

KERR ADDISON MINES LIMITED,

REPORT ON THE

MAGNETIC, ELECTROMAGNETIC AND SELF-POTENTIAL SURVEYS

OF THE

SWIN 1 - 48 M.C.'s

MAY 14th TO AUGUST 31st, 1964

CLAIM SHEET NO. 105-K-2

LATITUDE 62° 12' N.

LONGITUDE 133° 00' W.

YUKON TERRITORY

BY

W.M. SIROLA, P. Eng., British Columbia

October 6th, 1964

Vancouver, B.C.

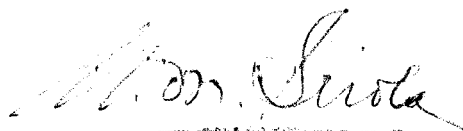


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SUMMARY AND RECOMMENDATIONS

Approximately 100,000 feet of line cutting was completed on the Swin 1-48 Group to facilitate the various forms of geophysical survey. The lines, for the most part, were laid out at 400 ft. intervals, and the positions of the lines were controlled by four northwest-southeast base lines.

A belt of electrically anomalous ground extends from line 16E. to line 69 W. By electrically anomalous, we mean exhibiting spontaneous polarization effects up to 1,000 millivolts, or more, and indicating dips of greater than 30° on the E.M. equipment.

Superimposed on this electrical anomaly is a belt of magnetic highs, with the maximum intensities averaging about 800 gammas above background. Thus far, no outcrop has been found in the immediate vicinity of the anomalies.

Geochemistry was attempted over the anomalous belt, but, because the area is on the north slope of a hill, it was found that permafrost was widespread and the value of soil samples was, therefore, questionable.

It is recommended that a gravity survey be conducted over the electrically and magnetically anomalous areas.

PROPERTY AND LOCATION

The property consists of 48 claims designated Swin 1-48. These are held in the name of Kerr Addison Mines Limited.

The claims are located at the west end of Swin Lakes, 25 miles northwest of Ross River, and approximately 125 miles northeast of Whitehorse.

MAGNETIC SURVEY

A hand-held Sharpe Magnetometer, Model ES-180, with a sensitivity of 35 gammas per scale division, was used for the entire survey. Approximately 20 miles of traversing was completed on lines 400 ft. apart. Readings were taken at 100 ft. intervals. The operator holds the instrument in a vertical position in his left hand, faces west, and nulls the magnetic needle by turning a vernier screw at the base of the instrument. The readings obtained are variations in the intensity of the total magnetic field. Diurnal control was exercised by periodic checks at base stations located on the base lines. Occasionally, magnetic storms were encountered which necessitated re-reading some of the lines.

The magnetic background for the claim group is in the order of 8,500 gammas. A persistent anomalous belt, in which readings up to 10,000 gammas were obtained, extends from line 13 E. to line 69 W. The 9,250 contour outlines the belt on the map sheet.

The anomalous zone is of interest because it is of the order of intensity one would expect from either small amount of magnetite or correspondingly larger amounts of pyrrhotite, such as might accompany base metal mineralization.

The only structural inference we have been able to draw from the magnetic picture is that of a northwesterly-trending sheet dipping gently northeast.

ELECTROMAGNETIC SURVEY

Twenty line miles of E.M. traversing were completed using a Crane E.M. dual-frequency unit.

In carrying out the survey the two operators traversed the same line, the lines having been cut perpendicular to the average strike of the rocks. Both operators used similar units and kept a separation distance of 200 ft. At each station the chief operator first transmitted until the helper operator had oriented his coil and read a dip angle, and then their roles were reversed and the chief operator read a dip angle. The two dip angles read were recorded, and the resultant obtained by adding the two readings was plotted on the station position of the mid-point between the two men.

The electrically anomalous zone, between lines 16 E and 69 W., is outlined on the map sheet by the -10° contour. The steepest dips obtained were in excess of -30° , and a good

correspondence was obtained between high and low frequency readings.

The anomalous zone is interpreted to be a very strong conductor dipping gently northeastward. An abrupt, northward way in the structure is indicated on line 1 E. Depth of burial is estimated to be 50 feet. Such a conductor could result from massive sulphides, graphitic schist, or a combination of both.

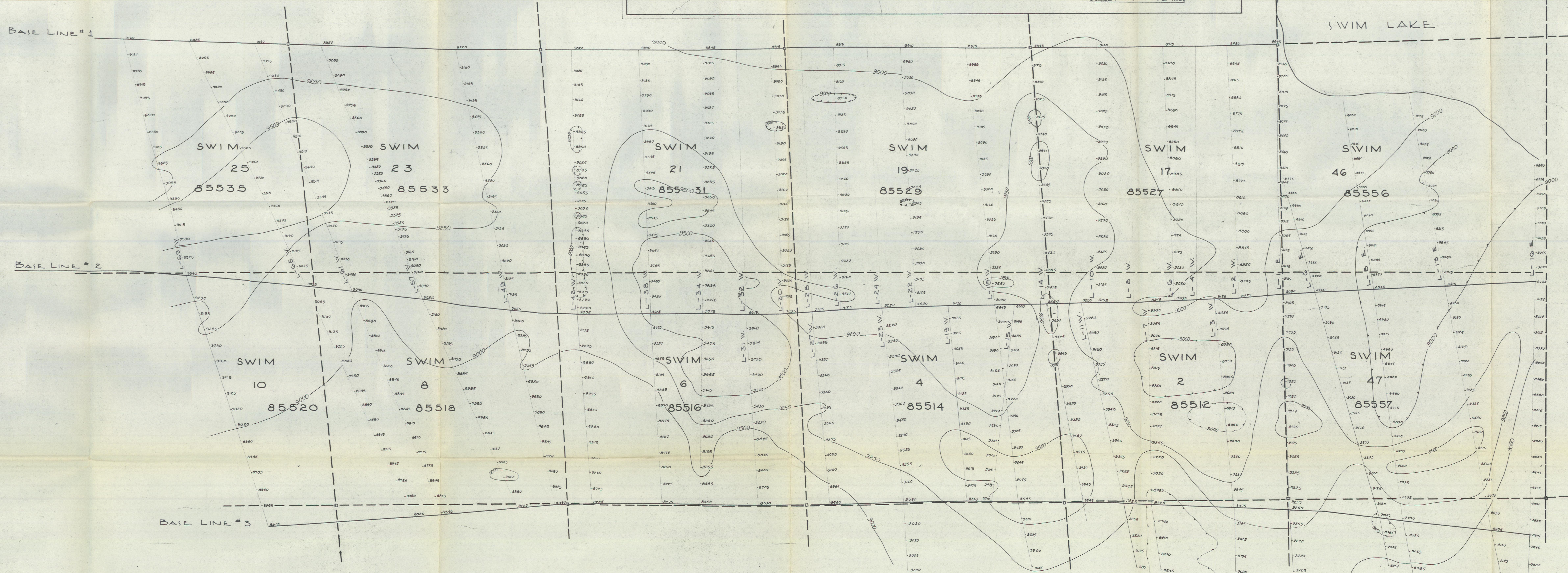
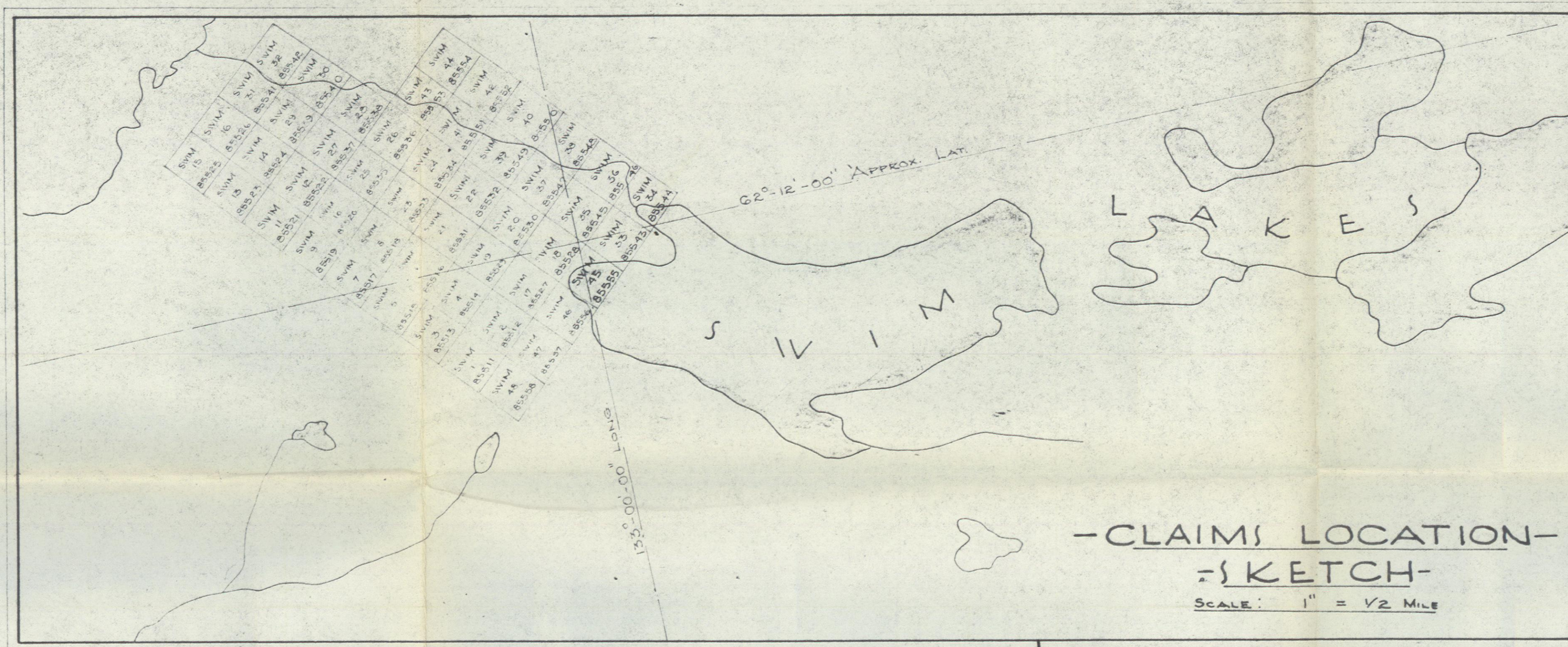
SELF-POTENTIAL SURVEY

The 20 line miles covered by the magnetic and electromagnetic methods were also traversed with self-potential equipment. The instrument used is a null-balance, transistorized potentiometer equipped with a 10-turn dial. Two porous pot electrodes, connected through 2,000 ft. of wire on a commutator equipped aluminum reel, were used with the potentiometer.

A close correspondence was obtained between the self-potential method and the electromagnetic method described above. On the self-potential map sheet, the northwesterly-trending zone is outlined by the 400 millivolt contour. Readings in excess of 1 volt were obtained locally. Readings of this magnitude are, usually, caused by graphitic or carbonaceous rocks, but, in rare instances, could be caused by massive sulphides.

SCHEDULE OF ACCOMPANYING MAPS

	<u>Scale</u>
MAGNETIC SURVEY MAP	1" = 200'
ELECTROMAGNETIC SURVEY MAP	1" = 200'
SELF-POTENTIAL SURVEY MAP	1" = 200'
KEY MAP	1" = $\frac{1}{2}$ mile.

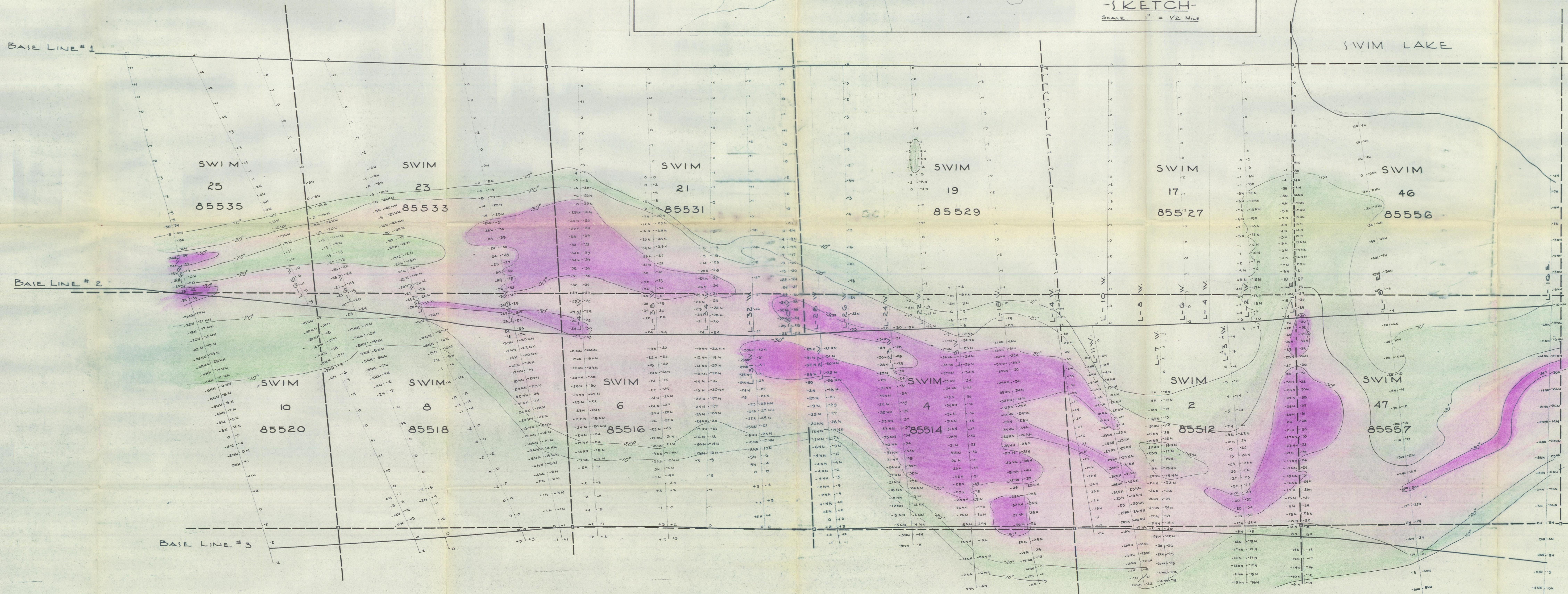
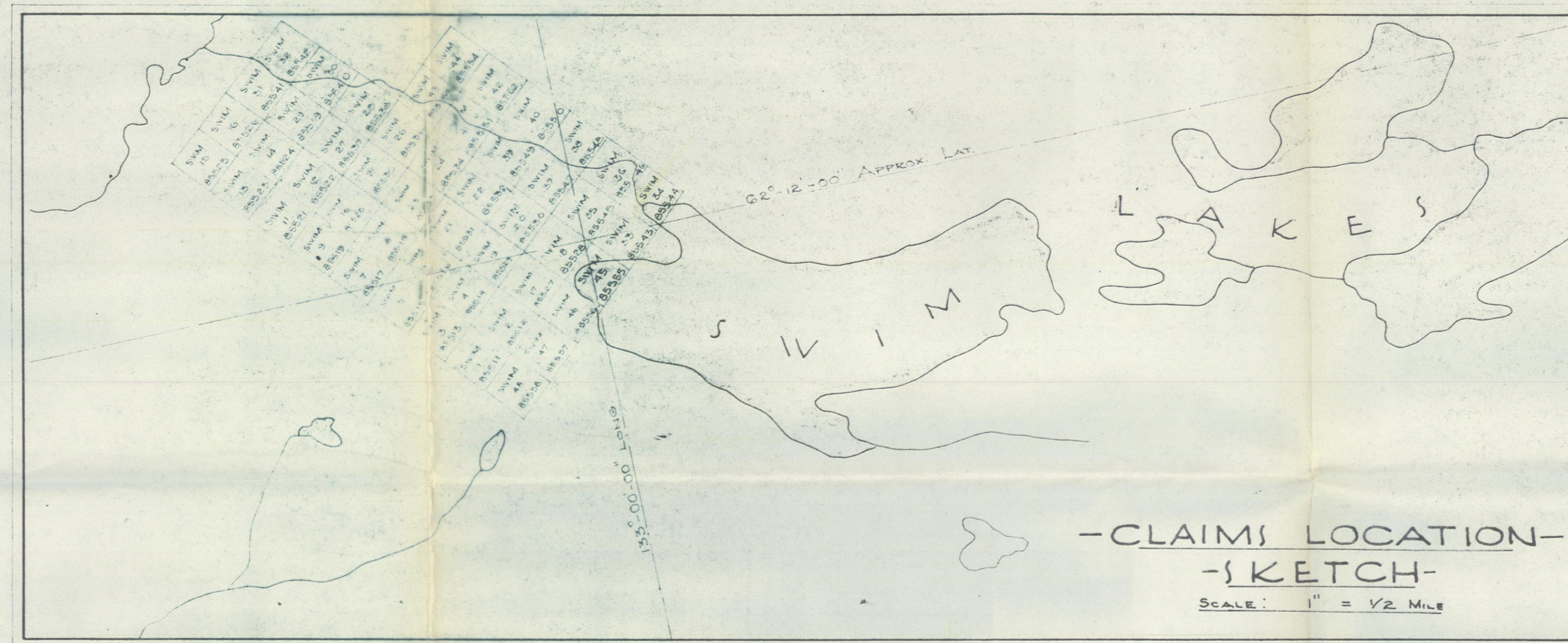


-KERR ADDISON MINES LTD.-
 "A GROUP"
 MAGNETOMETER SURVEY
 SWIM LAKES AREA, YUKON TERRITORY
 SCALE 1" = 200 FT.

-LEGEND-
 MAGNETIC READINGS RECORDED IN MILLIGALS.

*File: Kerr Addison Mines
31 Aug. 64. J. E. S.*

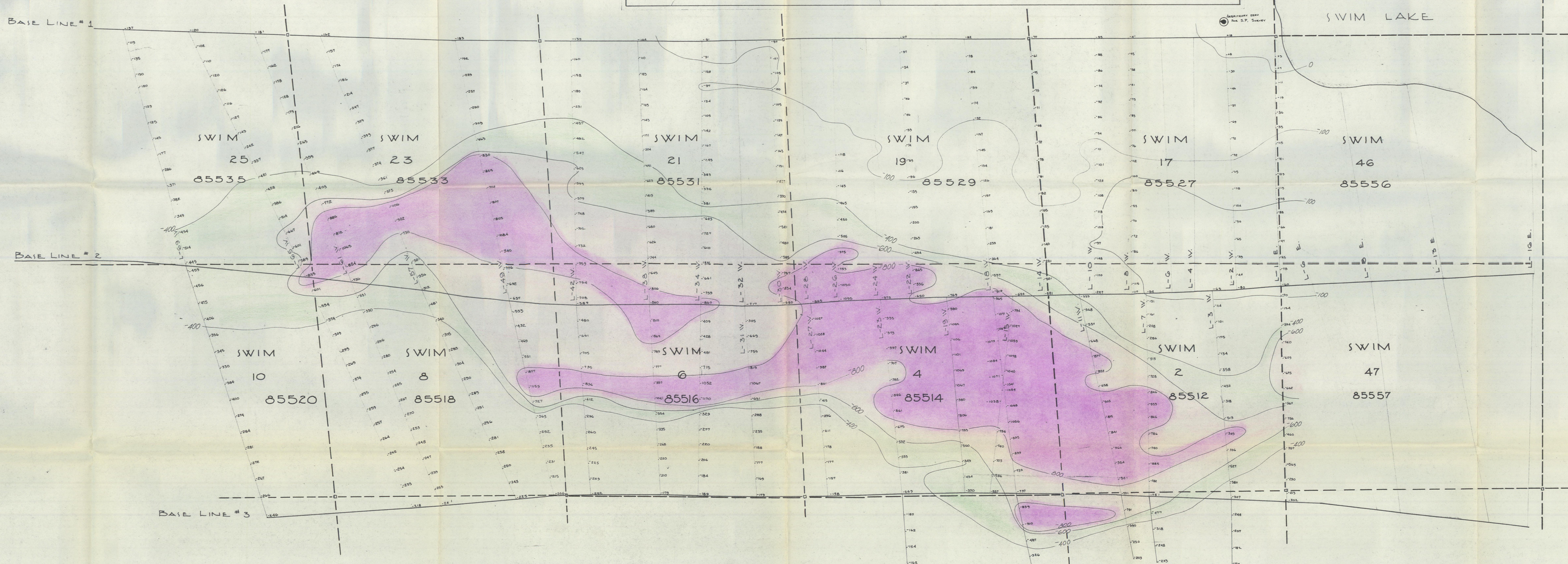
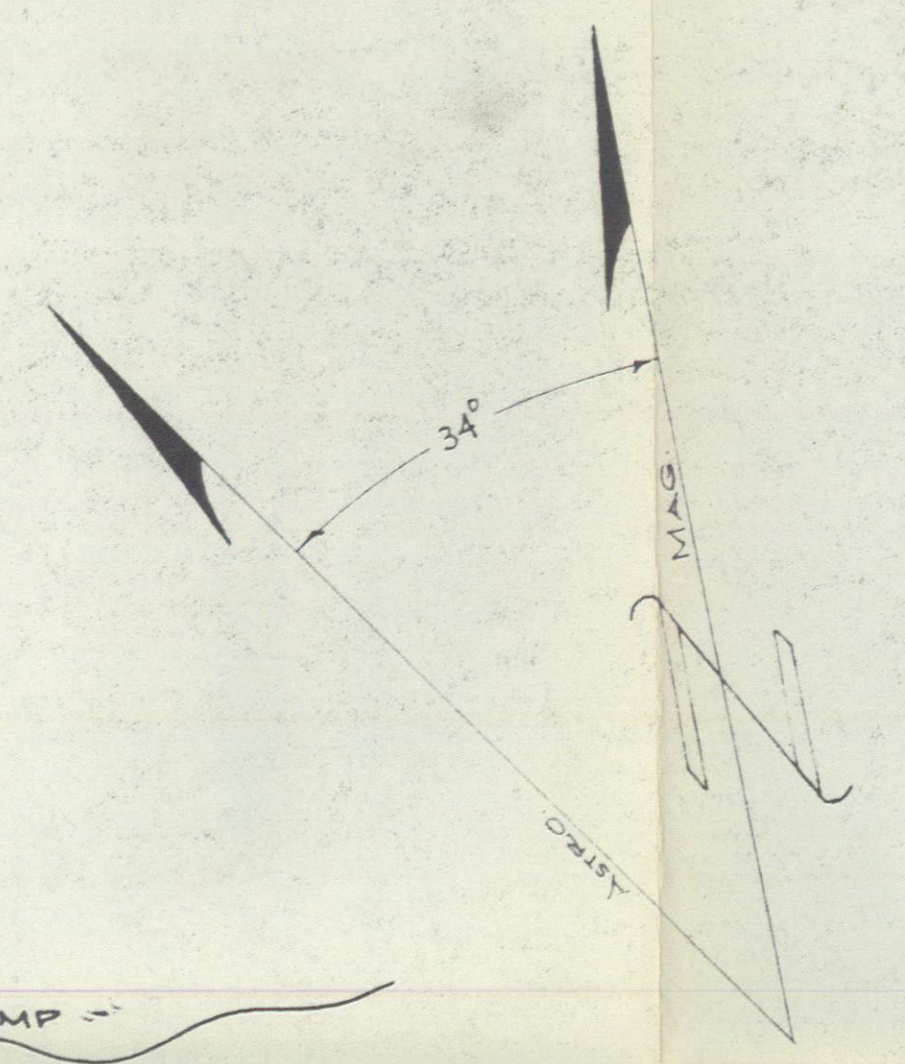
Drawn by J. E. S.
OCT. 1964



-KERZ ADDISON MINES LTD.-
"A GROUP"
ELECTROMAGNETIC SURVEY
SWIM LAKES AREA, YUKON TERRITORY
SCALE: 1" = 200 FT.

-LEGEND-
ELECTROMAGNETIC RESULTANT DIP ANGLE READINGS-
RECORDED IN DEGREES.

Drawn by J.E. YAMMIE
OCT 1964



-KERR ADDISON MINES LTD.-
"A GROUP"
SELF-POTENTIAL SURVEY
SWIM LAKES AREA YUKON TERRITORY
 SCALE 1" = 200 FT.

-LEGEND-
 SELF-POTENTIAL READINGS RECORDED IN MILLIAMPS.

Drawn by J. E. SANCHEZ
OCT. 1964