



32D04NW0283 63.3273 LEBEL

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S.I.S. RESOURCES CORPORATION
MAGNETIC & ELECTROMAGNETIC SURVEYS
LEBEL TOWNSHIP PROPERTY
ONTARIO

KL-66

INTRODUCTION

During the late fall of 1974 a magnetic and electromagnetic survey was made of a group of 31 patented mining claims located in Lebel Township and owned by S.I.S. Resources Corporation.

A full description of the property, its history, geology, and exploration potential was described in a report to the Company by the writer dated April 4, 1974.

GEOLOGICAL CONSIDERATIONS

Certain geological facts of the Kirkland Lake area must be considered in direct relationship to the geophysical survey results if these are to have any real meaning.

The interrelationships between structure and lithology is the controlling feature for gold occurrences in the Kirkland Lake Camp.

Structurally, three sets of fault patterns occur in the Kirkland Camp:

1. North-south cross faults which are usually barren;
2. North-west trending diagonal faults which are usually barren;
3. East-west trending "breaks" such as the Kirkland Lake "Break" whose subsidiary and branching structures were hosts to most of the ore.

The VLF electromagnetic survey has the capability of detecting faults and "breaks". The reason for employing this type of survey on the Company's claims was to search for the east-west trending faults or "breaks".

The lithological types most important as wallrock or host rock for gold veins in the Kirkland Lake area, in order of decreasing importance are; intrusive syenite or related types, greenstone, and Timiskaming greywackes. General knowledge concerning the underlying rock type can be gained from the published geological map. The purpose of the magnetic survey was to assist in projecting the outcropping rock types into overburdened areas. Thus, the target type one hoped to locate when recommending the surveys was an east-west trending VLF conductor where the magnetic results suggest that the underlying rocks were syenite, greenstone and greywackes, or some combination thereof.

SURVEY METHODS AND INSTRUMENT DATA

The surveys were carried out on a network of picket lines at 400 foot intervals with readings taken every 100 feet along each line. Altogether some 25 line miles were surveyed with a total of about 1500 stations from which over 1500 magnetic and over 3000 electromagnetic readings were recorded.

The magnetic survey was made using a McPhar M700 fluxgate magnetometer. The instrument records the vertical components of the earth magnetic field. Readings were plotted as gammas after correction for diurnal variations.

The electromagnetic survey was made using a Ronka EM16 electromagnetic unit. This instrument utilizes the United States' Very Low Frequency transmitting stations for its signals. The VLF station sets up a series of concentric horizontal magnetic fields about their vertical antennae and when their magnetic fields encounter conductive bodies in the ground, secondary magnetic fields are set up which radiate from these bodies. The EM16 measures the vertical components of these secondary fields by means of two coils.

For this survey signals from the stations located at Cutler, Maine and Balboa, Panama were used. Two readings, the In-phase and the Quadrature were measured at each station.

SURVEY RESULTS & INTERPRETATION

Magnetic Survey

By correlation with the geological data the magnetic results can contribute to an extension of the geological mapping into overburdened areas.

Areas underlain by Timiskaming conglomerate show the strongest magnetic intensities. Over such areas most of the readings are about 1000 gammas with sizable areas running in excess of 2000 gammas. There are isolating readings of over 3000 gammas and at one location over 12000 gammas.

Areas of syenite intrusive and related rocks show inter-

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mediate levels of magnetic intensity. Readings between 750 and 1500 gammas are common with a few readings reaching slightly over 2000 gammas.

Areas of relatively low magnetic intensity appear to be underlain by greenstones or Timiskaming greywackes.

The boundaries between the different ranges of magnetic intensity are gradational rather than sharp and only in the extreme cases can rock types be inferred directly from magnetic readings with certainty. However in any specific area of the claim group a combined examination of the local magnetic picture when compared with the geological map allows a reasonably reliable inference as^{to} the bedrock type. Interpretation is less certain towards the east end of the property where the overburden is thicker.

Electromagnetic Survey

VLF conductive zones are abundant on the property. Since 90% of the surveying was done along north-south picket lines it is the east-west and diagonal structures that have been outlined with most clarity. However, the baseline was surveyed in a west to east direction and numerous north-south conductive zones were detected.

Several VLF conductive zones which appear to have an east-west trending strike were located. One of these appears underlain by syenite and Timiskaming greywacke and is regarded as a drill target. A second target area may be underlain by syenite, greenstone and/or Timiskaming greywacke. In both areas the VLF conductors showed good characteristics. Additional target areas were located by the surveys and can be judged as

warranting drill testing. However it is wiser to test the reliability of the interpretations with a short drill programme before embarking on a substantial one.

CONCLUSIONS AND RECOMMENDATIONS

1. Magnetic and VLF electromagnetic surveys have been completed over the Company's property.
2. The surveys assist materially in lithological and structural interpretations.
3. The survey results, coupled with the geological data of the area indicate two areas, favourable from the structural and lithological viewpoint, ^{that} should be drilled in order to test the reliability of the geophysical interpretation and to see if the structures detected are gold bearing.
4. I recommend the following drill holes.

S75-1

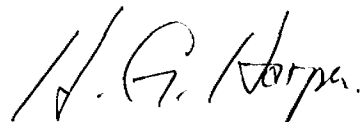
Line 52 East - 1000 North.
Bearing north along picket line.
Dip: 45 degrees
Length: 650 feet.

S75-2

Line 116 East - 2100 North.
Bearing north along picket line.
Dip: 45 degrees
Length: 750 feet.

It is estimated that the drilling together with logging, sampling, and assaying will cost about \$13. per foot for a total of about \$18,500.

My report is respectfully submitted,



December 4, 1974
Willowdale, Ontario.

H. Grant Harper, F.G.A.C., P.Eng.
Consulting Engineer.
Exploration Geologist.

H. GRANT HARPER,



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Associations: A.P.E.O.
G.A.C.
C.I.M.

Consulting Engineer
Exploration Geologist

February 11, 1975.

Officers and Directors,
S.I.S. Resources Corporation,
Suite 500,
65 Queen St., W.,
Toronto.

Interim Report - Lebel Twp.

Gentlemen,

Herewith is an Interim Report covering the first two drill holes on your Lebel Township property. By February 10th, holes S75-1 and S75-2 had been completed (drilled, logged and sampled) to footages 656 and 612.5 respectively. Hole S75-2 was stopped prematurely because it had flattened to about 22 degrees and had therefore achieved the reach desired by the 45 degree initial dip.

Both holes were disappointing in that no gold values were encountered. 36 samples were cut from hole S75-1; 42 from S75-2. Both holes intersected monotonously thick beds of Timiskaming Sediments consisting of intercalated layers of greywacke and grit. Except for minor beds of conglomerate and argillite no other rock types were encountered and none of the most favourable formation - syenite - was intersected.

encountered

Hole S75-1 water courses at approximate footages 180 and 205 which explains the shallow electromagnetic conductor. The deeper conductor may be caused by a 15 foot bed of sparsely pyritized conglomerate located at approximate footage 500. Between footages 608 and 633.5 the most favourable appearing formation was found. Here, a poorly developed conglomerate bed has been strongly sericitized to give a pale green, waxy, appearance. In addition a minor amount of green carbonate and quartz veining has developed.

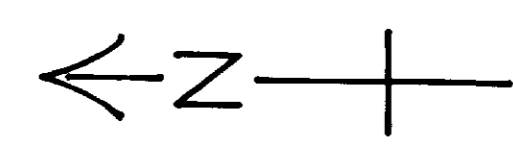
Hole S75-2 encountered more widespread mineralization than S75-1. There was significantly more pyrite as well as some doubtful chalcopyrite in the quartz veins. One electromagnetic conductor is well explained by a vuggy calcite filled water seam at footage 274 which produced such a heavy water flow that the drill hole is now an artesian well.

Diamond drilling is continuing and hole S75-3 is underway. This hole is located on line 120E, 650South. The prime target area is the general area of intersection of the Murdock Creek Fault and a semi-parallel fault which passes through Heart Lake.

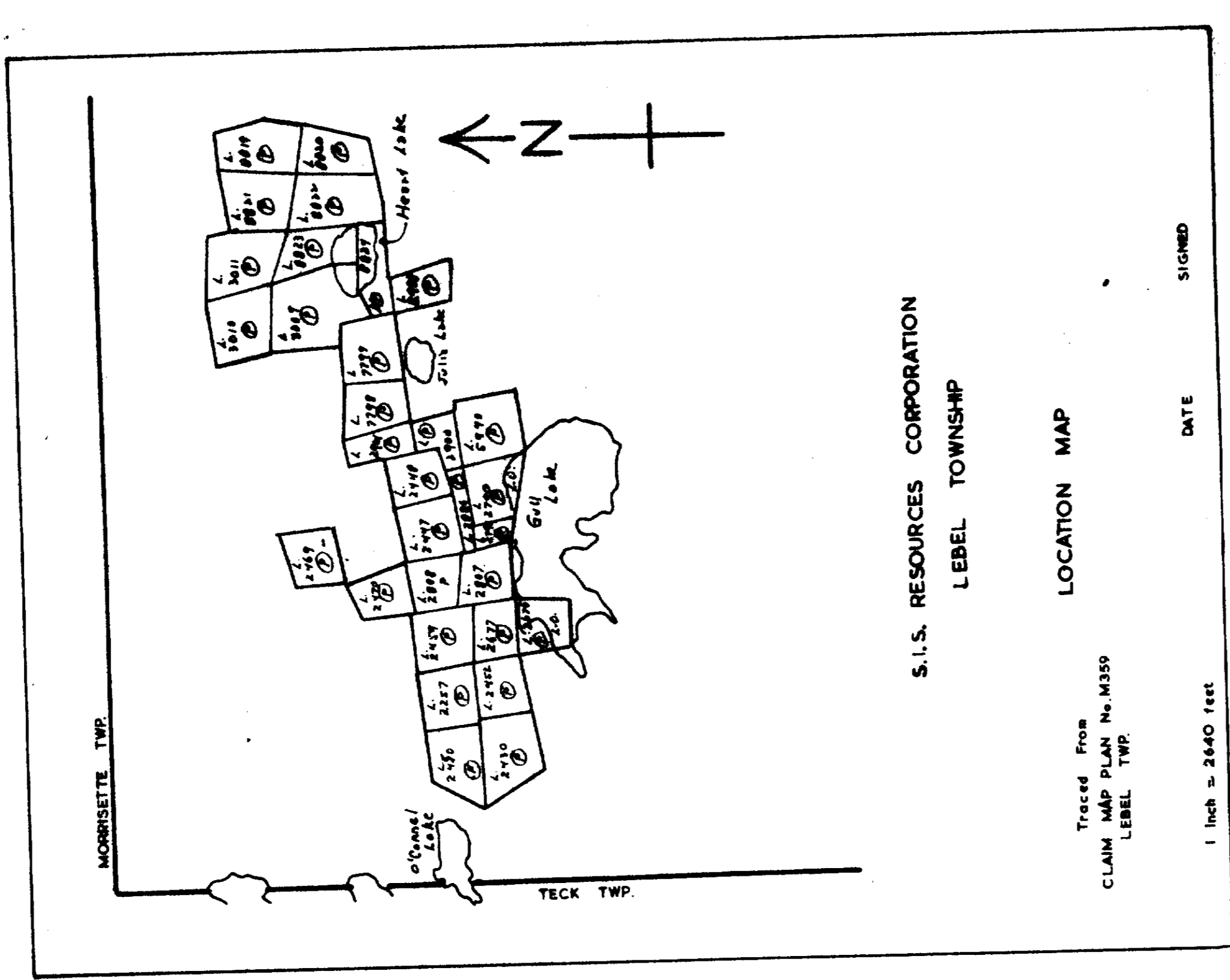
Respectfully submitted,

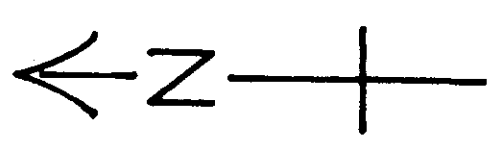
H. G. Harper





- UNDER 1000 GAMMAS
- 1000 TO 2000 GAMMAS
- OVER 2000 GAMMAS
- DIPOLE EFFECT
- BASE STATION



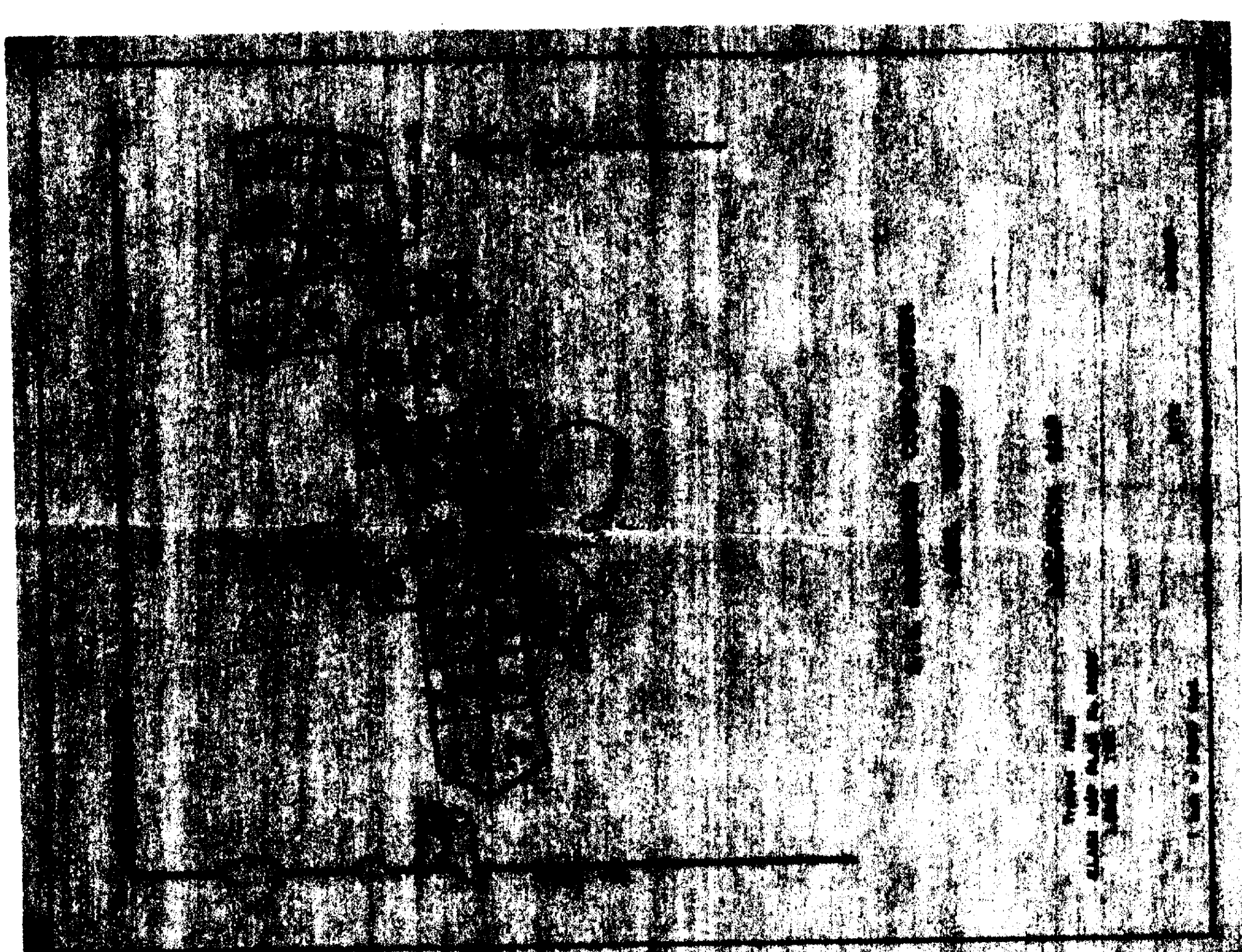
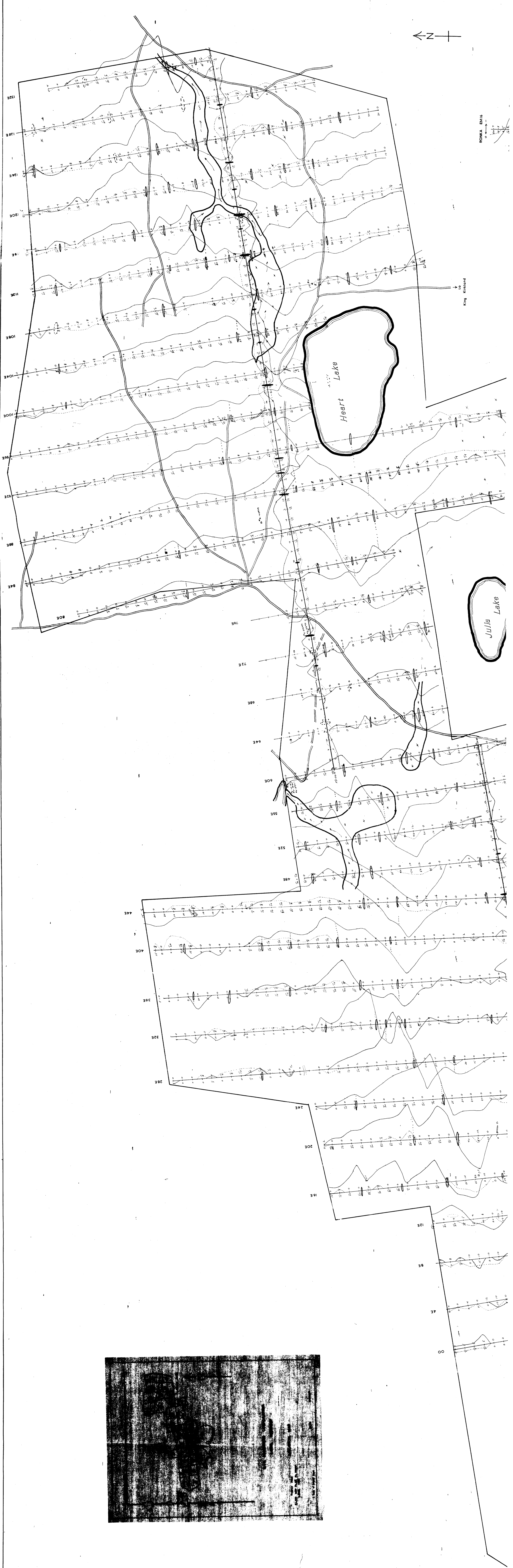


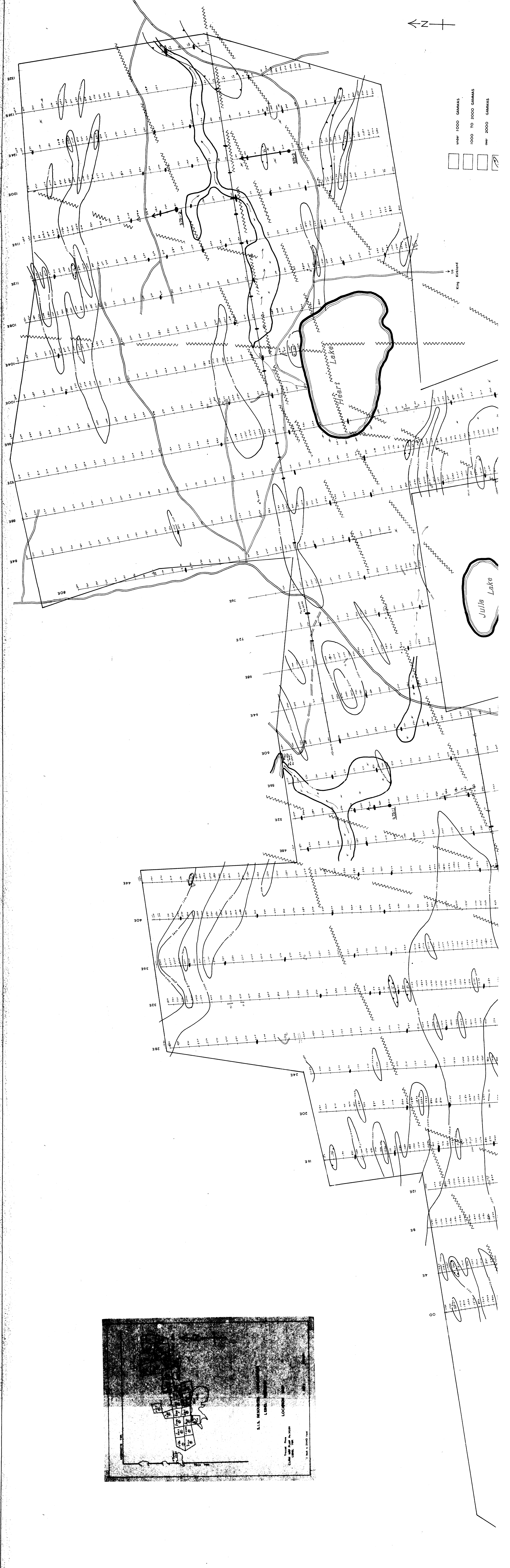
ROMWA BATS

King Richard

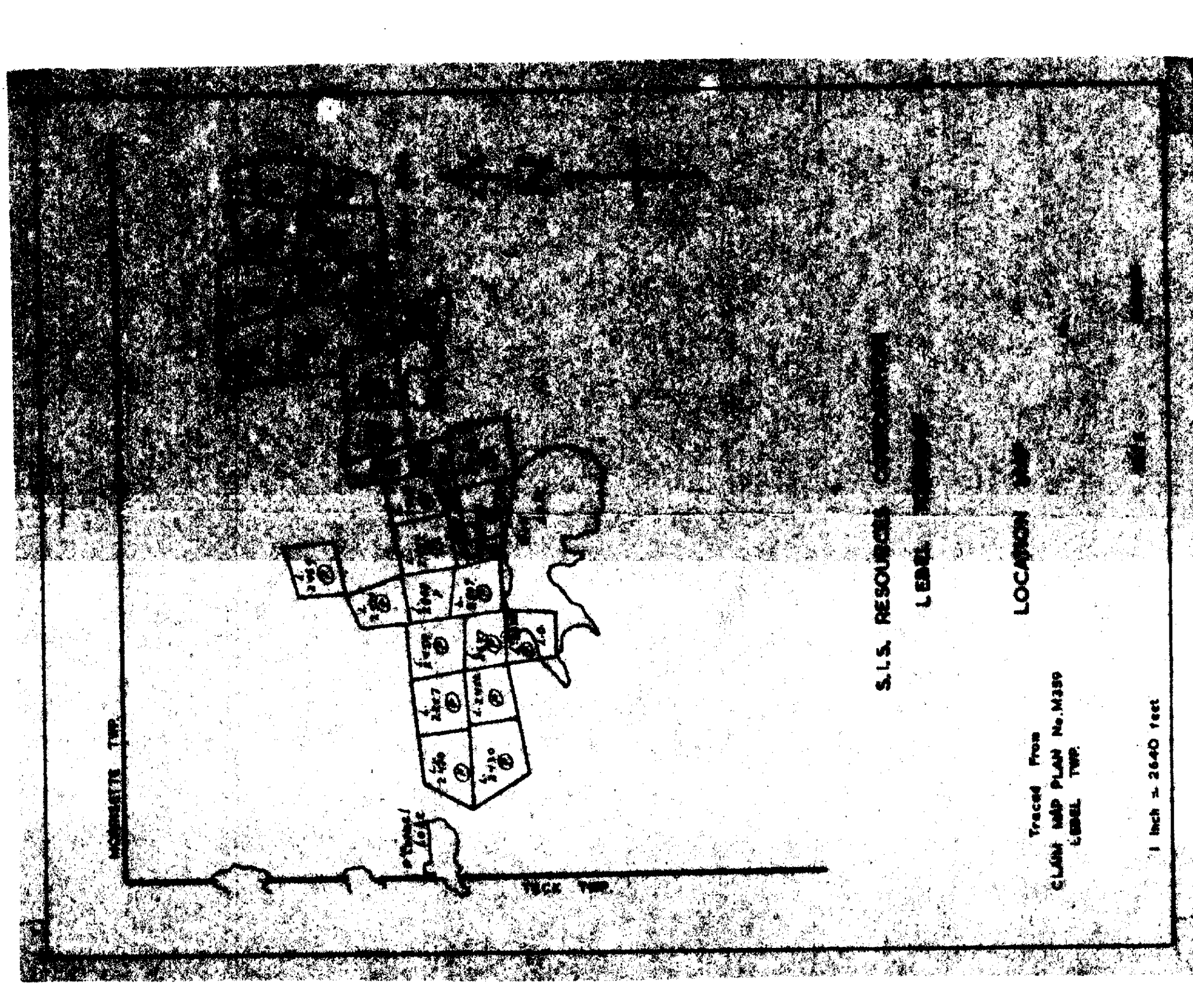
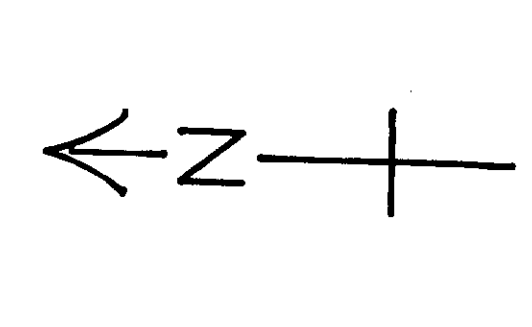
Heart Lake

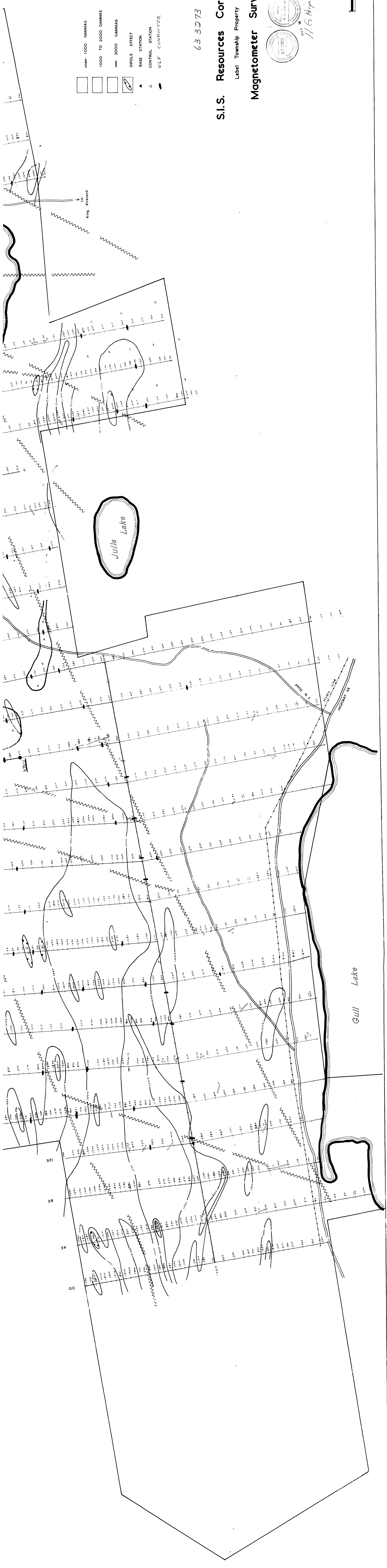
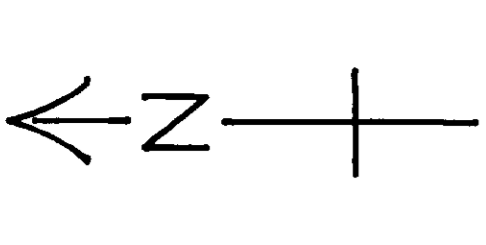
Julia Lake





under 1000 GAMMAS
 1000 TO 2000 GAMMAS
 over 2000 GAMMAS

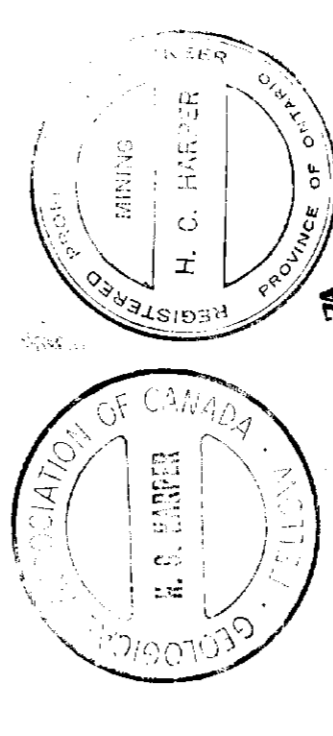




- under 1000 GAMMAS
- 1000 TO 2000 GAMMAS
- over 2000 GAMMAS
- DIPOLE EFFECT
- BASE STATION
- CONTROL STATION
- VLF CONDUCTOR

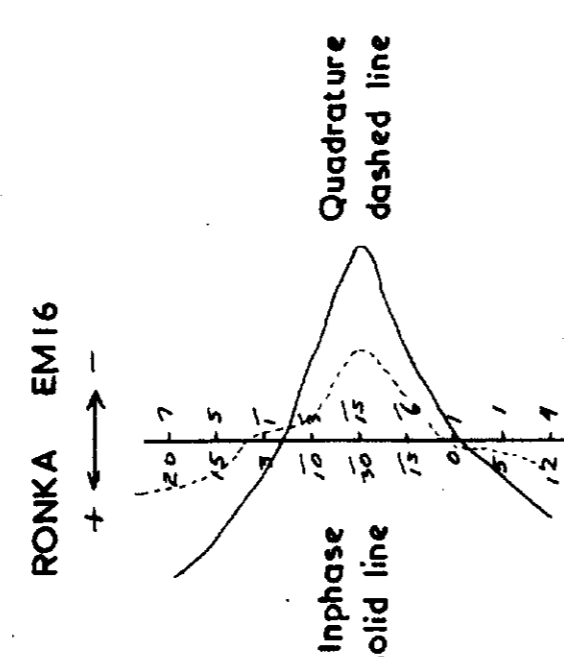
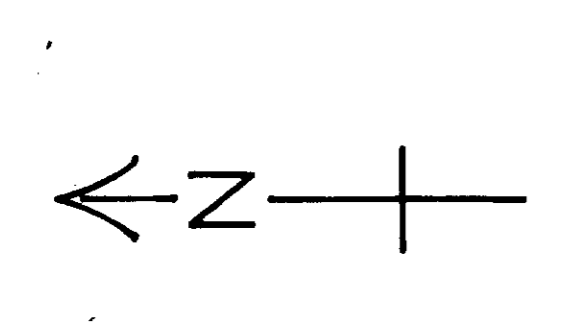
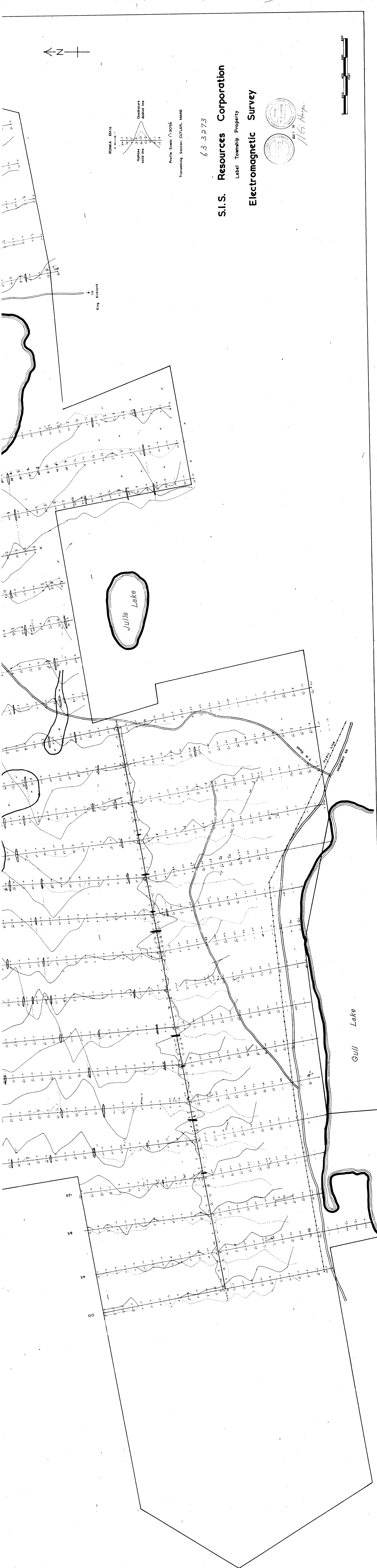
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S.I.S. Resources Corporation
 Lebel Township Property
Magnetometer Survey



11. G. H. P. A.

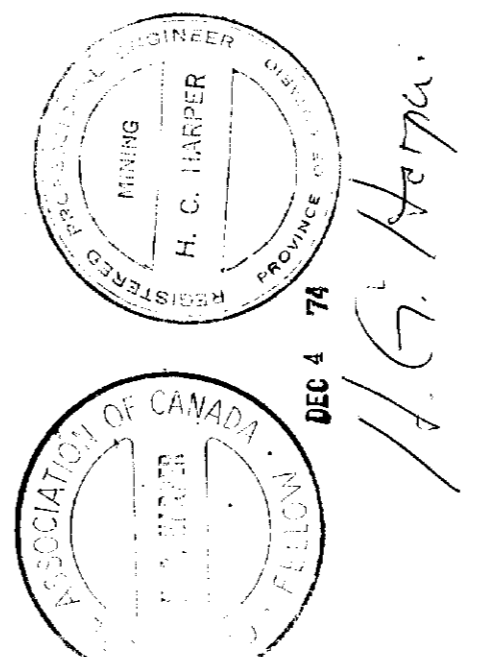




Profile Scale: 1"=300'
Transmitting Station: CUTLER, MAINE

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S.I.S. Resources Corporation
Label Township Property
Electromagnetic Survey





- under 1000 GAMMAS
- 1000 TO 2000 GAMMAS
- over 2000 GAMMAS
- DIPOLE EFFECT
- BASE STATION
- CONTROL STATION

633273

S.I.S. Resources Corporation
 Lebel Township Property
Magnetometer Survey
Drill Plan

