O'SULLIVAN LAKE OPTIONJONSMITH MINES LTD.INTRODUCTION

THE GEOPHYSICAL WORK DESCRIBED IN THIS REPORT WAS DONE OVER A MUSKEG AREA SURROUNDING A COPPER SHOWING LOCATED NEAR THE NORTHEAST SHORE OF SESEKINIKO BAY, O'SULLIVAN LAKE, ONTARIO.

THE WORK WAS DESIGNED TO OUTLINE THE LENGTH AND ATTITUDE OF THE COPPER SHOWING, AND TO EXPLORE THE SURROUNDING AREA FOR FURTHER SULFIDE BODIES.

RESULTS OF WORK

ELECTROMAGNETIC AND MAGNETIC READINGS WERE TAKEN OVER AN AREA OF ABOUT ONE SQUARE MILE AROUND THE SHOWING AND BETWEEN IT AND O'SULLIVAN LAKE. THE RESULTS ARE SHOWN ON THE MAP WHICH ACCOMPANIES THIS REPORT.

ELECTROMAGNETIC RESULTS

EIGHT ELECTRICAL CONDUCTORS WERE LOCATED. THESE ARE NUMBERED A TO J, AND THEIR LOCATIONS ARE SHOWN ON THE ACCOMPANYING MAP.

MAGNETIC RESULTS

FIVE MAGNETIC HIGHS WERE LOCATED AND OUTLINED. ALL ARE ACCOMPANIED BY MAGNETIC LOWS. THEIR LOCATIONS ARE SHOWN ON THE ACCOMPANYING MAP.

DISCUSSION OF RESULTS

FROM CONSIDERATIONS OF CONDUCTIVITY, DEFINITION, MAGNETIC CORRELATION, AND THEIR PHYSICAL NATURE, THE CONDUCTORS ARE LISTED AS FOLLOWS, IN DESCENDING ORDER OF IMPORTANCE:

DISCUSSION OF RESULTS (CONT'D)

G, D, H, F, B, J, E, C, A, AND THE 2 SHORT UNNUMBERED CONDUCTORS ON LINE 26.

CONDUCTOR G IS THE STRONGEST AND BEST DEFINED OF THE CONDUCTORS. IT HAS A MAGNETIC HIGH ASSOCIATED WITH IT AT ITS WEST END. IT IS ABOUT 1700 FEET LONG. IT AND ALL THE OTHER CONDUCTORS STAND VERTICALLY OR NEAR-VERTICALLY.

CONDUCTOR D IS ALSO A FAVORABLY REGARDED CONDUCTOR. IT IS ABOUT 1100 FEET LONG, AND HAS A SMALL MAGNETIC CORRELATION OF ABOUT 100 GAMMAS ABOVE NORMAL ALONG ITS LENGTH. AT ITS EAST END THERE IS A STRONGER MAGNETIC HIGH-LOW COMBINATION ANOMALY OF 400-500 GAMMAS ABOVE AND BELOW NORMAL.

CONDUCTORS H AND F ARE EACH ABOUT 1000 FEET LONG AND OF GOOD CONDUCTIVITY. THEY HAVE NO MAGNETIC CORRELATION.

CONDUCTOR B SHOWS WEAK TO MEDIUM STRENGTH ELECTRICAL RESPONSE. IT HAS A NARROW MAGNETIC LOW OF ABOUT 60 GAMMAS ASSOCIATED WITH IT, AND IT MAY REPRESENT A CONTACT EFFECT BETWEEN AN ACID DIKE CAUSING THE MAGNETIC LOW, AND THE SURROUNDING VOLCANIC ROCKS.

CONDUCTORS J, E, C, AND A ARE VAGUE IN THEIR ELECTRICAL RESPONSE AND DIFFICULT TO INTERPRET. CONDUCTORS E AND A HAVE NO MAGNETIC RESPONSE, WHILE MAGNETIC WORK HAS NOT YET BEEN DONE ON J AND C. THESE FOUR CONDUCTORS ARE CLASSED AS LOW IN PRIORITY IN COMPARISON WITH CONDUCTORS G, D, H, F, AND B.

THE COPPER SHOWING (ON BASE LINE AT LINE 26) DID NOT RESPOND TO ELECTROMAGNETIC WORK. THERE IS AN AMPLITUDE RESPONSE ON LINE 26 BUT IT IS UNACCOMPANIED BY A PHASE SHIFT AND DOES NOT CLEARLY INDICATE A CONDUCTOR PRESENT. THE COPPER OCCURS AS SEAMS

DISCUSSION OF RESULTS (CONT'D)

AND BLOBS OF CHALCOPYRITE ALONG FRACTURES IN THE VOLCANICS, AND IT IS CONCLUDED THAT THERE IS NOT ENOUGH LINEARITY OF SULFIDE CONTENT PRESENT TO PROVIDE A THROUGH-GOING CONDUCTOR GIVING MEASURABLE ELECTROMAGNETIC RESPONSE.

THE SHOWING LIES AT THE NORTH EDGE OF A WEAK MAGNETIC HIGH STRETCHING EASTERLY FROM A STRONGER HIGH WHICH IS CAUSED BY A DIABASE DIKE. THE WEAK MAGNETIC HIGH MAY REPRESENT PYRRHOTITE MINERALIZATION OF THE TYPE WHICH ACCOMPANIES THE COPPER MINERALIZATION IN THE SHOWING, AND AS SUCH IT MAY INDICATE THE OUTLINES OF THE PYRRHOTITE-CHALCOPYRITE SULFIDE ZONE. IT DESERVES INVESTIGATION BY PROSPECTING AND TRENCHING.

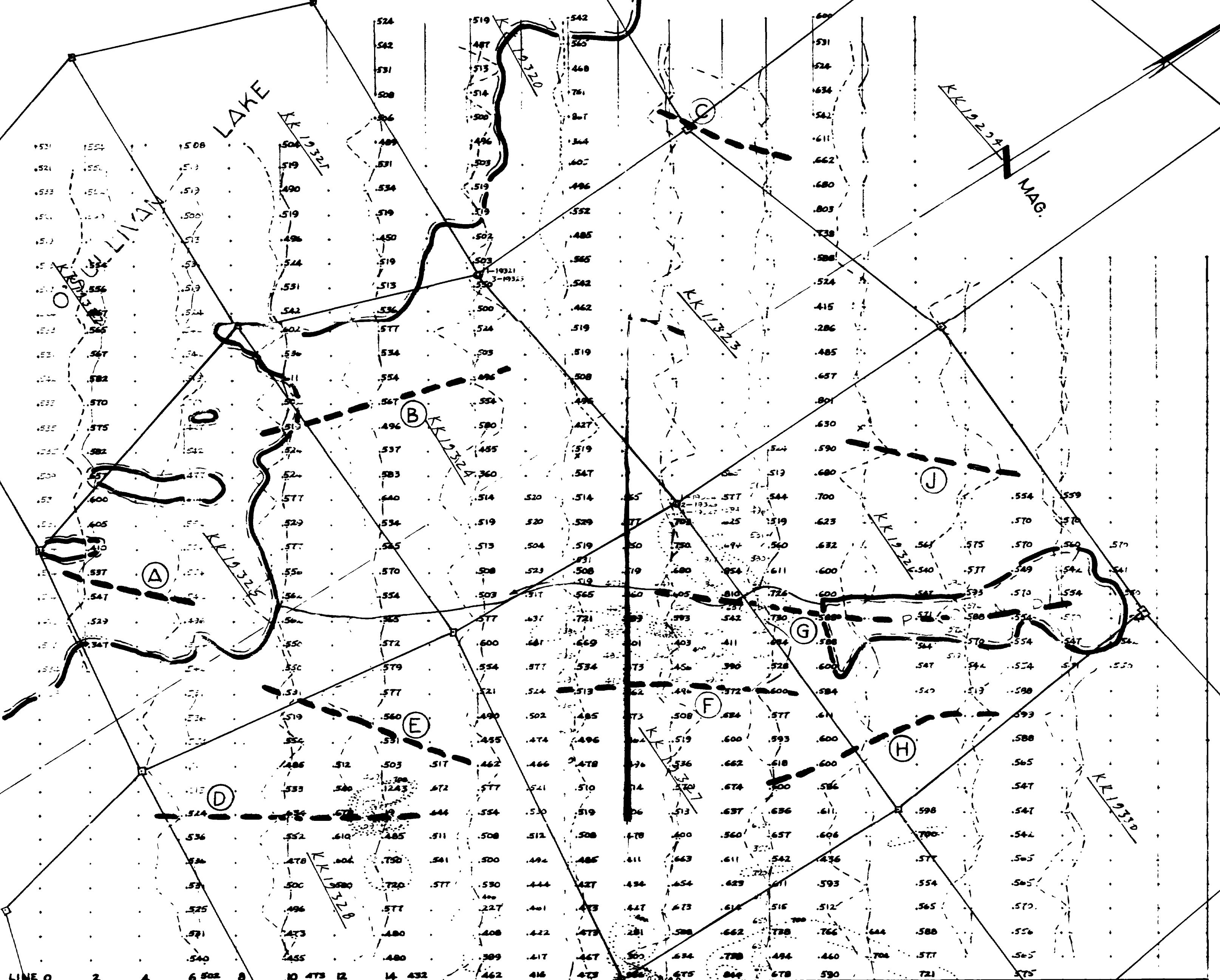
RECOMMENDATIONS

- A. ALL THE CONDUCTORS (EXCEPT CONDUCTOR A, WHICH IS WHOLLY UNDER O'SULLIVAN LAKE) SHOULD BE CAREFULLY PROSPECTED. IF PROSPECTING DOES NOT REVEAL THE CAUSE OF EACH CONDUCTOR, TRENCHING SHOULD BE DONE WHERE OVERBURDEN IS NOT TOO DEEP.
- B. ANY OF CONDUCTORS G, D, H, F, AND B WHOSE CAUSE IS NOT CLEARLY REVEALED BY THE SURFACE PROSPECTING AND TRENCHING SHOULD BE EXPLORED BY DIAMOND DRILLING.
- C. IF THE WORK ON CONDUCTORS G, D, H, F, AND B SHOWS THAT SULFIDES ARE THE PREDOMINANT CAUSE OF CONDUCTIVITY IN THE SURVEY AREA, THEN CONDUCTORS J, E, C, AND A SHOULD BE THOROUGHLY EXPLORED BY TRENCHING OR DRILLING.
- D. BEFORE DRILLING ANY OF THE CONDUCTORS, A LITTLE MORE DETAIL ELECTRIC AND MAGNETIC WORK SHOULD BE DONE TO HELP IN CORRECTLY POSITIONING THE DRILL HOLES.

Ross Kidd

ROSS KIDD
MINING ENGINEER

JUNE 2ND, 1959
MORANDA, QUEBEC



LEGEND

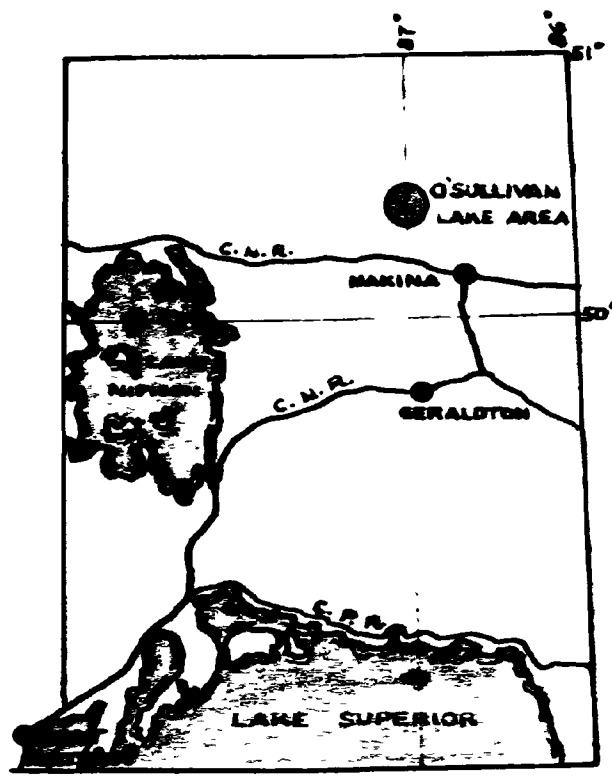
- ELECTRICAL CONDUCTOR
- PHASE ANGLE PROFILE 1" = 20 SCALE DIVISIONS
- AMPLITUDE PROFILE 1" = 20 SCALE DIVISIONS
- MAGNETIC CONTOURS
- VERTICAL MAGNETIC INTENSITY (GAMMAS)
- TRENCH

GEOPHYSICAL RESULTS

O'SULLIVAN LAKE GROUP

JONSMITH MINES LTD.

SCALE: 1 INCH = 300 FEET



SCALE: 1 INCH = 50 MILES

APRIL, 1959

ROSS KIDD
MINING ENGINEER

Ross Kidd

