41J08NW0046 0012B1 GEROW

010

ELECTROMAGNETIC SURVEY

DAERING EXPLORERS LIMITED

TOWNSHIP 130

PROVINCE OF ONTARIO

REPORT NO. 5711

June 8, 1957.

Geo-Explorers Ltd., Noranda, Quebec.

NOT TO BE REMOVED FROM
THE OFFICE OF THE RESIDENT
GEOLOGIST, ONT. DEPT. OF MINES
SAULT STE. MARIE, ONT.

41J08NW0046 0012B1 GEROW

010C

INDEX

NOT TO BE REMOVED FROM
THE OFFICE OF THE RESIDENT
GEOLOGIST, ONT. DEPT. OF MINES
SAULT STE. MARIE, ONT.

63.863
1957

ELECTROMAGNETIC SURVEY
DAERING EXPLORERS LIMITED
TOWNSHIP 130
PROVINCE OF ONTARIO
REPORT NO. 5711

SUMMARY

An electromagnetic survey located three weak conductors probably caused by topographic effects.

INTRODUCTION

An electromagnetic survey was conducted over a favourable area of gabbro in Township 130 to locate any copper nickel deposits that might be present.

LOCATION AND ACCESS

The property is accessible either by road from the town of Massey and a two mile portage from the road or, by air from Sudbury to Folson Lake and a short canoe trip up a chain of small lakes and rivers.

PHYSIOGRAPHY

The property is almost completely covered with rock hills. These are broken by several long low areas of swamps and rivers connecting small lakes. The bush is light in most places.

THEORY OF SURVEY

When an electrical conducting body is placed in an alternating magnetic field, small eddy currents of electricity are induced in the conductor.

For the special case where the magnetic field direction is horizontal and the conductor an almost vertical lens of sulphide ore, the eddy currents flow very nearly around the circumference of the ore body. These eddy currents set up their own magnetic field. If this field can be measured the presence of a sulphide deposit can be detected. Fig. 2 shows a schematic diagram of the magnetic fields and the eddy current in an ore body.

If a plane coil of wire is placed in an alternating magnetic field, an alternating voltage is generated in the coil. The magnitude of the voltage depends on the angle between the plane of the coil and the direction of the field. When the coil is parallel to the magnetic field, the coil voltage is zero. Consequently if such a coil is rotated in a magnetic field until the voltage is zero the coil is then parallel to the magnetic field and the field direction can be determined. In practice the detector coil is influenced by both the exciting field and the secondary field and the coil position at zero induced voltage gives the direction of the resultant of the two fields. As a conductor is approached and crossed the dip of the detector coil will change from one side of horizontal to the other, being zero directly over the top of the conductor as shown in Fig. 3. If one direction of dip be taken as positive and the other negative a dip profile will appear as shown in Fig. 3.

The magnitude of the dips depends on the conductivity of the ore bodies and on the distance of the exciting loop from the conducting body. A broad conductor or a series of conductors complicates the simplified picture used as an illustration.

METHOD OF SURVEY

Starting at the northeast corner of claim S-97020 an east west base line was run and north south picket lines turned off at 300 foot intervals. The grid was extended to cover 17 claims held by the company.

The transmitter coil was set up at points marked on the map and readings of the dip of the field taken at 100 foot intervals on the adjacent picket lines. The transmitter was then moved to another position and further readings taken.

GEOPHYSICAL INTERPRETATION

Unfortunately there were no clear cut indications of conductors. The only conductors indicated were those shown as 1, a change from -3 to +3 degrees, 2, a rather erratic conductor and number 3, a change from -3 to +5.

Much of the property was covered with medium values such as 3,4, or 5 degree readings. These values coincide with areas of rough topography. They do not indicate conductors because of the lack of crossovers.

Where three crossovers were obtained, the values are

weak and the topography could affect the readings rather seriously. Considering all the circumstances the crossovers obtained do not appear to be caused by sulphides.

CONCLUSIONS AND RECOMMENDATIONS

Conductors obtained are very weak; all the high values obtained appear to be produced by the effects of hills.

It cannot be recommended to drill these results. A large area of the property being in outcrop it might be worthwhile to examine the ground in the vicinity of the conductors 1, 2 and 3 and to check the areas high readings shown as A to N inclusive by a rapid surface examination.

It would be unlikely that this surface examination would uncover any indications of sulphides but it is merely recommended as the cheapest and most certain method to prove or disprove the presence of any sulphides.

RESPECTFULLY SUBMITTED,

D. J. Salt,
Geophysical Consultant.

APPENDIX

Time Spent on Survey

Line Cutters

Mr. Lawrence Kearney, Clericy, Quebec
May 1 to May 29, 1957 — 13 days

Mr. Gillies Hanbury, McWatters, Quebec
May 1 to May 28, 1957 — 12 days

Mr. Gustave Vachon, Montbrun, Quebec
May 3 to May 10, 1957 — 8 days

Mr. Arthur Lapointe, Evain, Quebec
May 1 to May 27, 1957 — 25 days

Mr. Lynam Vanasse, Noranda, Quebec
May 1 to May 27, 1957 — 27 days

Instrument Operator

Mr. R. H. Tays, 36-15 St. Noranda, Quebec
May 12 to May 28, 1957 — 16 days

Mr. Andrew Watson, Toronto, Ontario
May 12 to May 28, 1957 — 16 days

Assistants

Mr. L. Kearney, Clericy, Quebec
May 1 to May 29, 1957 — 16 days

Mr. G. Hanbury, McWatters, Quebec
May 1 to May 28, 1957 — 16 days

Geophysicist

Mr. D. J. Salt, 522 Murdoch Ave., Noranda, Quebec
May 28 to June 8, 1957 — 10 days

Typist

Miss M. Bibeau, 271-B Main Street, Rouyn, Quebec
June 6 to June 8, 1957 — 2 days

Drafsmen

Miss S. Massicotte, 158 Taschereau St. E. Rouyn, Quebec
May 28 to June 8, 1957 — 6 days

NOT TO BE REMOVED FROM
THE OFFICE OF THE RESIDENT
GEOLOGIST, ONT. DEPT. OF MINES
SAULT STE. MARIE, ONT.

Miss M. Lavoie, 35 Carter Ave., Noranda, Quebec
May 28 to June 8, 1957

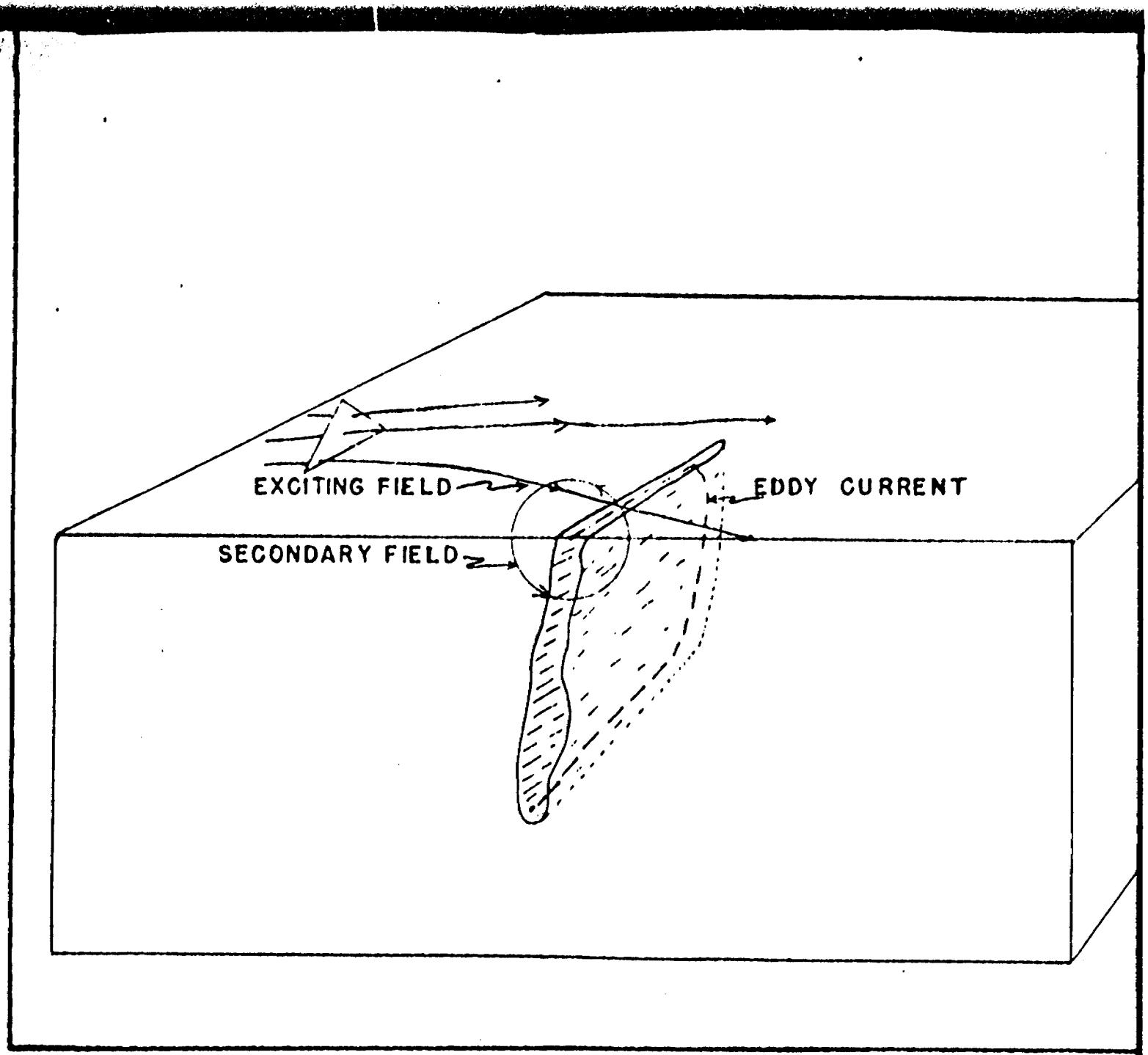
3 days

170 man days

Time applicable for assessment work:

170 man days x factor 4 = 680 man days.

NOT TO BE REMOVED FROM
THE OFFICE OF THE RESIDENT
GEOLOGIST, ONT. DEPT. OF MINES
SAULT STE. MARIE, ONT.


EXCITING FIELD
EDDY CURRENT
SECONDARY FIELD

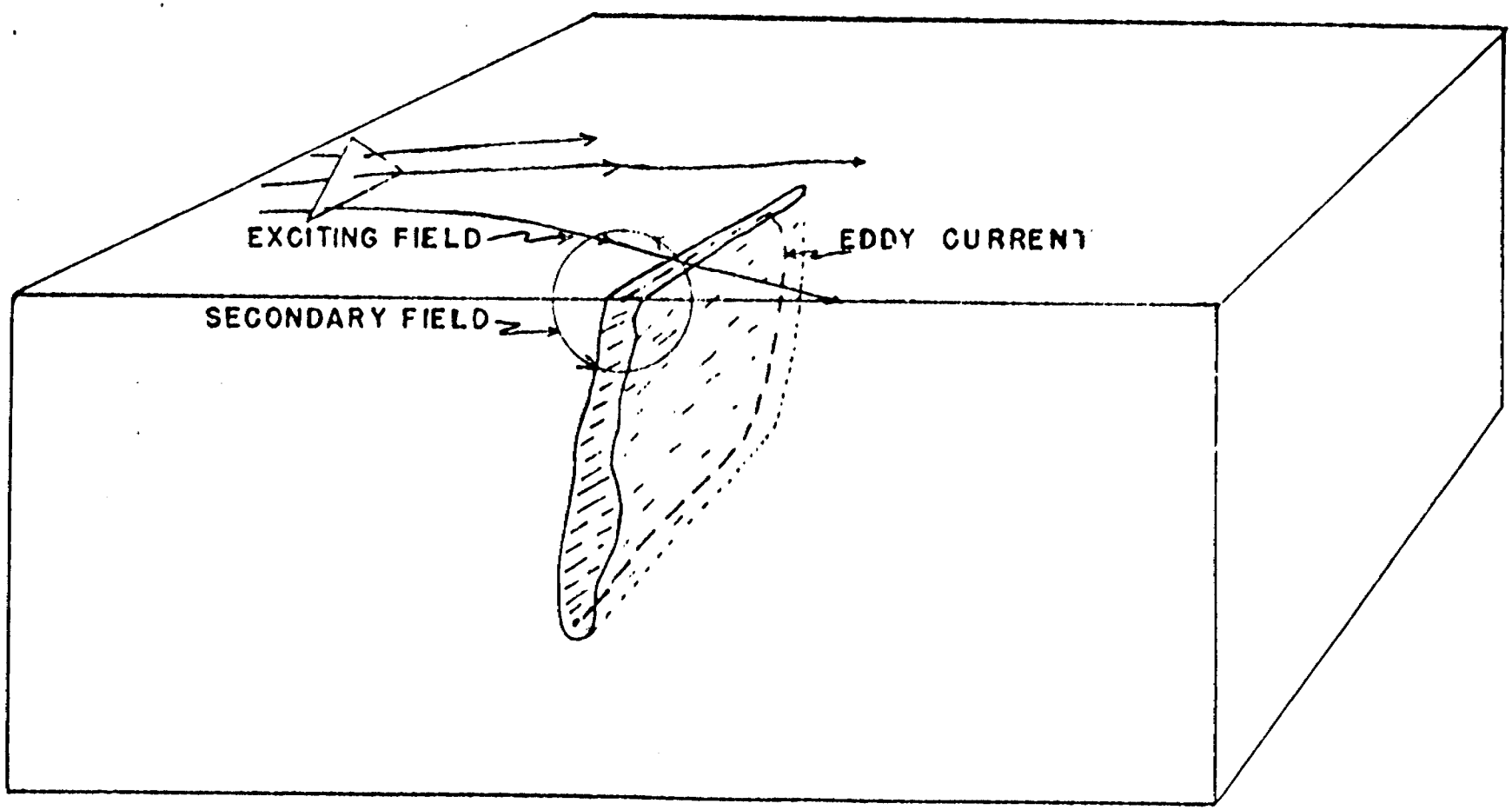
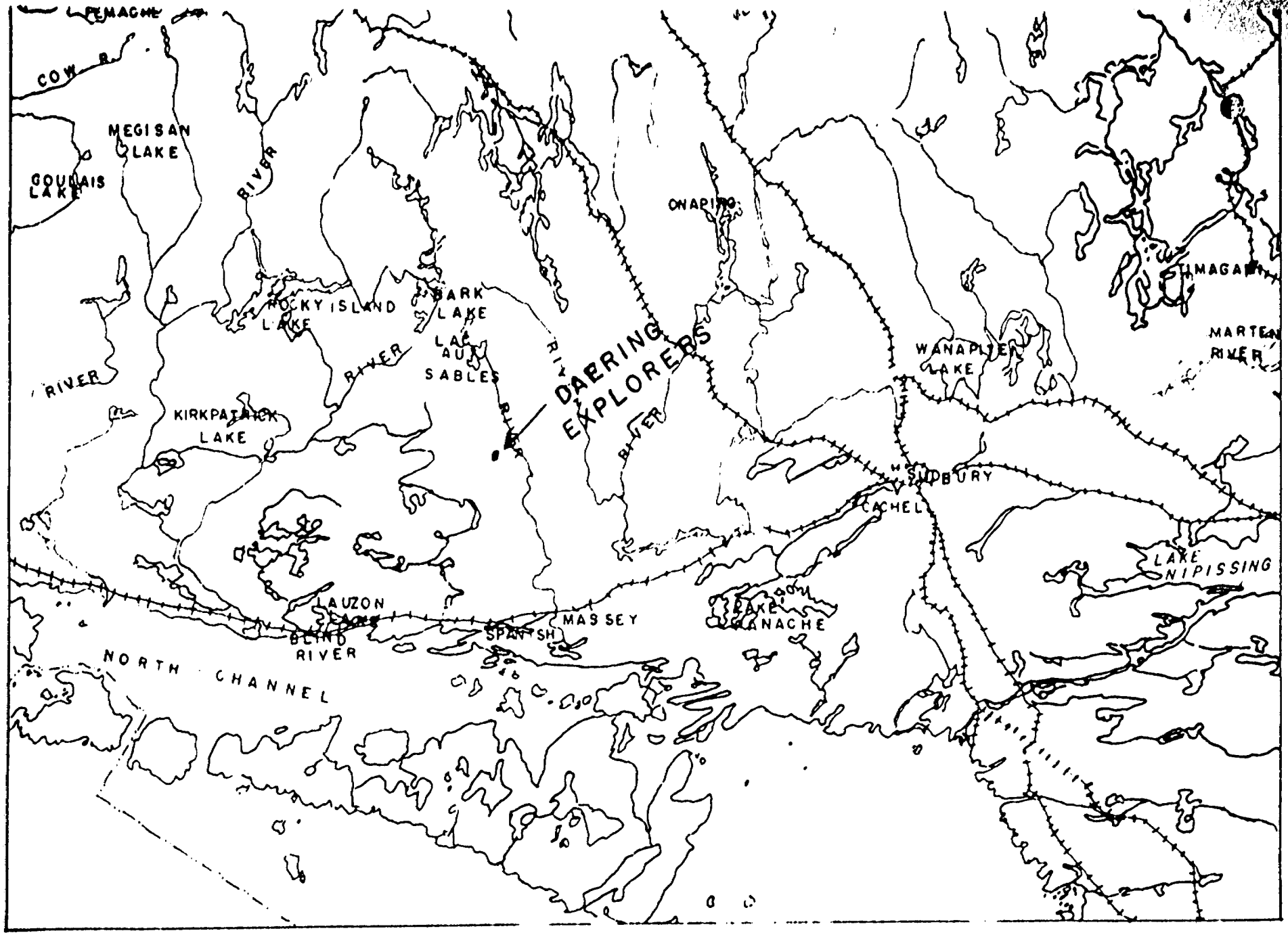


FIG-2



LOCATION MAP

FIGURE 1

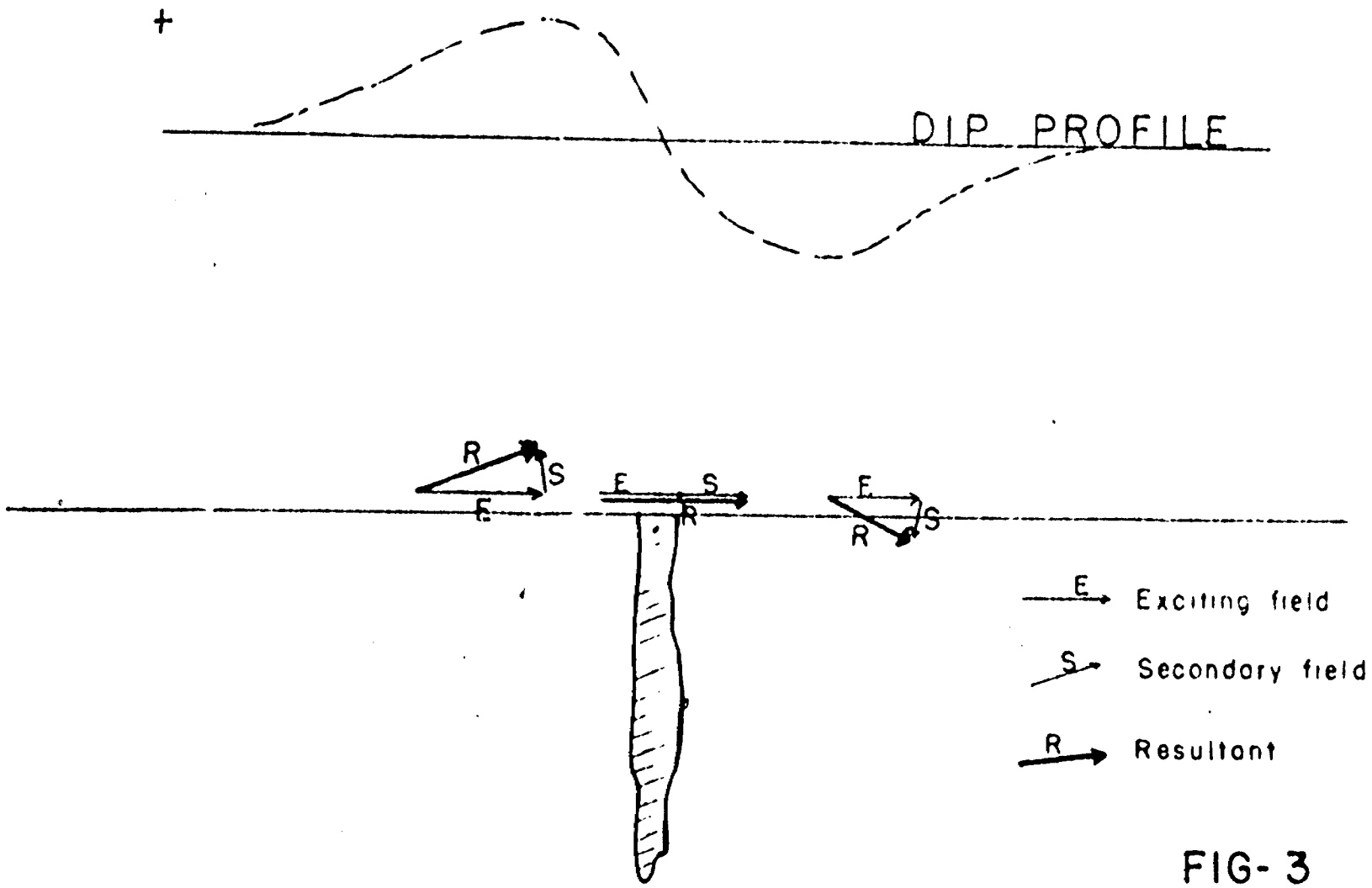
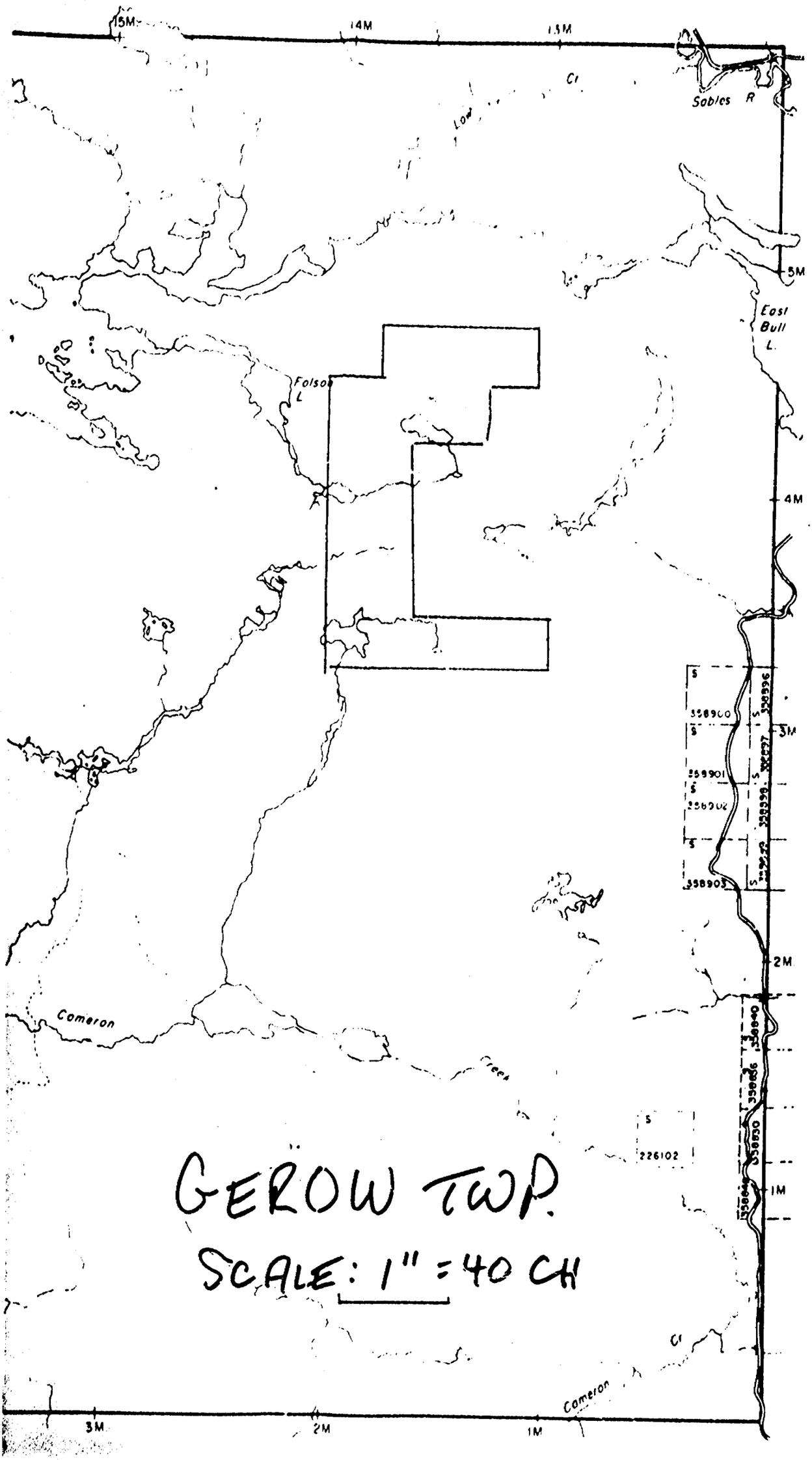

+
DIP PROFILE
R
S
E
E
S
R
E
S
R
E Exciting field
S Secondory field
R Resultant

FIG- 3

WP. 131 (M.1210)

41J08NW0046 0012B1 GEROW

900



TWP. 123 (M.1205)

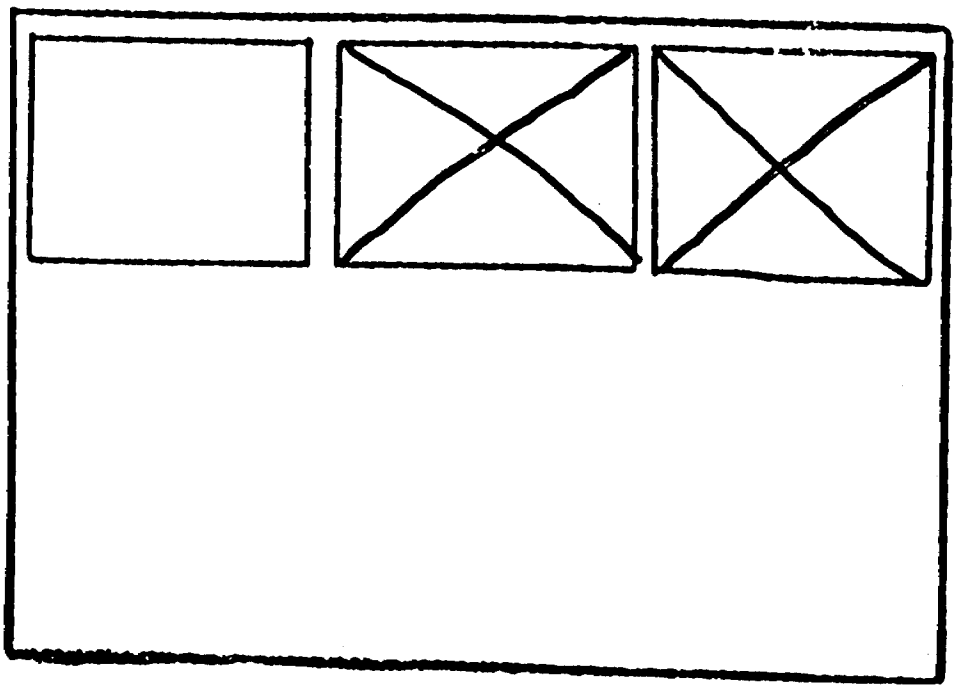
GEROW TWP.

SCALE: 1" = 40 CH

SEE ACCOMPANYING MAP(S) IDENTIFIED AS

GEROW-0012-B1 #1

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)



GEROW-0012-B1-#1

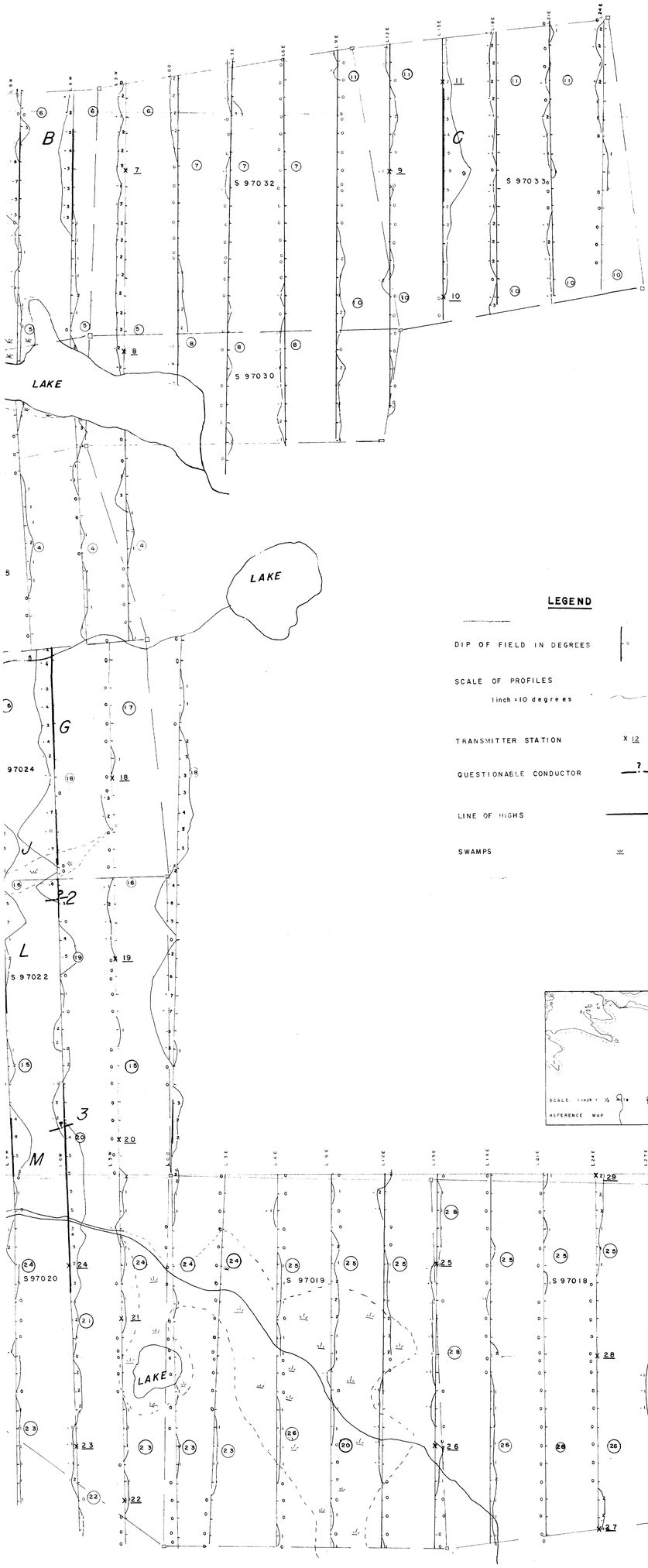
ELECTROMAGNETIC SURVEY

DAERING EXPLORERS LIMITED

TOWNSHIP 130

PROVINCE OF ONTARIO

JUNE 9, 1957



GEROW-0012-B1-#1

ELECTROMAGNETIC SURVEY

DAERING EXPLORERS LIMITED

TOWNSHIP 130

PROVINCE OF ONTARIO

JUNE 9, 1957

SCALE

feet 0 200 400 600 800 feet

PRESENTED BY:

GEO-EXPLORERS LTD.

D. J. SALT

GEOPHYSICAL CONSULTANT

DIP OF

SCALE

TRANSMI

QUESTIC

LINE OF

SWAMPS

E. Map
1" = 200'

NOT TO BE REMOVED FROM
THE OFFICE OF THE RESIDENT
GEOLOGIST, ONT. DEPT. OF MINES
SAULT STE. MARIE, ONT.

PLANIMETRIC RELIEF SERVICE