

to date has consisted of two surface rock trenches on the hanging wall side of the quartz vein which show gold values of 0.223 oz. per ton across 11.7' and 0.323 oz. across 10.4'. In dollars these are values of \$7.70 per ton and \$11.20 per ton respectively with gold at \$35.00 per oz. The gold is present in replacement sulphide mineralization consisting of pyrite, pyrrhotite and chalcopyrite. Overburden restricted further manual work. It is recommended that the area be bulldozed and further rock trenched to determine the extent of the gold values and the structural association. This should be followed by shallow diamond drilling directed according to the surface findings. Such a surface program would require about 1 month employing a bulldozer for 2 days and the rest of the time devoted to rock trenching by two men.

The geophysical surveys showed a coincident high magnetic anomaly and a very high electromagnetic conductor in the southeastern part of Mining Claim T.50535. The geology of the location shows the presence of a sill-like gabbro intrusive which may be observed on surface outcrop to bear mineralization including pyrite, pyrrhotite and chalcopyrite. Two holes were diamond drilled on the claim in 1951 and are located in this interesting area. These holes were supervised and sampled by the writer.

One hole No. 30, which was drilled south at an

angle of -45° penetrated the conductor area as indicated by the recent electromagnetic survey. This hole included mineralized gabbro throughout and one section of 19 ft. from 131' to 150' assayed 1.27 percent copper and 0.34 percent nickel with some low associated values in silver and zinc. A copy of this drill log is submitted with the report. There still remains 100 ft. of lateral cross-section in the conductor area ahead of Hole No. 30 before the south boundary of the claim is reached. This hole could be extended but since the drilling was 'E' core it is recommended that it be duplicated with 'A' core drilling. From the collar of Hole No. 30 to the south boundary of the claim would require 450 ft. of drilling at -45° . As there is no information regarding the dip of the mineralization it is recommended that a second hole be drilled north from the south boundary to cover the same ground. This is a recommendation of 900 ft. of preliminary drilling.

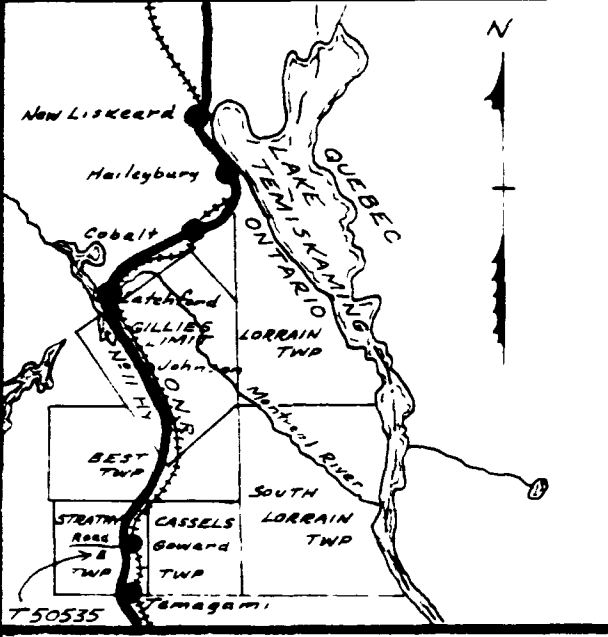
For the above recommended work an allowance of 2,000 ft. of diamond drilling should be made at an overall cost of \$5.00 per foot including supervision, sampling, diamond drilling extras, etc. A further allowance of \$5,000.00 should be made to carry out required surface work at the gold showing including the use of a bulldozer, the employment of two men with supervision, erection of a tent camp, etc. The total above recommended expenditure is \$15,000.00.

Respectfully submitted,



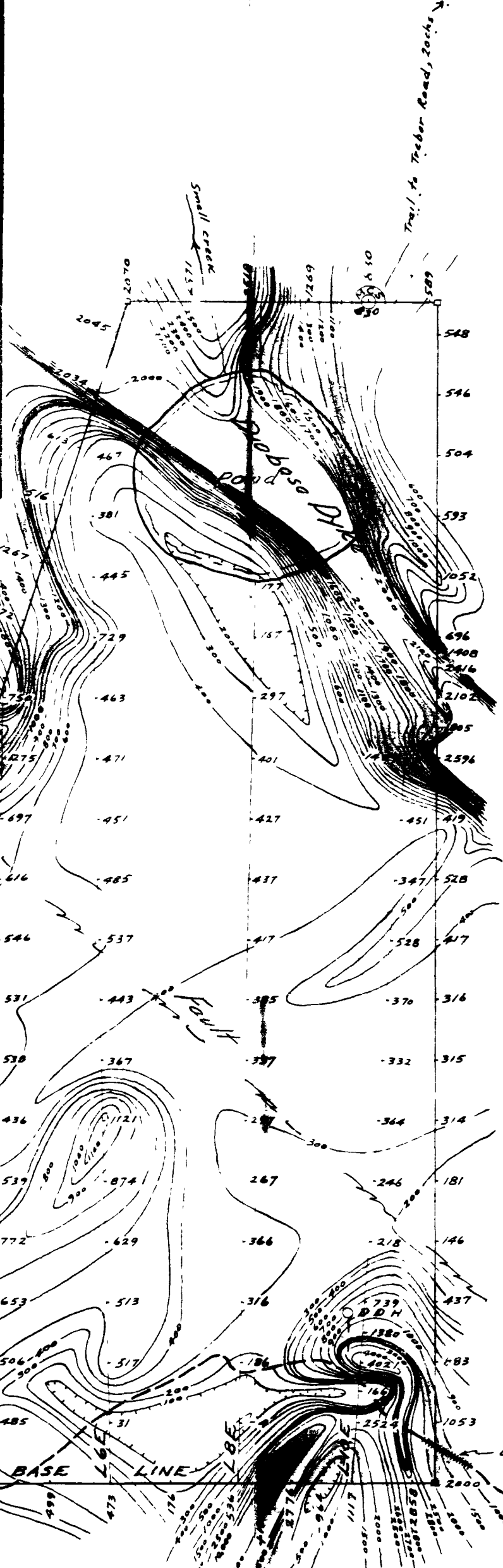
E.L. MacVeigh B.A., M.S.

Haileybury, Ontario.
May 1st, 1964.



KEY SKETCH

SCALE 1 INCH = 12 1/2 MILES



MAGNETOMETER DATA

Scale constant: 20 gammas
 Normal correction: +1000 gammas
 Contour interval: 100 gammas

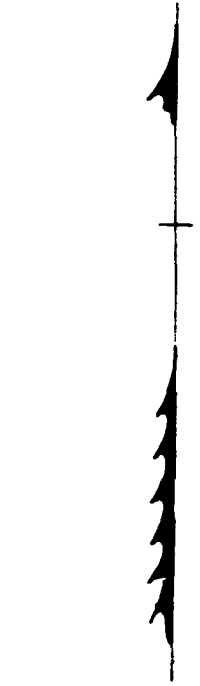
LEGEND

- 1000 to 200 gammas
- 200 to 500 gammas
- 500 to 1000 gammas
- 1000 to 2000 gammas
- 2000 to 5000 gammas
- 5000 to 10,000 plus gammas

Symbols

- Main Control Station
- Claim post
- Picket Line
- Claim Line

N. AST.



GEOMAGNETIC MAP OF

MINING CLAIM T. 50535

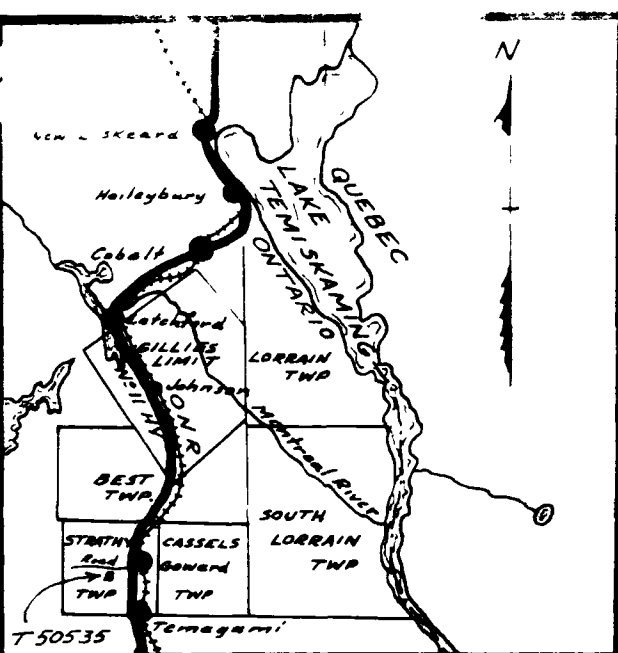
STRATHY TOWNSHIP - TIMAGAMI AREA
 TIMISKAMING MINING DIVISION - ONTARIO

To accompany report by E.L. MacVeigh B.A. M.S

Scale: 1 inch = 200 feet

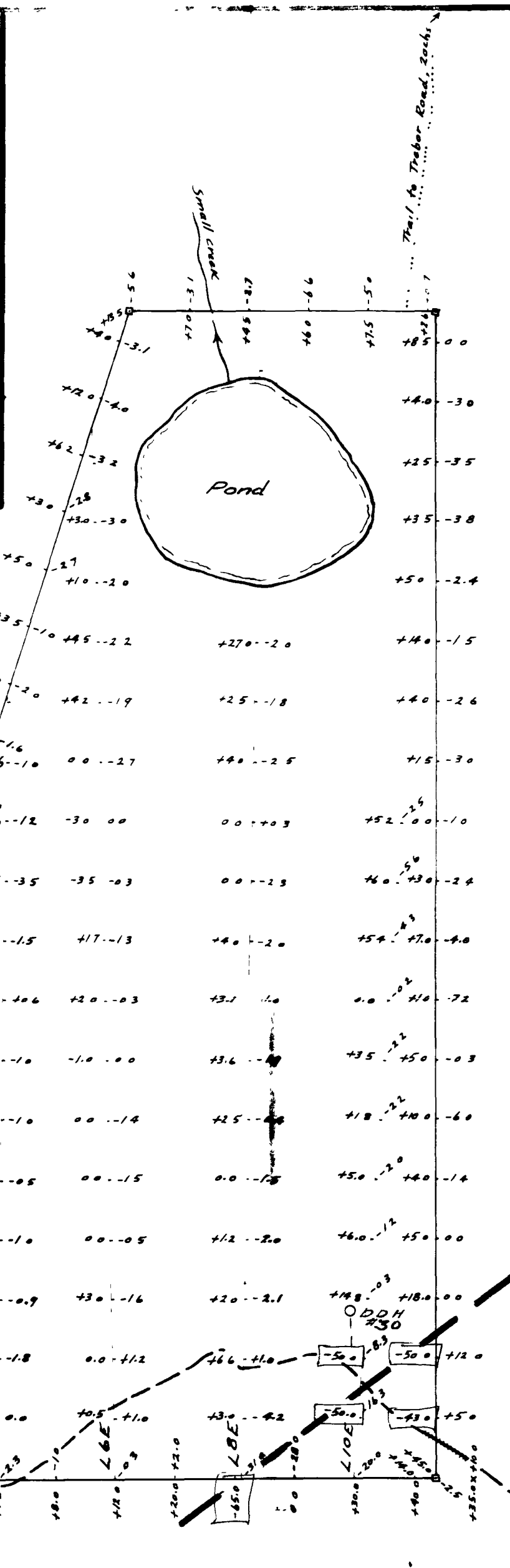


MacVeigh B.A. M.S.
 Drawn by: H. Hammerstrom Nov 1963



KEY SKETCH

SCALE: 1 INCH = 12 1/2 MILES



- Symbols**
- Claim post.
 - Picket Line
 - Claim Line
 - +35 -10 Percent of Compensating voltage change due to conductor
 - In-phase readings to left of line
 - Out-of-phase readings to right of line
 - CONDUCTOR AXIS → Conductor axis.

N.A.S.T.

BASE LINE

Bush Road

To Nat. Lake, Approx. 1 mile

ELECTROMAGNETIC MAP OF

MINING CLAIM T. 50535

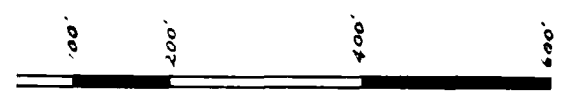
STRATHY TOWNSHIP - TIMAGAMI AREA
TIMISKAMING MINING DIVISION - ONTARIO

To accompany report by E.L. MacVeigh B.A. M.S.

Scale: 1 inch = 200 feet



31M04SW0110 63 1274 STRATHY



E. MacVeigh B.A., 143
Drawn by: H. Hamerstrom Nov 13/63