



52C10NE0492 2.1348 BAD VERMILION LAKE

010

PROJECTS
SECTION

MAGNETOMETER & ELECTROMAGNETIC
SURVEYS
CIGLEN INVESTMENTS LIMITED
PROPERTY
BAD VERMILLION LAKE AREA
RAINY RIVER DISTRICT
ONTARIO

November 1, 1973

J. D. McOANNELL

— The Directors
Ciglen Investments Limited
Suite 403
67 Richmond Street West
Toronto, Ontario

Gentlemen:

The following report describes the results of a magnetometer and an electromagnetic survey, conducted over a group of thirty four mining claims, held by Ciglen Investments Limited and located at Bad Vermilion Lake, Rainy River District, Ontario. The entire group consists of thirty nine claims but five underlie Bad Vermilion Lake and could not be covered by the geophysical survey at this time.

The magnetometer and electromagnetic surveys were conducted during the period August 1 to September 1, 1973. East-west picket lines were established at 400-foot intervals to provide control for this work. The property is underlain by a variety of intrusive rocks, including quartz porphyry, anorthosite and associated metamorphic formations and older gabbro. A small area in the north-eastern part of the property is underlain by Keewatin type basic volcanics. Four shafts, sunk during previous exploration programs on the claims, were located by the geophysical field crew.

The magnetometer survey showed the magnetic properties of the underlying formations to vary within a very narrow range and to be fairly low. The electromagnetic survey indicated a considerable amount of conductivity scattered throughout the entire claims group, some of it quite strong but often not forming a definite trend or continuity. Some of the readings however, suggest strong conducting zones over appreciable strike lengths.

It is recommended that the claims group be prospected and geologically mapped, which information would greatly assist a more

detailed interpretation of the geophysical results. This is especially important as there is a considerable amount of rock exposure on the property. Also further electromagnetic work, confined to areas where the present survey indicated good conductivity, might provide data that would permit the interpretation of conductors along strike lengths much more continuous than indicated with the present 400-foot line spacing.

PROPERTY, LOCATION AND ACCESS

The property discussed in this report consists of a group of thirty nine contiguous mining claims although only thirty four were covered by the geophysical survey. The property is located on the east side of Bad Vermilion Lake and forms a block about three miles north-south and one mile wide at its widest point. The most westerly claims in the group underlie Bad Vermilion Lake and include some islands in the lake. The claims included in the group are further described as follows: K-349066 to K349104 inclusive. Claims K-349086, 349100, 349101, 349102 and 349104 were not covered by the geophysical survey work.

The claims group is located in the District of Rainy River, Kenora Mining Division, Ontario. It can be readily reached by a good gravel road that leads south from highway 11 at a point near the village of Mine Centre. The distance from highway 11 to the north part of the property is approximately two miles.

TOPOGRAPHY

The topography on the claims group is made up of a series of outcrop hills covered by a fairly heavy growth of medium sized timber. The ground between these hills is flat well timbered

and in places covered with a fairly heavy growth of small underbrush. There are numerous deep draws between areas of outcrop that could represent fault or shear lineaments. The extreme west part of the claims group underlies the waters of Bad Vermilion Lake and several small beaver ponds occur within the boundaries of the property.

GENERAL GEOLOGY

The general geology of the claims group is shown in fair detail on Map Number 334A, published by the Geological Survey of Canada on the scale of 1 inch to 1/2 mile in 1936. The regional geology of the area is shown on the Kenora-Fort Francis Sheet, a geological compilation published by the Province of Ontario Department of Mines in 1967 on the scale of 1 inch to 4 miles.

Map Number 334A, shows the claims group to be largely underlain by intrusive rocks, with a small area in the northeast corner of the property being underlain by Keewatin type basic volcanics. The intrusive formations include anorthosite and related metamorphic rocks, and younger quartz porphyry, granite and associated granitic rock types. The anorthositic formations are often cut by narrow dikes or bands of gabbro and metadiorite which may be an altered phase of the anorthosite. The contact between the anorthosite and younger granitic formations extends in a northeasterly direction through the central part of the claims group with the south part of the property being underlain by the quartz porphyry and related granites.

Quartz veins are very common throughout the quartz porphyry. These veins usually strike in a north to northwest direction and are often gold bearing. Several such quartz veins are shown on map

Number 334A as occurring within the boundaries of the claims group discussed in this report but the writer is not aware as to what assays have been obtained from any of the quartz veins on the property.

Map 334A also shows the location of a copper occurrence near the shore of the lake, on claim 349074. A shaft was sunk on this showing several years ago and a considerable amount of sulphide mineralization consisting of pyrite, pyrrhotite and some chalcocopyrite is in evidence on the mine dump. Two shafts were also noted by the geophysical survey crew, both near the shore of the lake on claim 349081. A fourth shaft was observed on the extreme south part of the property, on or near the south boundary of claim 349095.

GEOPHYSICAL SURVEY

Magnetometer and electromagnetic surveys were conducted over the land portion of the claims group discussed in this report. These surveys were carried out during the period August 1st to September 1st, 1973. The magnetometer work was conducted using a Scintrex MF-1 instrument and the electromagnetic work, using a Geonix EM-16 instrument. East-west picket lines were cut at 400-foot intervals to provide control for the geophysical surveys and readings were taken at 100-foot intervals along these lines. The results of both surveys were plotted on plan on the scale of 1 inch to 200 feet. Because of the size and shape of the claims group, the results were plotted on two plans referred to as the North Sheet covering the north half of the property and the South Sheet covering the south half.

The magnetometer survey showed the magnetic properties of the

underlying formations to be quite low and to vary within a very limited range, mostly about 200 gammas. The quartz porphyry which underlies the southeast and south part of the claims group would not normally be expected to produce any pronounced magnetic effects, but gabbroic phases of the anorthosite or the basic volcanics in the northeast part of the property might be expected to result in magnetic anomalies. The contour pattern of the magnetic readings does not show any obvious trend nor is it possible to establish geological contacts from the magnetic data.

The electromagnetic survey however, indicated some fairly strong conductivity on the claims group. A great deal of scattered conductivity was encountered in the survey but most of these readings were confined to one station and as the conductors, usually were noted to be quite weak, they are believed to have resulted from topographic conditions.

The most important conducting zones are shown on the accompanying plans by heavy dash lines. A total of ten such anomalies were indicated by the survey. All strike in a general north-south direction and form very definite linear trends. One of the strongest conductors, conforms very well with the copper occurrence shown on Map Number 334A and near the old shaft on claim 349074. A fairly strong conductor also occurs near the old shaft on the south boundary of the claims group. Sulphide mineralization is very much in evidence on the rock dumps at both of these shafts. Most of these ten conducting zones are in areas of high ground with shallow overburden so that there is little reason to expect that topographic conditions influenced the electromagnetic readings with respect to these anomalies. They occur in areas underlain by both the quartz porphyry and the anorthosite and related rocks.

CONCLUSIONS AND RECOMMENDATIONS

The magnetometer survey results provided very little information to assist the further exploration of this claims group, but the results of the electromagnetic survey can be considered very encouraging.

A considerable amount of conductivity was indicated throughout the entire property, but many of the readings were confined to one station and could not be correlated with other readings to form a linear conductor. A closer spacing of the traverse lines however, could show some of these isolated readings to be a part of a significant anomaly.

Ten linear conducting zones, some of them showing quite strong conductivity were delineated by the E.M. survey. These zones are shown on the accompanying plans by heavy dash lines. The overburden is quite light throughout most of the property so that it is very unlikely that topography had much influence on the electromagnetic readings.

It is recommended that the claims group be prospected and mapped in detail which information would permit a better interpretation of the geophysical results. Because of the extensive areas of outcrop on the property and the general shallow overburden, it would be possible to check many of the conducting zones without having to resort to diamond drilling. Also the gold bearing quartz veins which are known to be associated with the quartz porphyry in this immediate area, could not be detected by any geophysical method but could prove very important with respect to the overall economic merits of the claims group.

Toronto, Ontario
Nov. 1, 1973

Respectfully submitted,

James D. McCannell, P.Eng.

J. D. McCANNELL

The surveys (EM+Mag)
on this file 2.1348
cover only the land
area of these mining
claims. See also
file 2.1460 for coverage
of the water portions.

M-2474
Vermillion
GRASSY LAKE

Lake

Bad

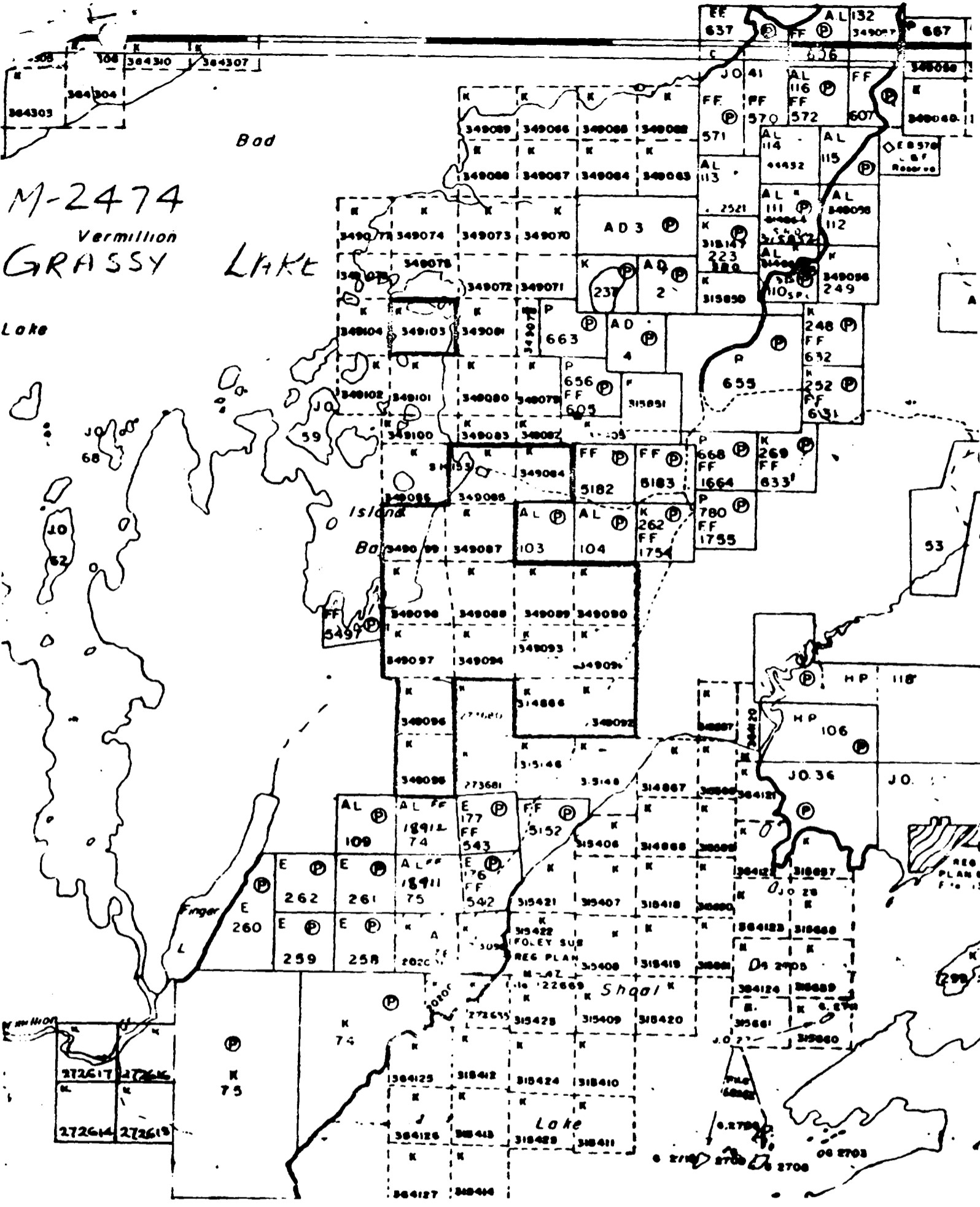
Island

Bad

Finger

Shoal

Lake



272617	272618
272614	272619

REG PLAN 8 FIG 13

0.2750

0.2710 2700 0.2700 0.2700

**GEOPHYSICAL - GEOLOGICAL
TECHNICAL DATA**



900

NOV 7 1973

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.

PROJECTS
SECTION

Type of Survey Electromagnetic and Magnetometer
 Township or Area Grassy Lake Area, Kenora M.D.
 Claim holder(s) Ciglen Investments Limited
403 - 67 Richmond St. W., Toronto, Ont.
 Author of Report James D. McCannell
 Address 350 Bay Street, Toronto, Ont.
 Covering Dates of Survey Aug. 1 to Sept. 30, 1973
(linecutting to office)
 Total Miles of Line cut 29.3

MINING CLAIMS TRAVERSED
List numerically

K-349066 <small>(prefix)</small>	K-349089 <small>(number)</small>
349067	349090
349068	349091
349069	349092
349070	349093
349071	349094
349072	349095
349073	349096
349074	349097
349075	349098
349076	349099
349077	349103
349078	
349079	
349080	
349081	
349082	
349083	
349084	
349085	
349087	
349088	

If space insufficient, attach list

<u>SPECIAL PROVISIONS</u> <u>CREDITS REQUESTED</u>	DAYS per claim
Geophysical	
- Electromagnetic	<u>40</u>
- Magnetometer	<u>20</u>
- Radiometric	
- Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)
 Magnetometer Electromagnetic Radiometric
(enter days per claim)
 DATE: Nov 1, 73 SIGNATURE: James D. McCannell
Author of Report or Agent

PROJECTS SECTION
 Res. Geol. Qualifications L.D. 63.2502
 Previous Surveys L.D.

 Checked by date

GEOLOGICAL BRANCH

 Approved by date

GEOLOGICAL BRANCH

 Approved by date

TOTAL CLAIMS 34

OFFICE USE ONLY

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 1,346 Number of Readings 1,346
Station interval 100 feet
Line spacing 400 feet
Profile scale or Contour intervals Mag, 500 gammas EM 1" = 40%
(specify for each type of survey)

MAGNETIC

Instrument Scintrex MF-1
Accuracy - Scale constant + or - 20 gammas
Diurnal correction method Base stations at 8 locations on base line hourly
Base station location Base line at lines 0+00, 16+00S, 36+00S, 48+00S, 12+00N, 27+00N, 40+00N and 56+00N.

ELECTROMAGNETIC

Instrument Geonix EM-16
Coil configuration
Coil separation
Accuracy + or - 1 degree
Method: [x] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency 24.0 kHz 150 kw, Balboa, Panama
(specify V.L.F. station)
Parameters measured In phase, out of phase

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location

Elevation accuracy

INDUCED POLARIZATION - RESISTIVITY

Instrument
Time domain Frequency domain
Frequency Range
Power
Electrode array
Electrode spacing
Type of electrode

GRASSY LAKE

DISTRICT OF RAINY RIVER

KENORA MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

- PATENTED LAND
- CROWN LAND SALE
- LEASES
- LOCATED LAND
- LICENSE OF OCCUPATION
- MINING RIGHTS ONLY
- SURFACE RIGHTS ONLY
- ROADS
- IMPROVED ROADS
- KIND'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKIE
- MINES
- CANCELLED

NOTES

400' Reserve around Lakes & Rivers

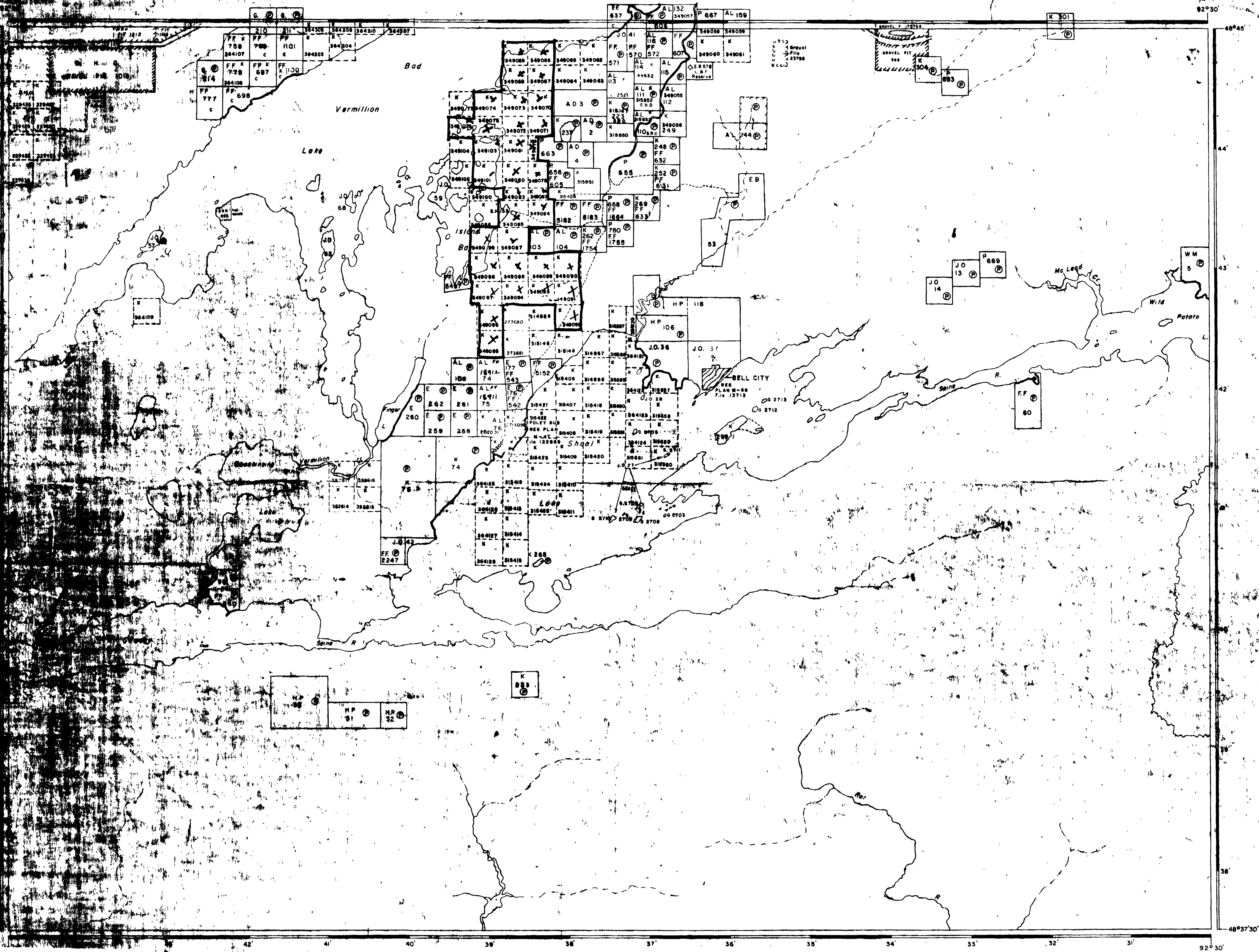
MINING LANDS
DATE OF ISSUE
NOV. 8 1973
MINISTRY
OF NATURAL RESOURCES

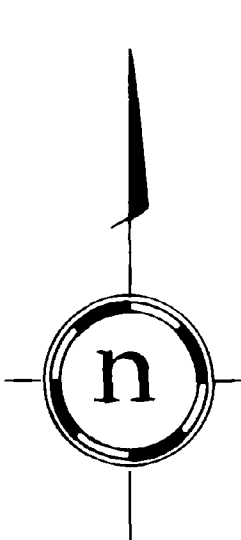
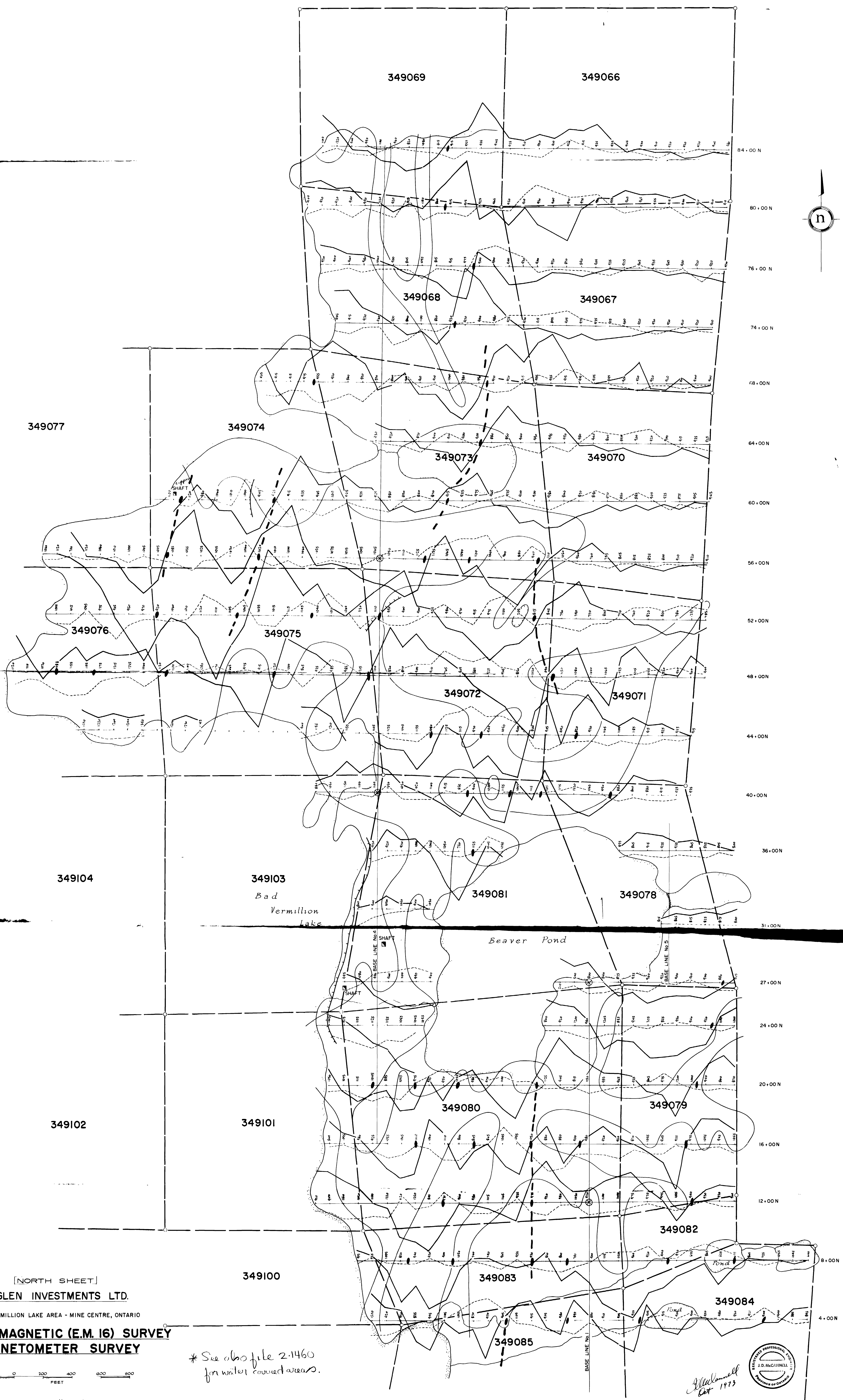
FILE - 2.1348

NATIONAL TOPOGRAPHIC SERIES 52 010

PLAN NO. M. 2474

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

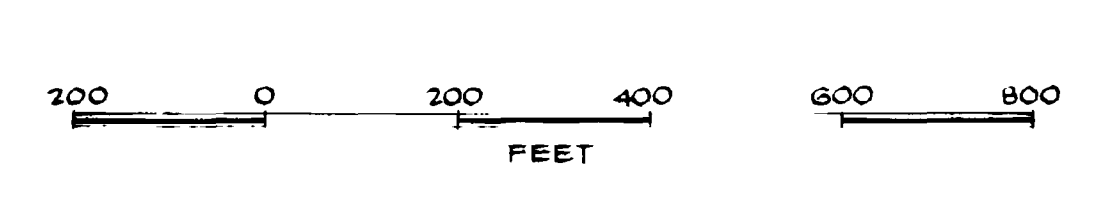




[NORTH SHEET]
 CIGLEN INVESTMENTS LTD.

BAD VERMILLION LAKE AREA - MINE CENTRE, ONTARIO

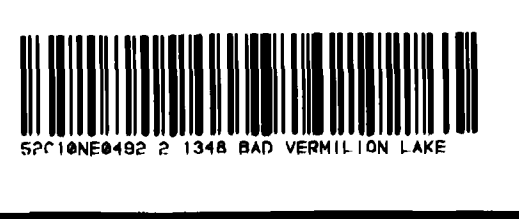
**ELECTROMAGNETIC (E.M. 16) SURVEY
 MAGNETOMETER SURVEY**

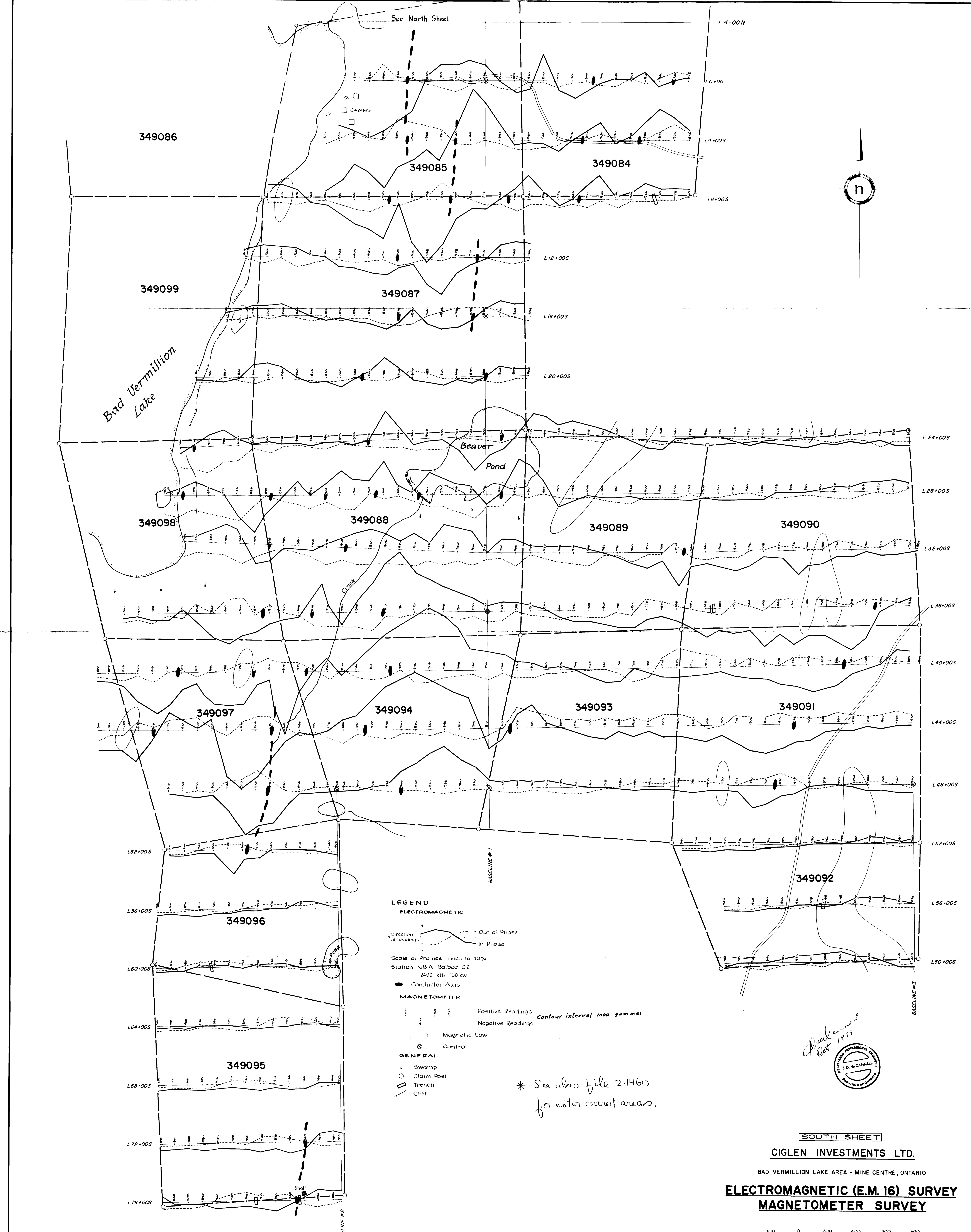


* See also file 2-1460
 for water covered areas.



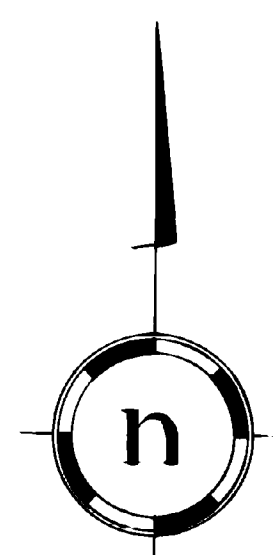
Alldredge
 Oct 1973





Bad Vermillion Lake

See North Sheet



LEGEND

- ELECTROMAGNETIC**
- Direction of Readings: In Phase
 - Out of Phase
 - Scale of Profiles: 1 inch to 40%
 - Station N.B.A. - Bolboa C2
2400 KHz, 150 kw
 - Conductor Axis
- MAGNETOMETER**
- Positive Readings
 - Negative Readings
 - Contour interval 1000 gamma
 - Magnetic Low
 - Control
- GENERAL**
- Swamp
 - Claim Post
 - Trench
 - Cliff

* See also file 2-1460
for water covered areas.

*Checked and
Oct 1973*



SOUTH SHEET
CIGLEN INVESTMENTS LTD.

BAD VERMILLION LAKE AREA - MINE CENTRE, ONTARIO

ELECTROMAGNETIC (E.M. 16) SURVEY
MAGNETOMETER SURVEY

