

MOREAU. WOODDARD & COMPANY LTD.

GEOPHYSICAL & GEOLOGICAL SURVEYS



42H09SE0030 63.1029 BLAKELOCK

010

LOOP-FRAME ELECTROMAGNETIC SURVEYS

for

CONWEST EXPLORATION COMPANY LIMITED

on

GROUP E - ATKINSON LAKE SHEET  
GROUP C - DOBSON LAKE  
GROUP P - BLAKELOCK TOWNSHIP

DEFOUR LAKES AREA, ONTARIO,

TRIPPLICATE

April 30th, 1959.

## SUMMARY

During March 1959, we carried out electromagnetic surveys on three groups of claims in northeastern Ontario. The purpose of the survey was to follow-up airborne anomalies indicated by Hunting Technical and Exploration Services Limited.

Our results confirmed the presence of electromagnetic conductors on two of the three groups, while strong overburden effects on the third group would probably account for the airborne indications.

Results are discussed under the following headings:

Group E - Atkinson Lake - Map T-84

Group C - Dobson Lake - Map T-86

Group P - Blakelock Township - Map T-85

## METHOD AND INTERPRETATION OF RESULTS

The Loop-Frame method was developed in Sweden by the Boliden Mining Company and the Swedish Geological Survey. It employs two horizontal coils which are maintained a fixed interval apart. A vacuum tube oscillator supplies alternating current to the transmitting coil at a frequency of 3600 cycles per second.

Traverses are made along previously cut or marked lines which are normal to the strike. Readings are taken at 100 foot intervals along the lines and at 50 foot intervals where anomalous readings are obtained. Two components of the secondary field are measured and expressed directly in percentage change from normal field. The strength of these two values and their mutual relationship express the electrical conductivity of the conductor.

The typical curve obtained over a steeply dipping

conductor would show a rise (positive) when approaching the conductor, followed by a low (negative) while the conductor lies between the coils, and a second rise when both coils have traversed beyond the zone. Both the in-phase and out-of-phase components show the same general curve, however, the ratio of these two readings is indicative of the conductivity of the phenomena causing the secondary field.

A ratio of  $\frac{\text{in-phase}}{\text{out-of-phase}}$  readings of 5, 6 or higher would indicate a high conductivity, usually a massive sulphide body. Ratios of 4, 3 and 2 would generally be considered good conductors and could be caused by sulphides or graphitic zones. Ratios of 0.4 to 0.2 are not uncommon for swamps, lakes or water filled shear zones. Ratios between 0.4 and 2 may be caused by disseminated sulphides or slightly graphitic zones.

GROUP E - ATKINSON LAKE (Map T-84)

Several conductors were located, occurring in three sub-parallel zones, over a strike length of  $1\frac{1}{2}$  miles. Conductivity varies considerably but is very good on several traverses.

One conductor near the north boundary shows consistently high conductivity over a length of 1000 feet.

Overburden appears to be about 40 - 50 feet in the central portion of the map area and shallower north and south of the conductors near the property boundaries.

Although the conductors are probably, at least in part, caused by massive sulphides, their strike extension may be somewhat discouraging. If further investigation of these zones is undertaken the best target would appear to be the most northerly conductor on Line 28.

GROUP C - DORSON LAKE (Map T-86)

No conductors were located on this property. Strong overburden effects were noted in the central portion of the surveyed area which probably caused the airborne indications.

GROUP P - LITTLE MIKWAM LAKE (Map T-85)

Several conductors were indicated on these claims. The best conductor lies just south of Little Mikwam Lake and has a strike length of at least 1500 feet. Widths of 50 to 70 feet are indicated on traverses 16 and 20 and conductivity is equivalent to massive sulphide mineralization.

A second conductor, east of the first, shows medium to good conductivity for approximately 1000 feet and with widths up to 50 feet.

Several indications were obtained on the southeast grid which are rather difficult to join. One zone seems fairly definite on three traverses and shows medium to good conductivity.

More detailed work may be necessary on the remaining indications in order to determine their attitude.

MOREAU, WOODARD & COMPANY LTD.

  
H. J. Moreau, P. Eng.

MJM/om

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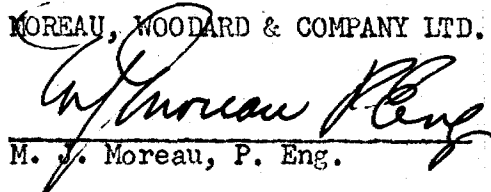
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M. J. Moreau, P. Eng.

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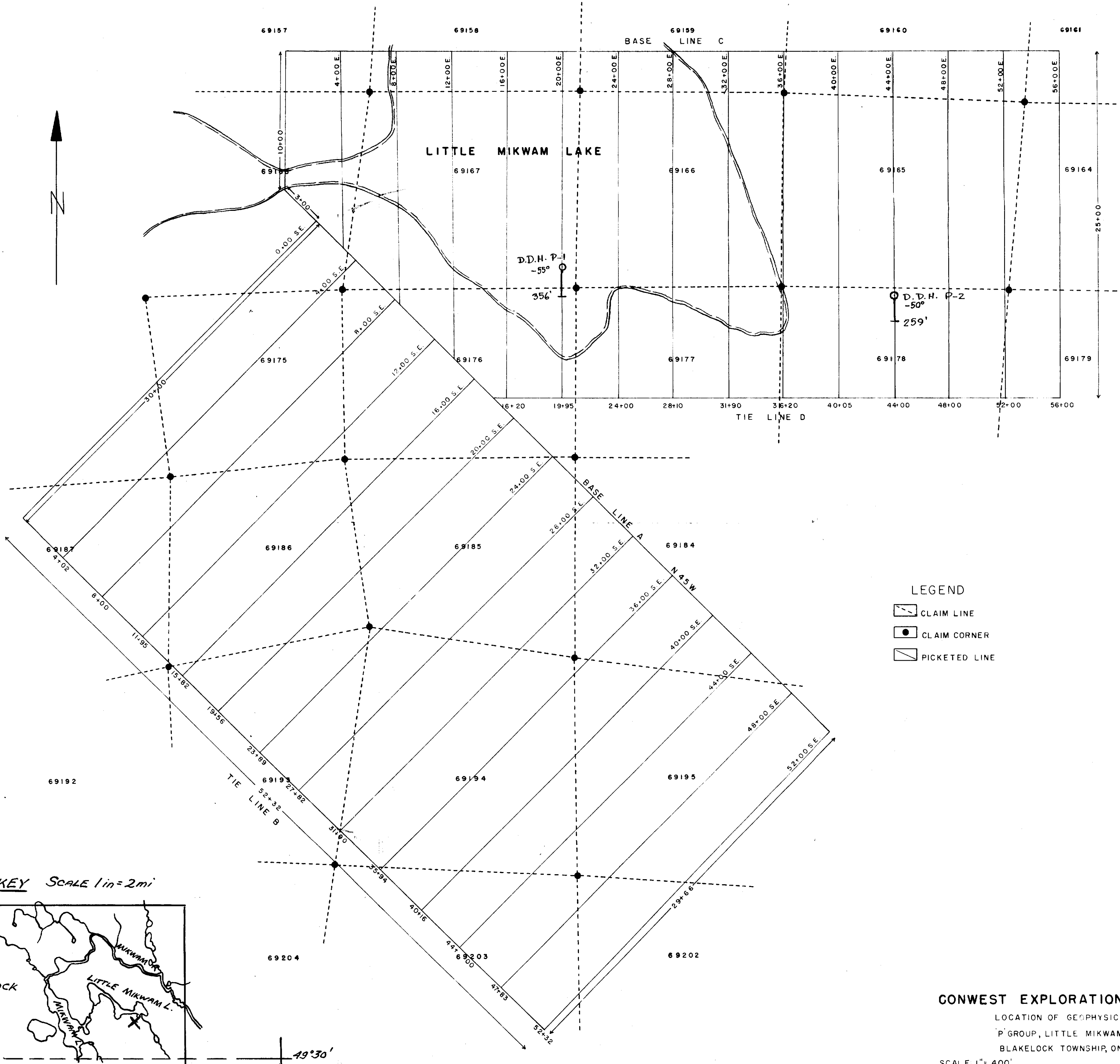
DEPARTMENT OF MINES  
PARLIAMENT BUILDINGS  
QUEEN'S PARK  
TORONTO 2

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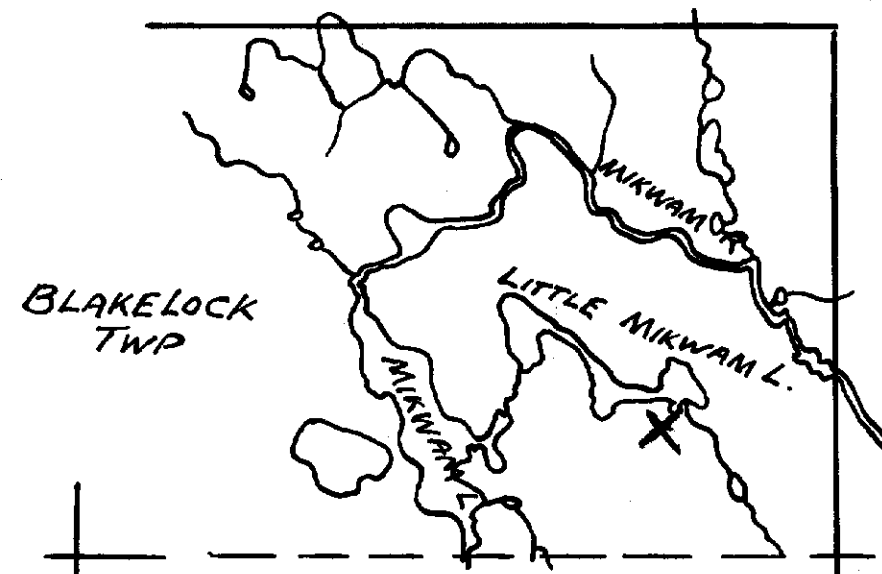
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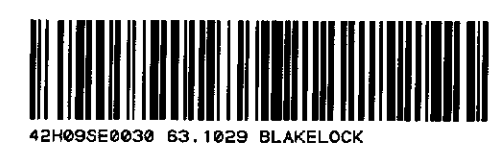


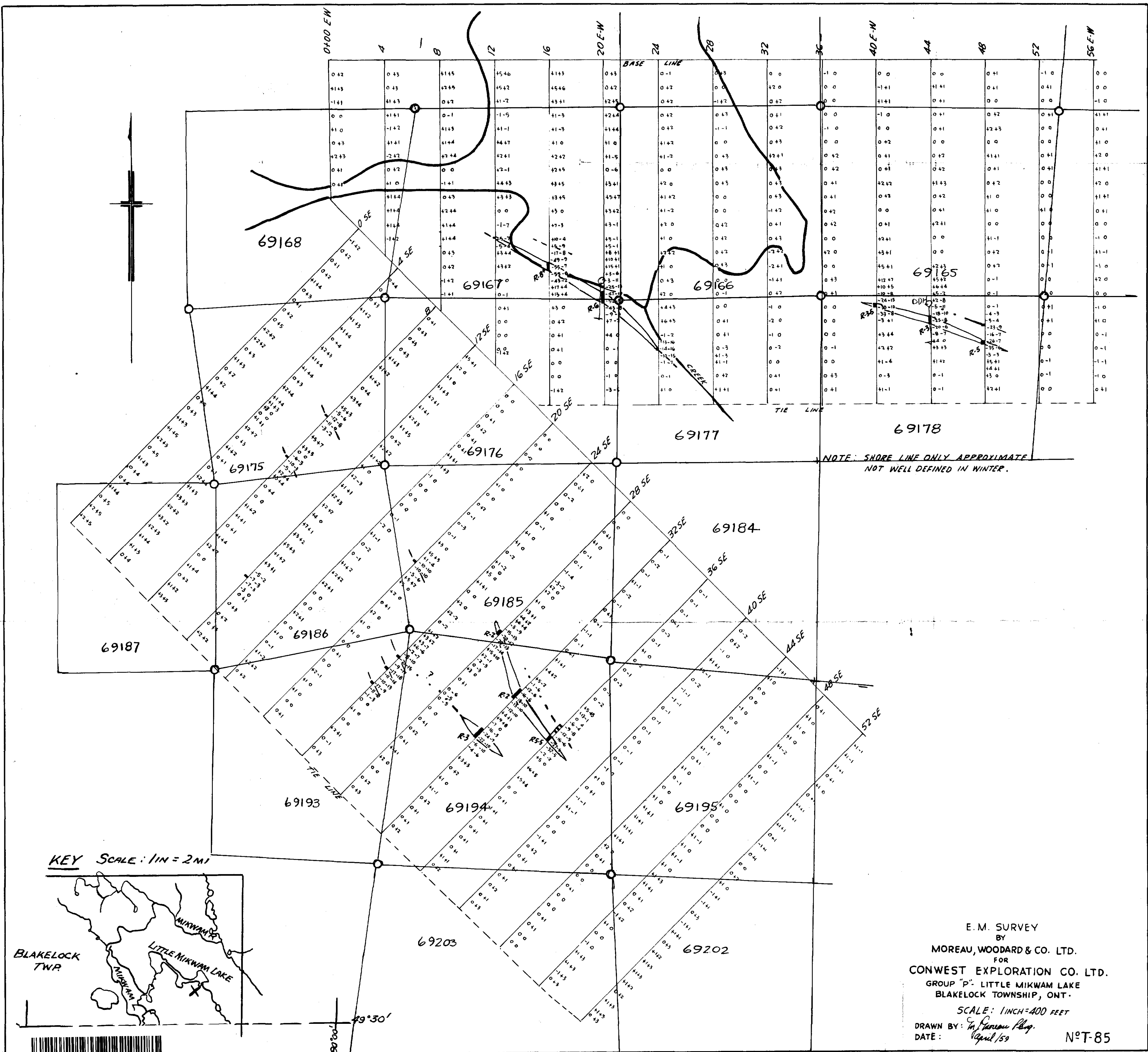
- LEGEND
- CLAIM LINE
  - CLAIM CORNER
  - PICKETED LINE

KEY SCALE 1 in = 2 mi



CONWEST EXPLORATION CO. LTD.  
LOCATION OF GEOPHYSICAL GRID  
P GROUP, LITTLE MIKWAM LAKE  
BLAKELOCK TOWNSHIP, ONTARIO  
SCALE: 1" = 400'  
APRIL, 1959





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