

REPORT ON



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SELF POTENTIAL SURVEY

PETER LAKE GROUP

SWAYZE PROJECT

CUNNINGHAM TOWNSHIP, ONTARIO

FOR

GEO-SCIENTIFIC PROSPECTORS LIMITED

BY

GEOPHYSICAL ENGINEERING & SURVEYS LIMITED

INTRODUCTION

The Peter Lake Group includes twelve claims numbered S91258, S91261, S91266, S96380 to S96382, S96471 to S96474, S98726 and S98727 in the west side of Cunningham Township. The property includes the main group formerly held by Anglo-Sudbury Mining and Metals Corporation Limited. The old Kenty Mine road crosses the east end of the property and is passible by snowmobile or four-wheel drive vehicle from Sultan ten miles to the south. Peter Lake can be used by pontoon-equipped aircraft.

The area has been mapped at a scale of 1" to 1 mile.*

S.P. SURVEY

Map Control - An east-west baseline was run with a Ushikata transit, picket lines were turned off at three hundred foot intervals and stations established every hundred feet. A tie line was cut at 25+00 North parallel to the baseline. The picket lines were tied in to topographic features where possible and the survey

*Ontario Department of Mines Annual Report 1942, Vol. 51, part 7, Report and map by V. B. Meen

boundaries were chained and picketed. The approximate location of the Cunningham-Greenlaw Township boundary was determined by projection from old survey points to the south and recognition of old cuttings. The final map was produced by fitting the ground control data to topography enlarged by pantograph from aerial photographs.

Readings - Nine hundred and forty-one self-potential readings were taken including many at fifty foot intervals. The results are illustrated on drawing number 1217 which accompanies this report.

Interpretation - Self potentials are high all across the northern part of the property and particularly across the north-east corner near the old Anglo-Sudbury camp. These anomalies are due to the band of iron formation which is indicated on the government map (O.D.M. 51f).

The high readings (above 750 millivolts) are probably due to graphite or graphitic slate horizons in the iron formation. Intermediate values may be due to disseminated graphite in the sedimentary rocks or to magnetite and hematite rich bands.

Some of the low anomalies may be due to sulphide mineralization. These would be masked in the graphitic and ferruginous areas.

The area of the low self-potential are probably underlain by granite, diorite and gabbro or non-mineralized volcanic rocks.

The distribution of the high anomalies suggests a complex structure with minor folds and cross faults breaking the continuity of the conducting horizons.

PREVIOUS WORK ON THE PROPERTY

There is evidence of extensive surface prospecting in the form of stripping and trenching and the digging of shallow test pits in the eastern part of the property. Diamond drill Core has been dumped behind the old frame shack which is the only remaining building of the Anglo-Sudbury Camp. Zinc, lead and copper mineralization has been reported.

RECOMMENDATIONS AND CONCLUSIONS

The geophysical survey should be followed up by surface geological mapping and prospecting. Records of the previous work should be acquired if available. Future field work should include:

1. Mapping of all available outcrops, particularly in the anomalous areas.
2. Examination of the old trenches and pits.
3. Sampling of mineralized rocks.
4. Geochemical soil sampling over anomalies not satisfactorily explained from surface observations.

The most favourable areas for detailed prospecting are:

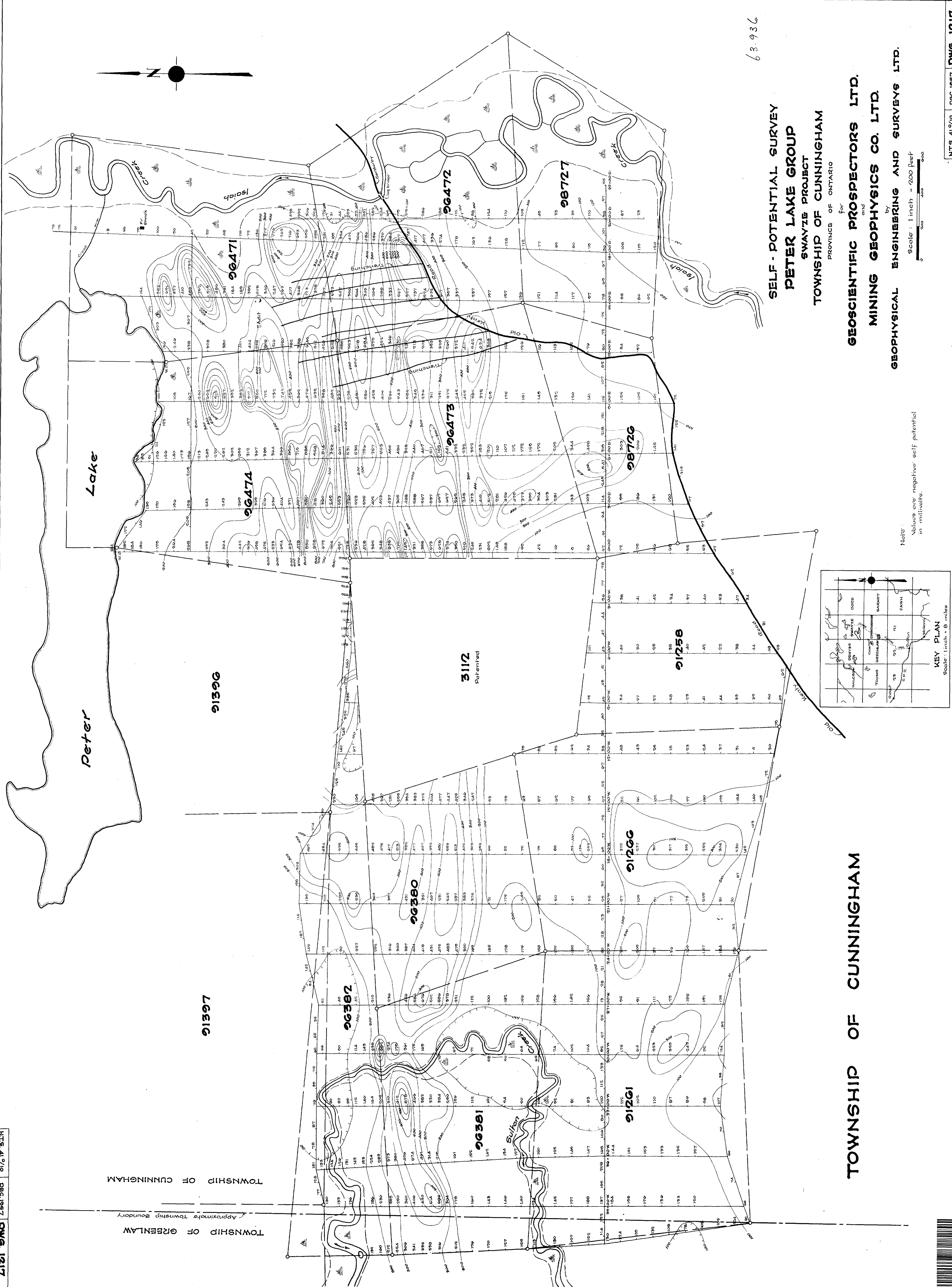
1. The areas where the electrical anomalies are cut-off or displaced.
2. The contact areas between intrusive rocks and the iron formation.

Respectfully submitted,

T. O. H. Patrick

January 29, 1958
North Bay, Ontario

T. O. H. Patrick, Geologist
GEOPHYSICAL ENGINEERING & SURVEYS LTD.



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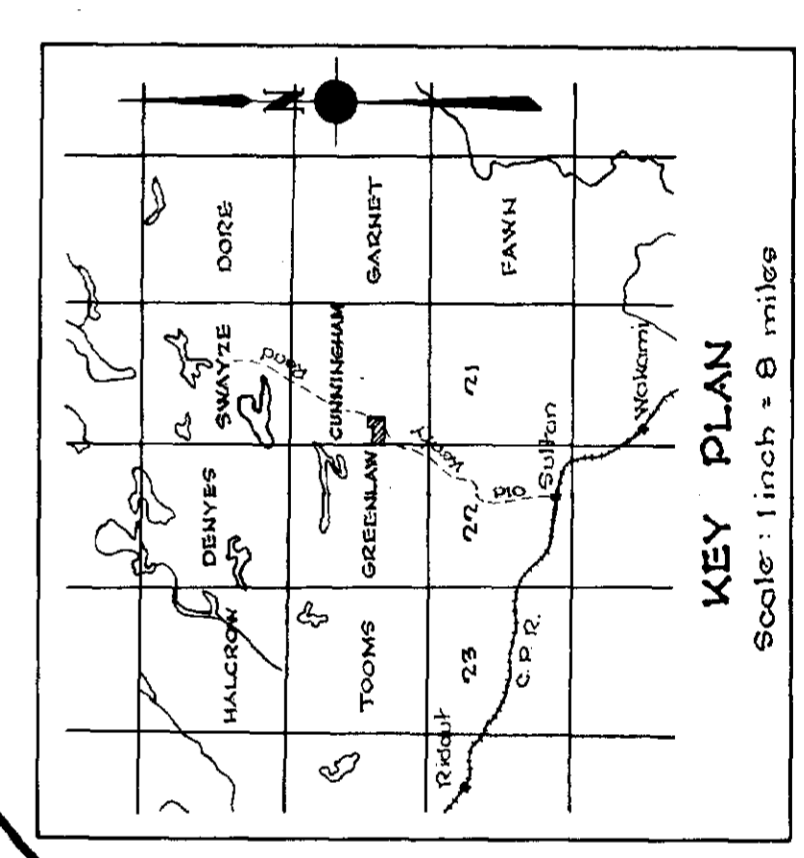
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Scale: 1 inch = 200 feet

Note: Values are negative self potential in millivolts.



TOWNSHIP OF CUNNINGHAM