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REPORT ON

GEOLOGICAL AND

MAGNETOMETER SURVEY

GAUTHIER TOWNSHIP, ONTARIO

by

R. A. MACGREGOR, P. ENG.

July 12, 1979

I. INTRODUCTION

A geological and magnetometer survey was carried out on 8 claims in the south part of Gauthier Township, Ontario over previously cut lines by Colex Explorations Inc. in May and June 1979.

II. LOCATION, ACCESS AND OWNERSHIP

The property is located in the south part of Gauthier Township on claims numbered L320862 - 420868 inclusive and L440420. The claims are recorded in the names L. Lacasse, Larder Lake, Ontario and R.J. MacGregor, Dobie, Ontario. Highway 66 between Larder Lake, and Kirkland Lake passes just south of the four claim block and along the south boundary of L440520.

III. PREVIOUS EXPLORATION

No previous exploration was known to have been carried out on the claims. The Department of Mines geological map shows the area to be largely drift covered, but lying just to the south of the "Larder Lake Break", a structure favorable for gold exploration. The geological survey located a large number of pits and trenches, some of which may have been sunk in the search for bedrock, but others on rock outcrops which were previously not known. No records can be found for this work, and its date is unknown, but judging by the large trees growing on the dumps it is more that 40 or 50 years old.

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IV. TOPOGRAPHY

The property is largely covered by Pleistocene sand and clay drift and is relatively flat. Some small streams have incised channels up to 20 feet or more deep through the drift without reaching bedrock. It is well forested with a mixture of balsam, poplar and some black spruce. The south part is a poorly drained black spruce-balsam swamp. Two areas stand up as low knolls above the surrounding area with scattered rock outcropping. A road crosses the east part of the claims and is driveable in dry weather. Victoria Creek runs just east of the road across parts of the claims.

V. MAPPING PROCEDURE

A grid of picket lines were cut some years ago and were used in the survey. The base line for this grid runs north-~~west~~ EAST-south-west to the east of the claims. Cross lines run south-east and are picketed every 100 feet.

Trial lines were run east and west from the picket lines by pace and compass in search of outcrop. As well all picket lines were traversed. All outcrops or old workings found were noted in a field book as to rock type and distance from picket lines. This information was then plotted on a 1" = 400 foot scale plan. Magnetometer reading were taken with a Barringer GM-122 Proton Precession Magnetometer at 100 foot intervals. The looping method was used for control of diurninal variation. In this method a base station is selected, and readings taken along lines describing a loop, arriving back at the starting

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base station in less than two hours. A second loop is then started using either the same base station or another which is tied to the previous loop. Readings are then corrected for diurinal variation by assuming the time between readings is the same and distributing any variation equally among the intervening readings. No correction was applied less than the accuracy of the base station readings.

VI. GENERAL GEOLOGY

The general geology of Gauthier Township has been described by J.A. Thomson and A.T. Griffis.[1] The area is underlain by early Precambrian volcanic, sedimentary, and intrusive rocks. The area is crossed by the Larder Lake Break, a zone of carbonatization and shearing. The gological succession of the area proposed by J.A. Thomson and A.T. Griffis is given in the following table:

QUATERNARY	
Pleistocene	Clay, sand, gravel.
	Great unconformity
PRE-CAMBRIAN	
Keweenawan or Matachewan:	Diabase.
	Intrusive contact
Algoman:	Carbonatized rock or "dolomite." Syenite, syenite porphyry, quartz porphyry, lamprophyre, diorite and gabbro.
	Intrusive contact
Timiskaming:	Basic Volcanics: Basic lava, sometimes pillowed; spherulitic lava; iron formation and chert; tale-chlorite schist.
	Acid Volcanics: Trachyte, trachytic breccia and agglometrate, bedded tuff.

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Timiskaming: (Cont'd)	Fine-grained Sediments: Greywacke arkose, quartzite, small amounts of pebble conglomerate; conglomerate with some inter-bedded arkose and greywacke.
	Erosional unconformity
Keewatin:	Basic Volcanics: Andesite, basalt, and pillow lava; dioritic lava.
	Acid Volcanics: Rhyclite and trachyte; acid fragmental lava, agglomerate, and tuff; bedded tuff.

(1) O.D.M. Report Vol. 50 part 8, 1941

VII. PROPERTY GEOLOGY

There are only two areas of outcrop on the claims with some small outcrops to the north of the claims.

One area of outcrop consists of basaltic volcanics with elongated pillow structure. The outcrop is in an area shown as drift on Map 50c.[1] It extends the area of mafic volcanics known to the south around the 4 mile post north approximately ½ mile. The basaltic rocks are greenish grey to dark green in colour. They contain elongated pillows with epidote and quartz veining on selvidges. On the south side of the area of outcrop feldspar porphyry with considerable quartz veining and disseminated pyrite occurs. The contact of the porphyry with the volcanics is drift covered.

A second area of outcrop consists of a white weathering porphyritic diorite. Its contact with the volcanics was not observed but is probably intrusive. No outcrop could be found in the area of high magnetics, although there are some trenches in the area. It is probably caused by iron formations similar to that south of the Anoki shaft to the west. Syenite and feldspar

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porphyry was found north of the claims. It may be related to the same intrusion as the diorite or to the Larder Lake "Break".

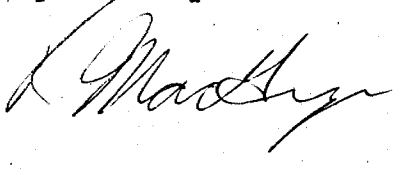
Considerable rock and drift trenching are in evidence from past searchs for gold. The results of this work are unknown and the work appears to be more than 40 to 50 years old. Gold in possibly economic amounts is known just to the north on the Princeton property, where at least two shafts have been put down on or near the Larder Lake "Break".

VII. CONCLUSIONS

The property is a well located gold prospect with geology very similar to the Princeton to the north on which gold values have been found and the Queenston to the west on which gold ore has been outlined. Prospecting is hampered by the heavy drift cover which obscures the geological relationships. A magnetic high extends across the central part of the claims and may be the contact with diorite.

The property is a promising gold prospect. Further exploration will have to be directed toward stripping and diamond drilling.

Respectfully submitted



July 12, 1979

Robert A. MacGregor, P. Eng.

Ontario

Ministry of [illegible]

File

GEOPHYSICAL – GEO[illegible]
TECHNICAL [illegible]

32D04SW0056 2.3028 GAUTHIER

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TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Magnetometer, Geological

Township or Area Gauthier

Claim Holder(s) L. Lacasse

R. J. MacGregor

Survey Company Colex Explorations Inc.

Author of Report R.A. MacGregor

Address of Author 134 Palace Dr. Sault Ste. Marie

Covering Dates of Survey May - July 1979
(linecutting to office)

Total Miles of Line Cut

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	
--Magnetometer	20
--Radiometric	
--Other	
Geological	20
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer ______ Electromagnetic ______ Radiometric ______
(enter days per claim)

DATE: July 12, 1979 SIGNATURE: [signature]
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
3/4 not covered	L420862
✓	L420863
7/3	L420864
✓	L420865
✓	L420866
✓	L420867
✓	L420868
N.C.	L440520 ✓

If space insufficient, attach list

TOTAL CLAIMS 8

OFFICE USE ONLY

Res. Geol. I.D. Qualifications 2.1102 + in this file

Previous Surveys

File No.	Type	Date	Claim Holder

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 233 Number of Readings 233

Station interval 100 feet Line spacing 400 feet

Profile scale

Contour interval 500 gammas

MAGNETIC

Instrument BARRINGER, GM-122

Accuracy - Scale constant gamma

Diurnal correction method Looping method

Base Station check-in interval (hours) 2 hours or less

Base Station location and value various along adjoining lines

ELECTROMAGNETIC

Instrument

Coil configuration

Coil separation

Accuracy

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency (specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters - On time Frequency

- Off time Range

- Delay time

- Integration time

Power

Electrode array

Electrode spacing

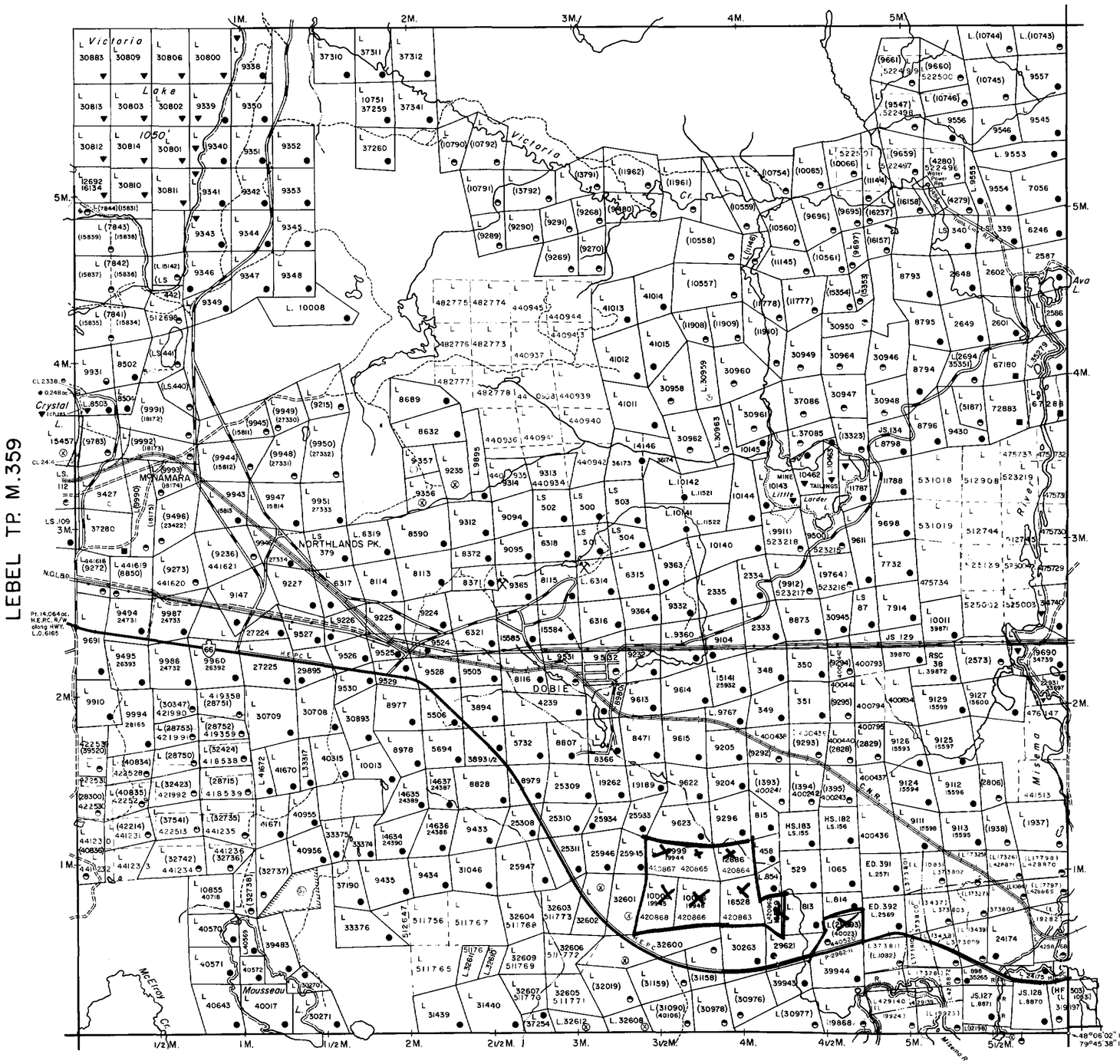
Type of electrode

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

© M.T.C. File 101421 Pit No.1666

ARNOLD TP. M.321



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◓
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◨
" MINING RIGHTS ONLY	◧
LICENCE OF OCCUPATION	▼
CROWN LAND SALE	C.S.
ORDER-IN-COUNCIL	OC
RESERVATION	®
CANCELLED	Ⓧ
SAND & GRAVEL	Ⓢ

DATE OF ISSUE
AUG 29 1979
SURVEYS AND MAPPING BRANCH

SCALE : 1 INCH = 40 CHAINS

FEET 0 500 1000 2000 4000 6000 8000
METRES 0 200 400 600 800 1 KM 2 KM

ACRES	HECTARES
40	16

TOWNSHIP
GAUTHIER

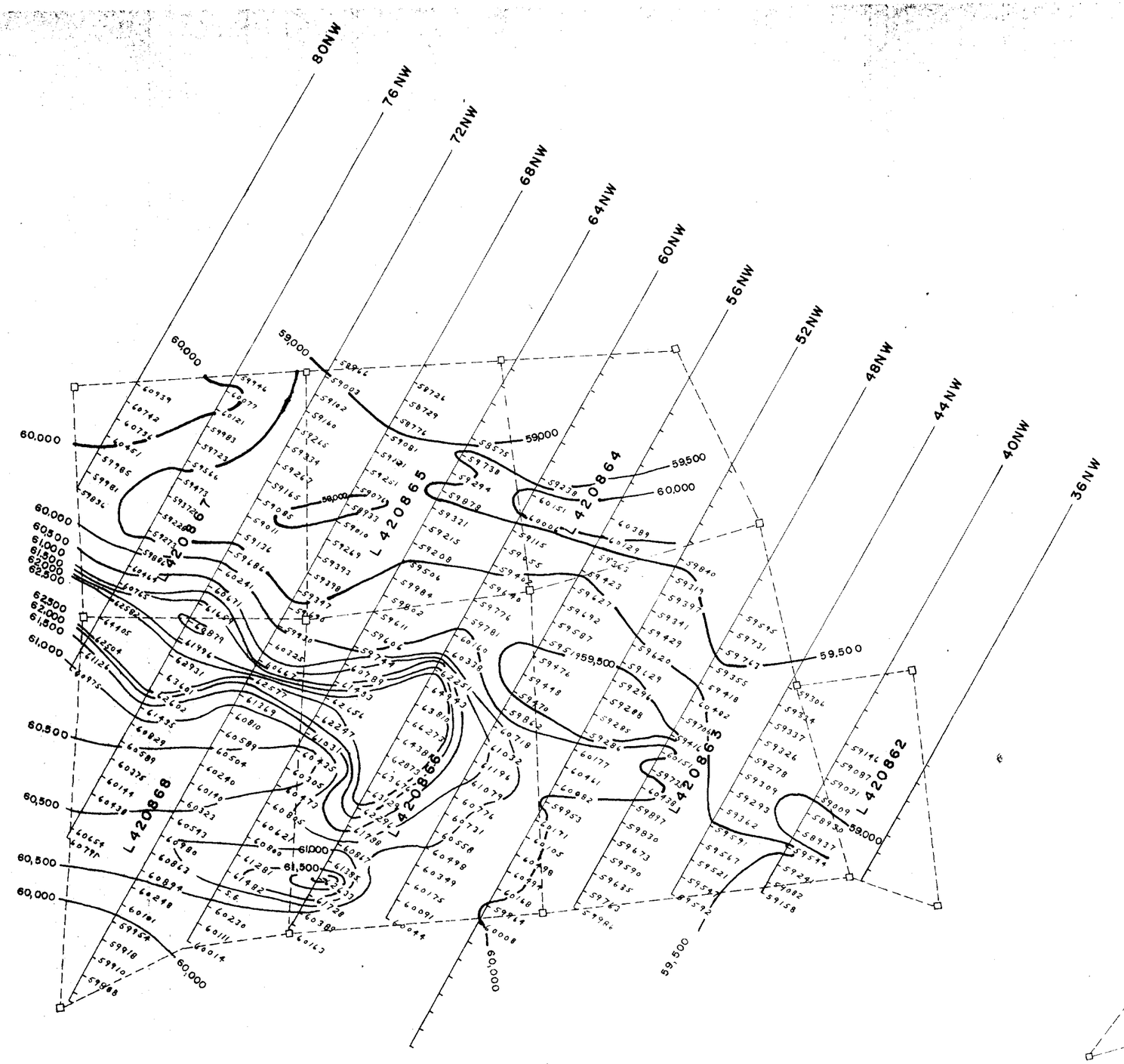
DISTRICT
TIMISKAMING

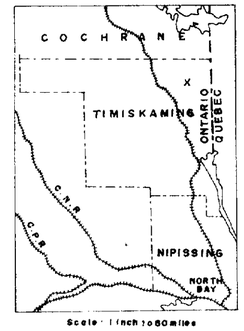
MINING DIVISION
LARDER LAKE

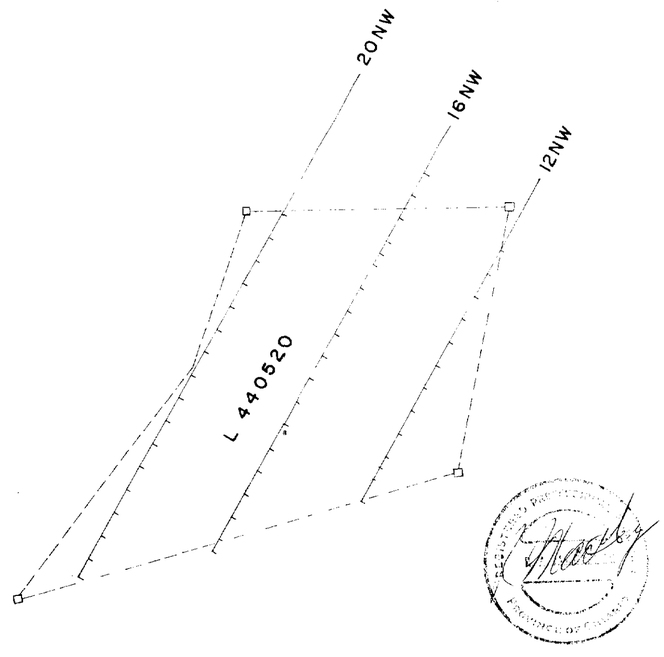
Ministry of Natural Resources
Ontario Surveys and Mapping Branch

Date JAN. 1973
Whitney Block
Queen's Park, Toronto

Plan No.
M.350







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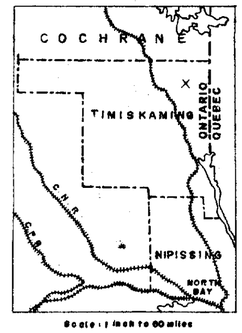
MAGNETOMETER SURVEY

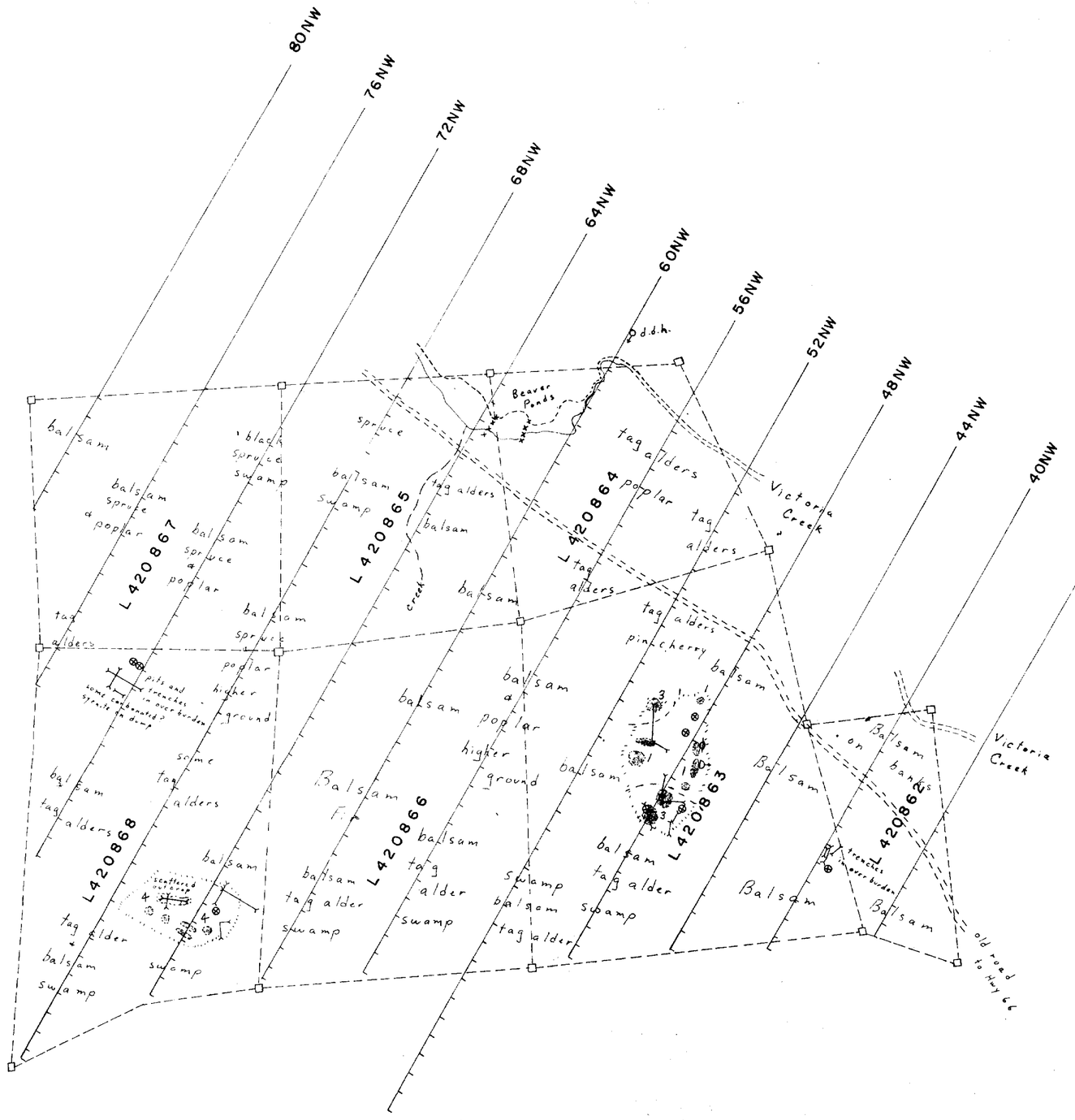
GAUTHIER TWP.

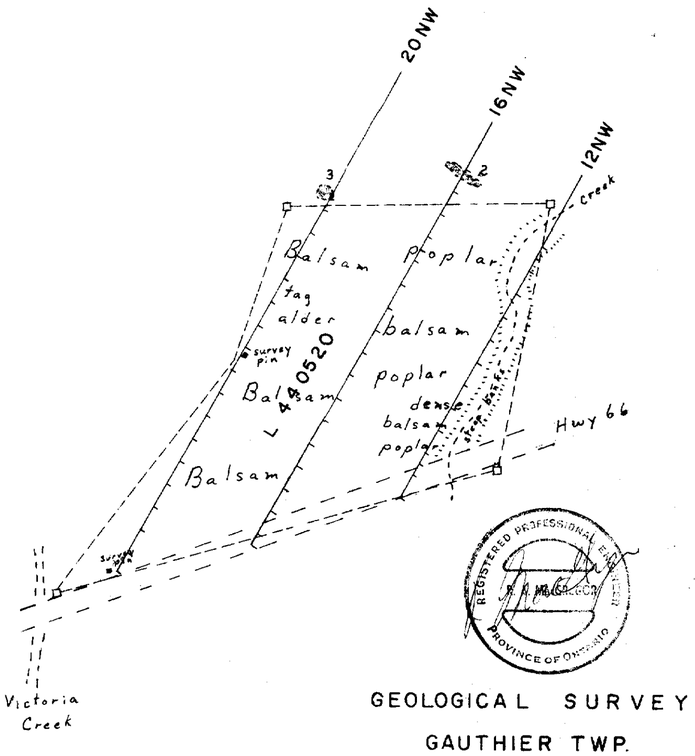
SCALE 1"=400'

INSTRUMENT: BARRINGER GM122

CONTOUR INTERVAL 500 GAMMAS







Legend

- Diorite
- Feldspar Porphyry
- Basic Syenite
- Ultramafic Volcanics
- pit
- trench
- Strike of lava flows by elongation of pillows
- Direction in which lava flows face

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REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

GEOLOGICAL SURVEY

GAUTHIER TWP.

SCALE 1" = 400'