



REPORT ON MAGNETOMETER SURVEY

HARRIS-BRENNAN-JOY OPTION

McVITTIE TOWNSHIP, ONTARIO

SUMMARY

A ground magnetometer survey was conducted over a 10 claim property (eight unpatented and two patented) which is located in northwestern McVittie Township just east of the Lake Beaverhouse Mines Limited property on which the Upper Beaver Mine is located. Several anomalous areas were located which are to be investigated further by geological mapping and possible diamond drilling. Heavy snow cover which prevailed at the time of the survey prevented any geological evaluation of these anomalies during the survey.

Property and Location

The property is comprised of the following contiguous claims in McVittie Township:

- | | |
|----------------------|---------|
| L-2658 (patented) | L-73194 |
| L-2659 (patented) | L-73195 |
| L-67522 | L-95325 |
| L-72772-75 inclusive | |

These claims are readily accessible from Lake Beaverhouse which can be reached by car via the Upper Beaver Mine road from Dobie. Another access road which extends northward from Highway 66 just east of the Misen^ma River, passes through the southwest portion of the claim group.

The property is owned jointly by Thomas J. Brennan, Dobie, Ontario, W.C. Joy, Chaput Hughes, Teck Township, and A.E. Harris, New Liskeard, and is presently held under option by Upper Beaver Mines Limited.

Geological Data

The only geological data available which covers this claim group is shown on ODM Map 50⁸, scale 1 inch equals 1000 feet. This map indicates that the claims are underlain by west to northwesterly striking basic volcanic rocks of Keewatin age, with the exception of claim L-72775, the southern part of which is covered by acid volcanics.

Pillows are common in the basic volcanics, and face north. The volcanics are intruded by dykes and stocks of syenite porphyry of Algonian age, the largest of these located near the No. 1 post of claim L-72774.

Most of the claims are covered with overburden, chiefly sand ridges, with outcrops being confined for the most part to the lake shores.

Several old pits are located on claims L-72772, L-72773 and L-72774, and expose quartz veins. A limited amount of diamond drilling has been done on these showings and low gold values are reported to have been obtained in several holes. Total drill footage is not known, but is probably several hundreds of feet.

Magnetometer Survey

A ground magnetometer survey was conducted on a 30 claim group in Gauthier and McVittie townships during the period January 24th to March 22nd, 1967. The survey was conducted by Upper Beaver Mines Limited personnel using an MF-1 Fluxgate Magnetometer No. 607224, which has a sensitivity of 20 gammas on the 1000 scale range. Forty-seven miles of line cutting was done and a total of 5628 stations were established. Assessment days credit per claim totalled 18.4 over the 30 claim group, but credits as far as this report is concerned are being claimed only for the eight unpatented claims of the Harris-Brennan-Joy option group, namely L-67522, L-72772-75 inclusive, L-73194, L-73195 and L-95325. The other claims covered by the survey, and not within the scope of this report, are listed on the attached assessment work breakdown form.

A control point (B) was established at co-ordinates 44+00N, 32+00E. A tie-in to the ODM base stations was not possible because of heavy snow cover which prevented the base station from being located.

Magnetometer results

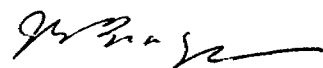
No relationship between magnetic readings and rock types was apparent, the survey showing a relatively flat gradient over most of the claims. Two areas of high magnetic readings, however, warrant further attention. On claim L-73194 an area of high magnetic readings, with a maximum of 3400 gammas, was outlined in the central

portion of the claim. Another zone of high magnetic readings ranging to 2450 gammas extends from the central part of L-95325 under Beaverhouse Lake along the western edge of L-67522 into the northwest corner of L-72774. Exploration at the Upper Beaver mine 2500 feet west of the west boundary of L-72774 has shown that zones of magnetite occur within the basic volcanics which are of no economic interest, but on the other hand magnetite is usually present in the ore veins at the Upper Beaver mine. Both the zones referred to above warrant further exploration to determine if the magnetite causing these anomalies is associated with veins containing gold-copper mineralization. On claim L-72774, ^{at} 18+00N and 27+50E, a single high negative reading of 3000 gammas was obtained which warrants further investigation.

On patented claims L-2658 and L-2659, along the north shore of Beaverhouse Lake, high magnetic readings were obtained along the rocky shoreline. Detailed geological mapping here is recommended to determine the cause of these high readings.

This survey is being submitted by Upper Beaver Mines Limited, Dobie, Ontario, wholly owned subsidiary of Upper Canada Mines Limited, as assessment work.

June 5, 1967.



J.G. Bragg,
Chief Geologist,
Upper Beaver Mines Ltd.

MOREAU, WOODARD & COMPANY LTD.

MINERAL EXPLORATION SERVICES



32D04NE0109 63.2175 MCVITTIE

020

SUMMARY

During January and February 1967, we carried out a Turam electromagnetic survey on the Lake Beaverhouse claims and the Harris option for Upper Canada Mines Limited.

The claims are located in Gauthier and McVittie townships approximately four miles northeast of Dobie in the Larder Lake area of Ontario.

The survey was made to locate possible sulphide mineral deposits which could have economic significance either for base metal content or associated gold values.

A number of distortions in the electromagnetic field were measured, some of which are interpreted as due to magnetic permeability contrasts while others are due to secondary fields induced in the overburden or topographic linears. The latter may also be due in part to strongly developed shear zones in the underlying rocks.

METHOD

The survey was carried out with the Turam electromagnetic method which employs as an energizing source a long grounded cable or a large rectangular loop fed by an A.C. motor-generator. The receiver employs two coils and a compensator-amplifier and measures the field strength ratio and phase difference at successive intervals long traverses perpendicular to the assumed strike and energizing source.

The present survey employed ABEM equipment, manufactured

Sweden. Rectangular loops were used throughout, energized at a frequency of 660 C.p.s. The accompanying maps show the results obtained plotted as field strength ratio and phase difference profiles. The field strength ratio readings have been reduced and are expressed in percent of the normal ratio for the loop size and distance from the loop. The phase differences are plotted directly in degrees.

The in-phase and out-of-phase components of the secondary field expressed in percent from an undisturbed point may be calculated from the measured values. The relative amplitudes of these components gives a measure of the apparent conductivity of the zone, subject to certain considerations of body size. The location of the current axis is marked by the inflection points of the secondary field components and its depth is determined from the horizontal distance between the maxima and minima.

RESULTS

The survey results for the most part indicate the area is only moderately disturbed with distortions mainly confined to the phase difference curves. This is typical of secondary fields induced in the overburden cover and likely mark the edges of overburden cover or conductivity changes in the overburden.

Some exceptions to the general pattern however are notable. These may be divided into two groups. Distortions due to magnetic permeability influences and those due to secondary fields or conductive bodies.

The first group has been noted on the accompanying map and are associated with appreciable changes in the earth's magnetic field, (from magnetometer survey results conducted by Upper Canada Mines personnel). The anomalies are characteristically sinusoidal distortions of the field strength ratio curve with little phase

difference change. On line 36N at 20 West the response is not characteristic, however this has been interpreted as due to body attitude and traverse location (magnetic anomaly parallel to line).

The higher conductivity and large amplitude anomalies are confined to the topographic linear marked by the Misena River (south map sheet) and mapped as a north-south fault (Ontario Department of Mines Map 500). Conductivity is not good but nevertheless higher than normally indicated by the overburden responses. The large amplitudes are due in part to long strike length of this feature, and may also be influenced by some galvanic flow. The latter would also tend to indicate somewhat better apparent conductivity.

In the report "Geology of Gauthier Township", by Jas. E. Thomson and A. T. Griffis, Vol. L, Part VIII, 1941, the authors on Page 12, describe core from a hole drilled on claim L35988 beneath the river bed (approximately line 16S of the present grid)- "most of the core was lost in the faulted section, but material recovered was a soft, reddish, clayey gouge". The description of the fault zone would suggest a strong response would be likely, using a large, fixed source, energizing field, particularly if the fault zone were to act as a collector for eddy currents induced in the surrounding overburden.

CONCLUSIONS

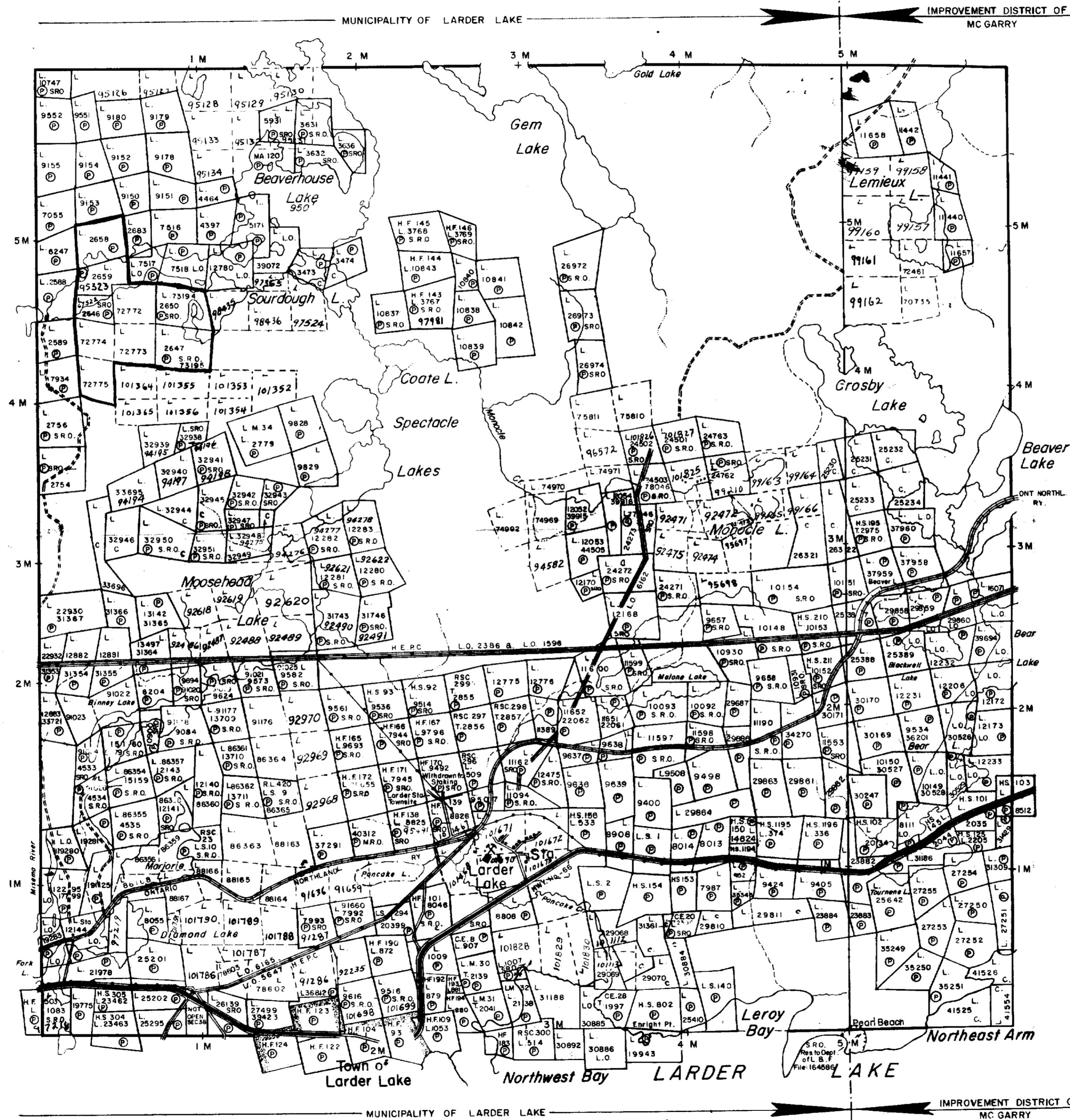
No anomalies were measured which suggest heavy concentrations of sulphide minerals. Some of the features described could have economic significance if an association of gold values is expected with magnetite, or, if disseminated sulphides or gold mineral- have been localized in the Misena River fault.


M. J. Moreau, P. Eng.

M.370

M.370

Katrine Twp. (M. 357)



THE TOWNSHIP OF
OR

McVITTIE

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

- PATENTED LAND Ⓟ
- CROWN LAND SALE C.S.
- LEASES Ⓞ
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS |||
- IMPROVED ROADS |||
- KING'S HIGHWAYS |||
- RAILWAYS |||
- POWER LINES |||
- MARSH OR MUSKEG |||
- MINES Ⓜ
- CANCELLED Ⓜ

NOTES

400 SURFACE RIGHTS RESERVATION AROUND
ALL LAKES AND RIVERS.

DATE OF ISSUE

SEP 7 1967

ONT. DEPT. OF MINES
MINING LANDS BR.

THIS MAP FOR CHECKING
PURPOSES ONLY - MUST
NOT BE SOLD.

PLAN NO. M.370

DEPARTMENT OF MINES

—ONTARIO—

McVITTIE JMB

McVITTIE JMB

Gauthier Twp.(M. 350)

McGarry Twp. (M. 369)

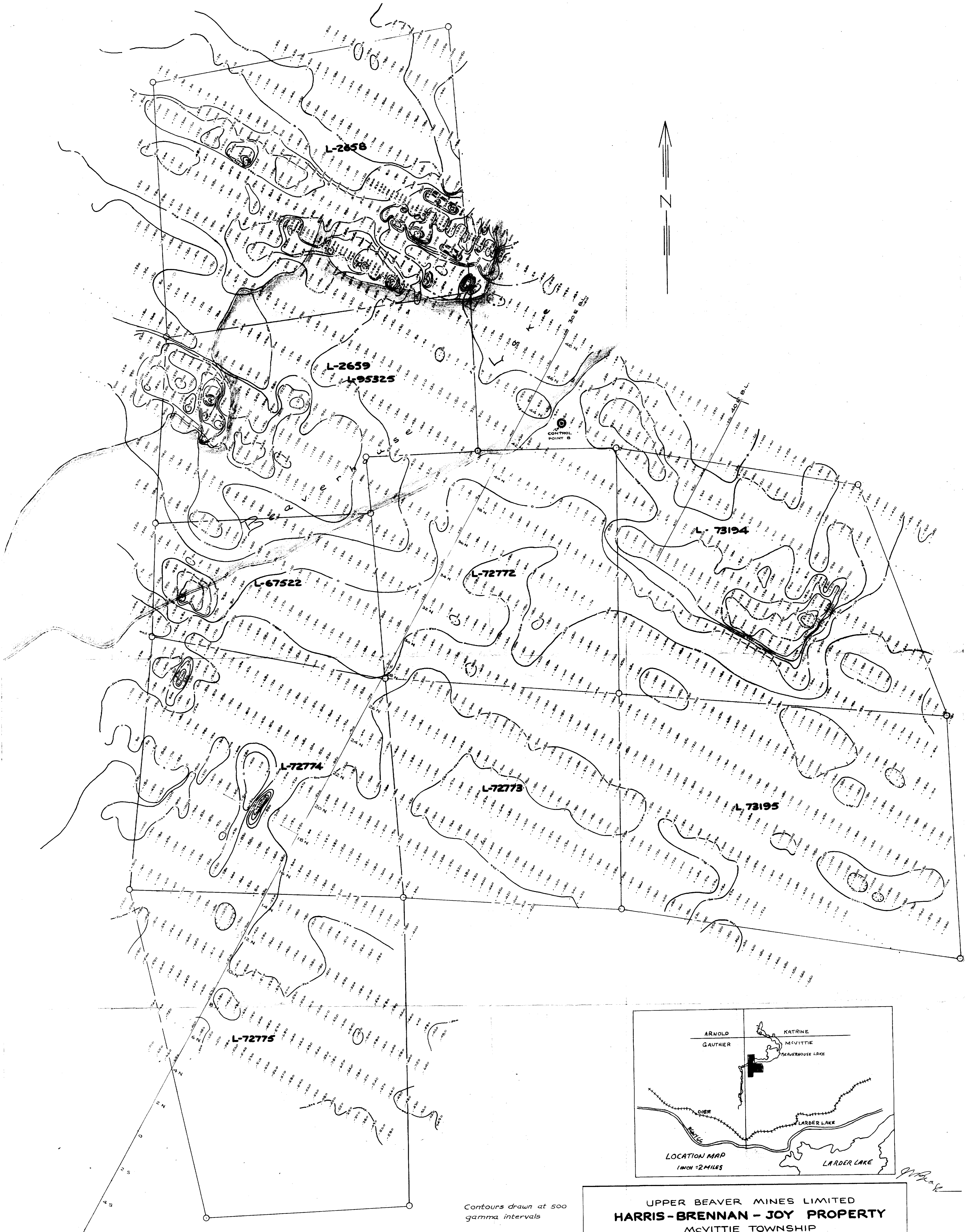
Hearst Twp. (M. 354)



32084NE0189 03.2175 McVITTIE

M.370

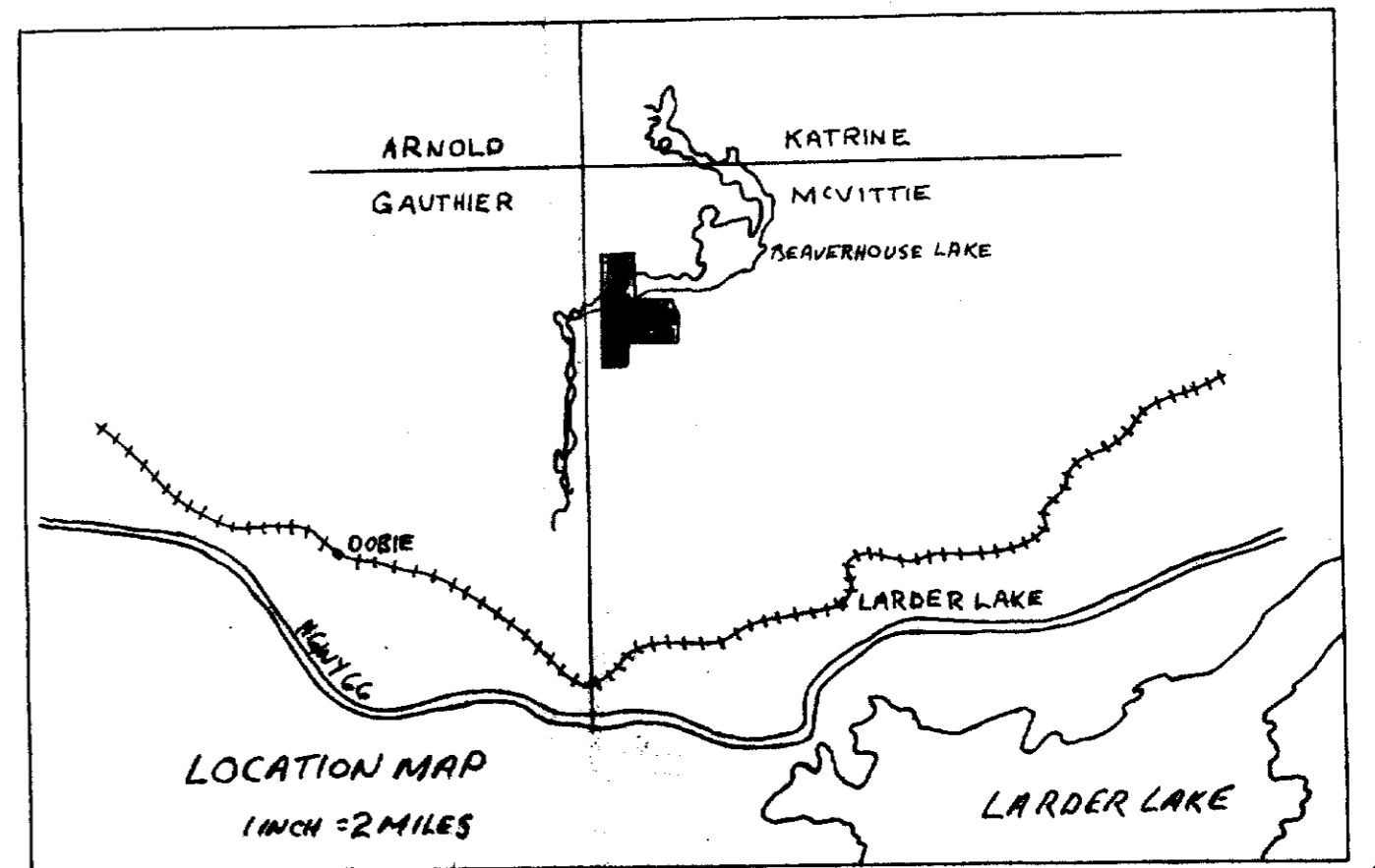
M.370



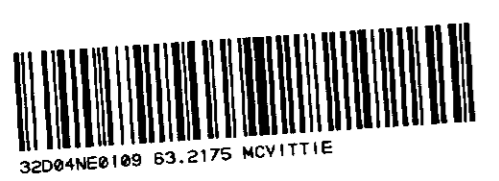
Contours drawn at 500 gamma intervals

Station readings are in gammas

Survey dates Jan 24 to March 22, 1967



UPPER BEAVER MINES LIMITED
HARRIS-BRENNAN - JOY PROPERTY
 McVITTIE TOWNSHIP
PLAN of MAGNETOMETER SURVEY
 MARCH 1967 SCALE 1" = 200' DRAWN BY: JGB. A.W.





922-12

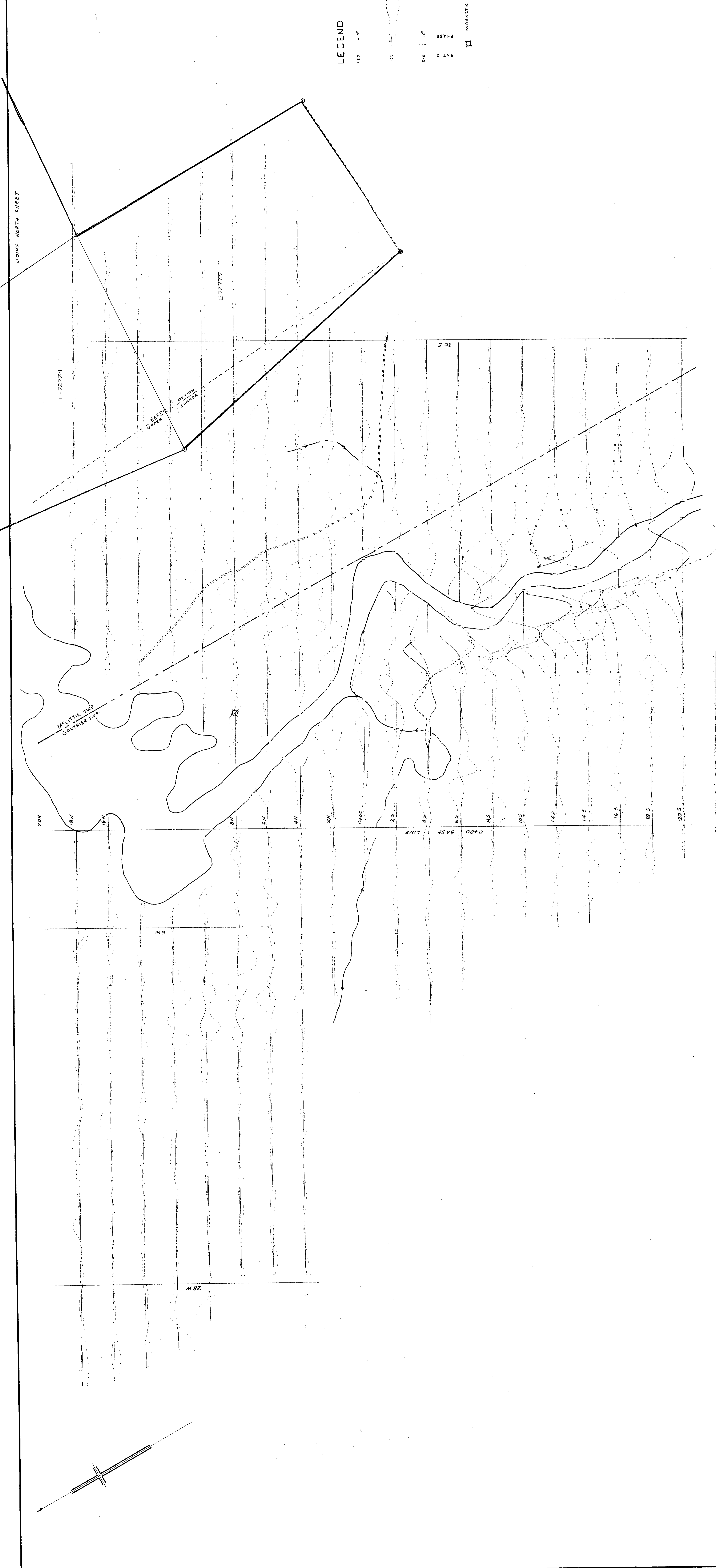
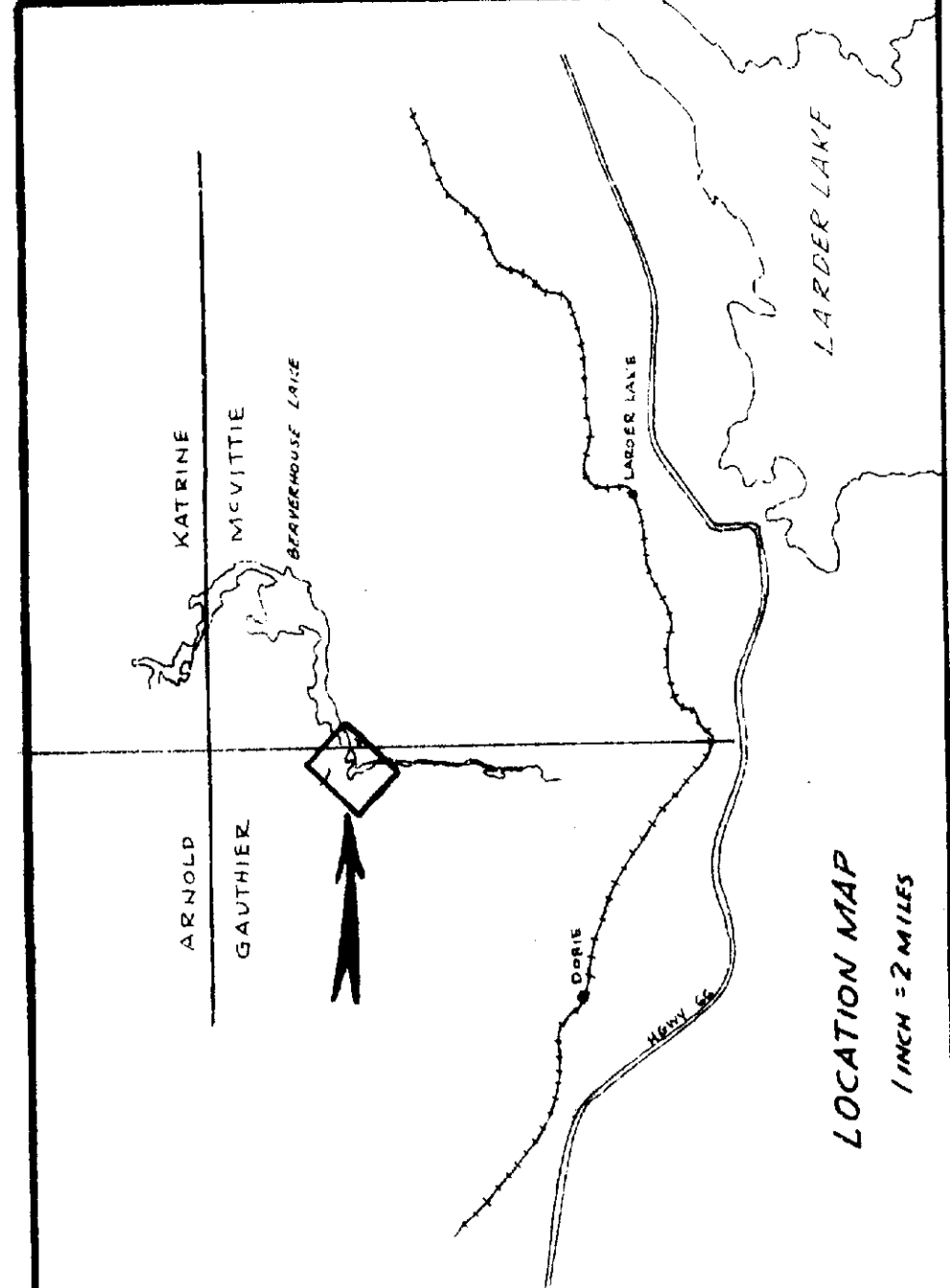
TURAM ELECTROMAGNETIC SURVEY
BY
MOREAU, WOODWARD & CO. LTD.

FOR
UPPER CANADA MINES LIMITED
ON THE
LAKE BEAVERHOUSE CLAIMS & HARRIS OPTION,
CAUTHIER & MEVITTIE TOWNSHIPS,
LARDER LAKE AREA, ONTARIO.

DRAWN BY: *[Signature]*
DATE: 10/20/52
Scale: 1 inch = 200 feet
67-17N

JOHN'S SOUTH SHEET





LEGEND.

110 --- 110°

100 --- 100°

085 --- 085°

RATIO

PHASE

MAGNETIC FREQUENCY INCLUSION

TURAM ELECTROMAGNETIC SURVEY
BY
MOREAU, WOODWARD & CO. LTD.
FOR
UPPER CANADA MINES LIMITED
ON THE
LAKE BEAVERHOUSE CLAIMS & HARRIS OPTION,
GAUTHIER & MAYVILLE TOWNSHIPS,
LAKE BEAVER LAKE AREA, ONTARIO.

Scale 1 inch = 200 feet

67-17 S