



41P15NE8365 63.1795 CAIRO

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NORTH EXPO MINES LIMITED

Self Potential Report

Cairo Township, Montreal River Mining Division, Ontario

NORTH EXPO MINES LIMITED,
Suite 305-100 Adelaide St. West,
Toronto 1, Ontario.

Gentlemen:

Your company holds eleven mining claims situated about one mile east of the townsite of Matachewan, Ontario, on which a self potential survey was previously conducted over a portion of the claim group.

Based upon encouraging results from this initial survey, the remaining portion of the property was recently subjected to self potential coverage.

PROPERTY, LOCATION, ACCESS:

The claim group consists of the following eleven claims: MR. 30884, 37915-917, 39476-477, 40562-565, all inclusive, and MR 41675, about 440 acres in all.

The property is one mile east of Matachewan in the southwest sector of Cairo Township. Access is from Highway No. 65, between Matachewan and Elk Lake, accross the Montreal River.

The present coverage consists of that portion of the group not previously surveyed, namely the land portions of claims MR. 37915-917, 40562-564, and 41675.

GEOLOGY:

The oldest and most abundant rock types in the area are Keewatin volcanics. Two parallel east-trending synclines are formed by Timiskaming sediments in Powell and Cairo Townships. Algomian igneous rocks consisting of syenite and equigranular and porphyritic granite intrude the above named rocks, all of which have been intruded by north-south trending diabase dikes.

Lying with marked unconformity upon earlier Precambrian formations is the essentially flat-lying Cobalt Conglomerate.

HISTORY:

In the Summer of 1965, Rosmar Corporation Ltd. conducted self potential coverage over the land portions of the claim group not presently covered. On the results of this work and two test pits placed over a large anomalous zone in claim MR. 39477, three diamond drill holes were placed on two zones. A five foot section from one of the holes averaged 2.56% copper, but further drilling did not extend the zone. Sections from each drill hole returned low grade copper values.

In the early part of 1966, a combined magnetic-

electromagnetic survey was done over water portions of the property with negative results.

GEOPHYSICS:

Purpose of the Survey: The self potential survey, continuous line method, was conducted in order to measure the natural electro-motive force of sulphide bodies in an oxidizing-reducing environment as a means of attempting to locate base metal deposits. A Sharpe V.P.-6 ground Voltmeter was employed.

Method of Operation: From a previously established west to east base control line originating at the No. 3 post of claim 30884, cross lines were directed southward to property limits. This line was extended eastward, and crosslines were directed northward to cover claims 40562-563. Lines were cut at 200 ft. intervals. In order to cover claim 40564 and a portion of claim 37915, located on the west side of the Montreal River, a subsidiary base control line was placed 400 ft. south of the north east-west boundary of claim 40564. From this, crosslines were run north and south each 100 ft. to property, or to water, limits.

Stations were established each 50 ft. along crosslines. Readings were tied into the absolute readings of the first phase of the base control lines through a three station overlap. The corrected numerical values, moisture adjusted, appear on the accompanying map.

A total of approximately 1,484 stations were established in the 14,0 mile survey.

Interpretation: A difference of 50 millivolts represents the anomalous threshold. Low intensity anomalies have a relative difference of 50-100 M.V., medium intensity anomalies are between 100-200 M.V., while high intensity anomalous zones exist where the relative difference exceeds 200 M.V.

Greater negativity is recorded over the same body near surface than at depth and, similarly, over massive sulphide bodies than the disseminated variety.

DISCUSSION OF ANOMALIES:

Four anomalous zones were recorded in the survey. Two of these, in claims 40562 and 40563 respectively, are extensions of zones previously detected. Drilling has tested the zone in the northwest portion of 40562, and low grade copper values were returned. The zone in claim 40563 is narrow and of low intensity.

The other two zones are located in the northern portion of claim 40564. That which exists in the extreme northwestern part of this claim is caused by electrical induction of nearby transmission lines. The remaining zone is roughly circular in shape with a diameter of 350 ft. A 200 ft. wide medium intensity zone is enclosed with a maximum value of -180 M.V.

Anomalous zones located in claims 41675-40563, and the recently detected zone in claim 40564, are small and lack high

intensity portions indicative, in this area, of massive sulphide concentrations.

CONCLUSIONS:

Based on encouraging results from previously conducted exploratory work of the same nature, the remaining portion of the claim group in Cairo Township was recently covered by self potential work.

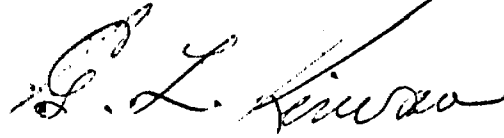
Results of this survey located extensions of known and previously drilled anomalous zones. One electrically induced zone was detected, and one small, roughly circular, anomaly located. This latter zone lacks high intensity areas normally indicative of massive sulphide concentrations in this area.

Diamond drilling of previously detected anomalies indicated copper mineralization was the source, along with small amounts of iron formation and concentrations of iron pyrite. The anomalous zones recently detected do not exceed in value those previously detected and tested.

RECOMMENDATIONS:

In view of results, comparatively, with present to previously detected and tested anomalous zones, no further exploratory work appears to be justified. Option arrangements on the property should be terminated.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "G.L. Kirwan".

G.L. Kirwan, B.Sc., F.G.A.C.
Consulting Geologist

GLK/lk

Toronto, Ontario
August 16, 1966



41P15NE8365 63.1795 CAIRO

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ROSMAR CORPORATION LIMITED

SELF POTENTIAL SURVEY

CAIRO TOWNSHIP - PROVINCE OF ONTARIO

ROSMAR CORPORATION LTD.,
100 Adelaide St. West,
Toronto 1, Ont.

Gentlemen;

As a means of detecting base metal deposits associated with sulphide mineralization, a self potential survey was conducted over a portion of your property in Cairo Township, Montreal River Mining Division, Province of Ontario.

The enclosed report includes method of operation, interpretation, and results of the survey.

PROPERTY, LOCATION, ACCESS:

The claim group, in good standing with the Ontario Department of Mines, consists of the following unpatented mining claims: MR. 30884, 37915-17 incl., 39476-77 incl., 40562-65 incl., and 41675, a total of eleven claims.

The group is located about one mile east of the old mining community of Matachewan in the southwest sector of Cairo Township.

Highway No. 65 between Matachewan and Elk Lake is located a few hundred feet north of the Montreal River, which forms part of the property. This river is suitable for landing ski or float-equipped aircraft.

The area covered by the survey is the land portion of claim MR. 30884 and 39477 as well as the northern portions of claims 41675 and 39476, about 120 acres in all.

GEOLOGY:

Keewatin volcanics are the oldest and most abundant rock types in the Matachewan area. Two parallel east-trending synclines are formed by Timiskaming sediments in Powell and Cairo townships. Intruding the above named rock types are Algoman igneous rocks consisting of syenite and equigranular and porphyritic granite. All of these rocks are intruded by north-trending diabase dikes.

Lying with marked unconformity upon the earlier Precambrian formations is the essentially horizontal Cobalt Conglomerate.

HISTORY:

There is no record that systematic exploratory work has been done on the property. The writer is not aware of any diamond drilling having been done on the claim group.

There are a few rock trenches located in claim 30884 which expose two copper-bearing shear zones.

GEOPHYSICS:

Purpose of the Survey: The self potential survey was conducted in order to measure the natural electro-motive force of any oxidizing sulphide body in an effort to locate base metal occurrences. This

method of geophysical prospecting is generally regarded as being suited for the detection of disseminated sulphide material. A Sharpe V.P. 6 ground voltameter was employed.

Method of Operation: A west to east base control line was established originating at the number three post of claim 30884 and terminating at the number two post of claim 39477. From this, crosslines were established each 100 ft. in a north-south direction.

The continuous-line method was employed and readings were taken each 50 ft. with closer intervals, each 25 ft., over anomalous zones. All readings have been reduced to the absolute readings of the first phase of the base control line by means of a three station overlapp. The corrected numerical values, moisture adjusted, appear on the accompanying map.

A total of 1,151 stations were established in the 10.9 mile survey.

Interpretation: The anomalous threshold is considered to be a relative difference of 50 millivolts. Low grade anomalies possess a relative difference of between 50-100 M.V.; medium grade anomalies have a relative difference of between 100-200 M.V. and high grade anomalies exist where the relative difference exceeds 200 M.V. It is understood that a more positive value will be recorded for the same body at depth than near surface.

DISCUSSION OF ANOMALIES:

One major anomalous condition was recorded, one minor

anomaly is noted and three sub anomalous zones were located within the surveyed area. The most eastward line has high grade anomalous characteristics at the extreme north end.

Major Anomaly: 1,700 ft. north of the baseline between crosslines 14-22, a 700 ft. long anomaly exists having an average width of 150 ft. Within the boundaries between crosslines 17-21, a 400 ft. long, 100 ft. wide, medium grade anomaly was recorded.

This zone is viewed with keen interest due principally to the size and grade. Sub anomalous areas flank each end for about 100 ft. Overburden is believed thin, somewhat in the order of 10 ft.

Minor Anomaly: 250 ft. north of the baseline between crosslines 25-27, a minor condition is noted having the east end open for extension. Light overburden likely characterizes this zone. The anomaly is about 50 ft. wide.

Sub Anomalous Zones: The sub anomalous zone located 500 ft. north of the baseline between crosslines 2-3 has interest as it is believed this area represents the location of a shear zone containing copper in disseminated chalcopyrite. The mineralized shear zone attracted primary interest in the property. This zone, some 70 ft. wide by 100 ft. long, is characterized by thin overburden.

Spurious effects may have caused the apparent sub anomalous zone located on crossline 2 between 200-400 ft. as it is aligned normal to structure and does not appear on adjacent lines.

The sub anomalous zone located 800 ft. north of the baseline between crosslines 5-6 may be caused by a mineralized shear zone. It is 150 ft. long by 50 ft. wide.

High Grade Anomaly: This zone is located at the extreme north end of crossline 27 and could well be the western extremity of an anomaly extending into property held by Rosmar Corp. Crossline 27 represents the eastern limit covered by the survey. The zone is a minimum 200 ft. wide and contains a high grade portion some 60 ft. in width. Depth of overburden is likely shallow.

CONCLUSIONS:

Self potential geophysical prospecting was employed as a means of detecting disseminated sulphides which may carry copper mineralization.

The most prominent geophysical feature noted is a 700 ft. long anomaly, 150 ft. wide, containing a medium grade zone 400 ft. in length and 100 ft. wide. This condition is likely caused by sulphide mineralization which could contain important concentrations of copper. No previous work is known to have been done on this zone. Overburden is believed to be thin.

This anomaly assumes important significance when viewed by comparison with a shear zone believed to exist over the sub anomalous zone on the northern portion of crosslines 2-3 containing sub-grade copper mineralization.

Two anomalous conditions open eastward beyond the survey

limits could be extended into Rosmar property through further application of geophysical prospecting. The more northerly anomaly contains a 60 ft. wide high grade portion.

There appears to be no interrelationship between anomalous conditions.

Further expenditures are definitely warranted to investigate anomalous areas, to extend zones, and to locate other areas of interest on the property.

RECOMMENDATIONS:

- 1. Two test pits, each 12 ft. long, should be placed over the anomaly on crossline 19 north and another with the same dimensions on the anomaly on crossline 27 north over high grade portions for sampling purposes. The estimated cost, exclusive of assay costs, would be, \$4,000.00
 - 2. Attempt to extend known anomalies and locate others by conducting a self potential survey over claim MR. 40562 and 40563. The estimated cost, inclusive of linecutting, would be, \$2,000.00
 - 3. A magnetic-electromagnetic survey be done on ice over the Montreal River on those claims belonging to Rosmar Corp. Estimated cost, \$1,200.00
- Total Estimated Expenditure: \$7,200.00

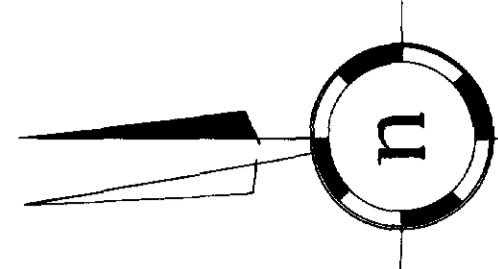
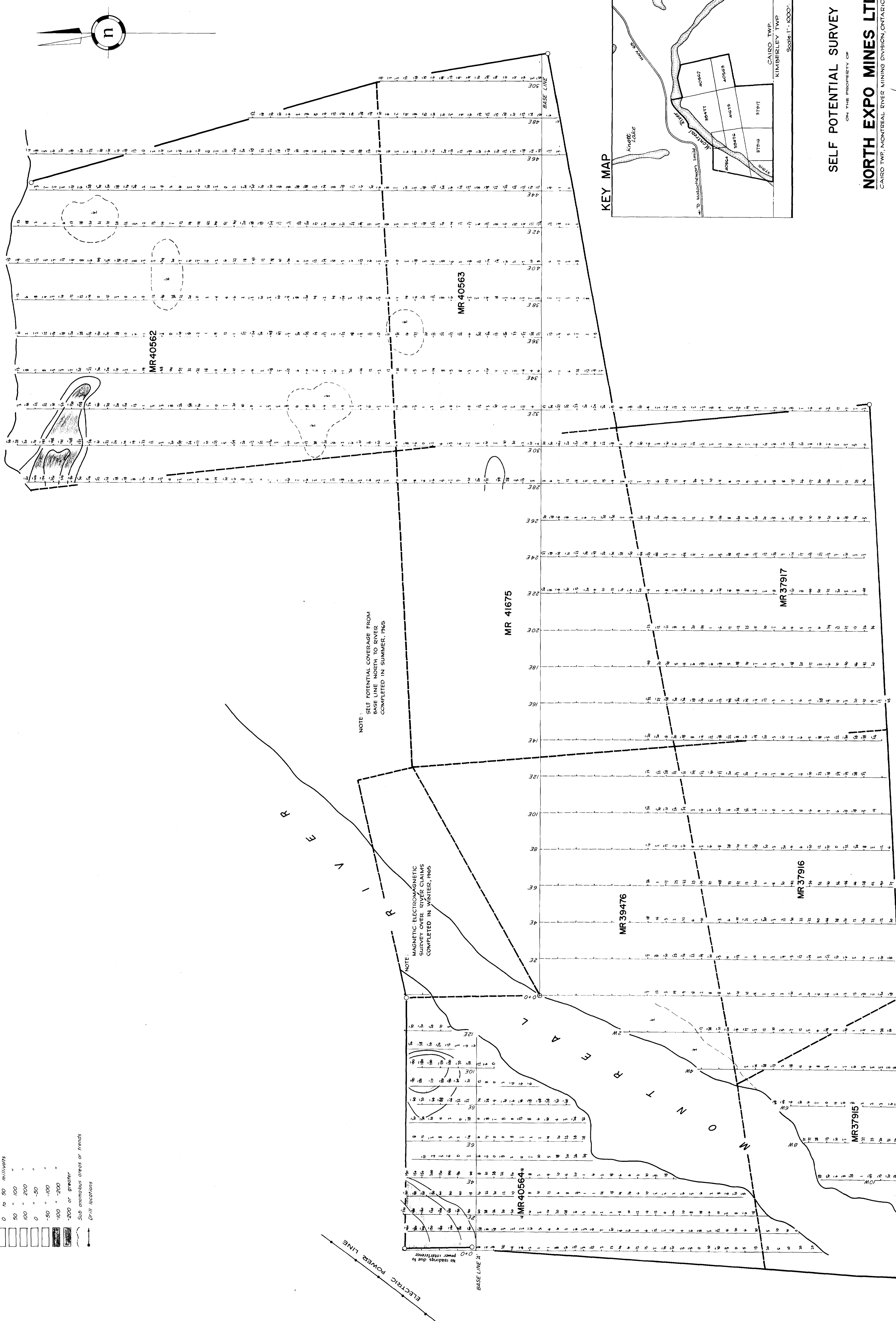
Diamond drilling, if warranted, would follow.

Respectfully submitted,
G.L. Kirwan
G.L. Kirwan, B.Sc.
Consulting Geologist

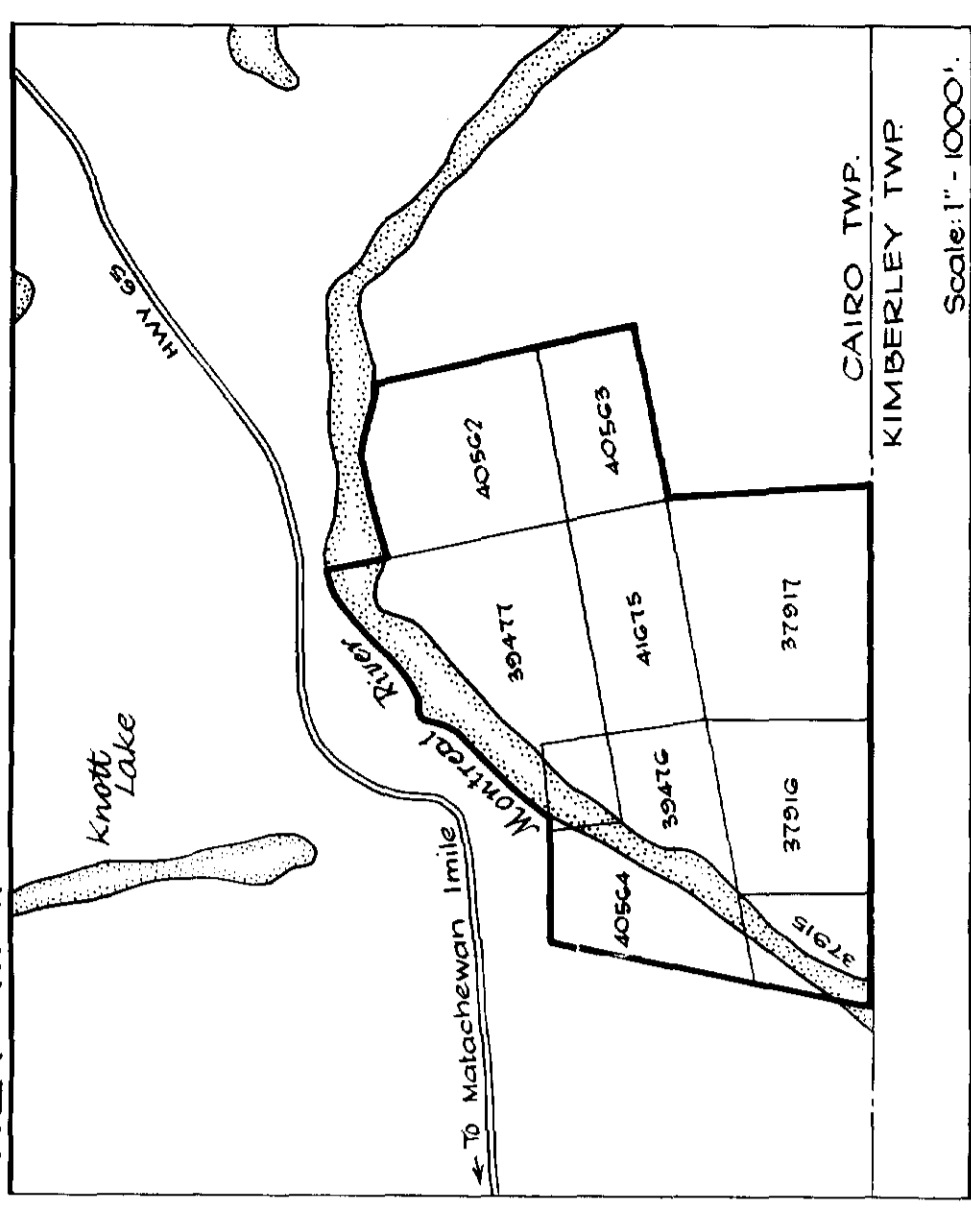
Toronto, Ont.
November 19, 1965

LEGEND

- Reverse Self Potential readings in millivolts
- 0 to 50 millivolts
- 50 " 100 "
- 100 " 200 "
- 0 " -50 "
- 50 " -100 "
- 100 " -200 "
- 200 or greater
- Sub anomalous areas or trends
- Drill locations



KEY MAP



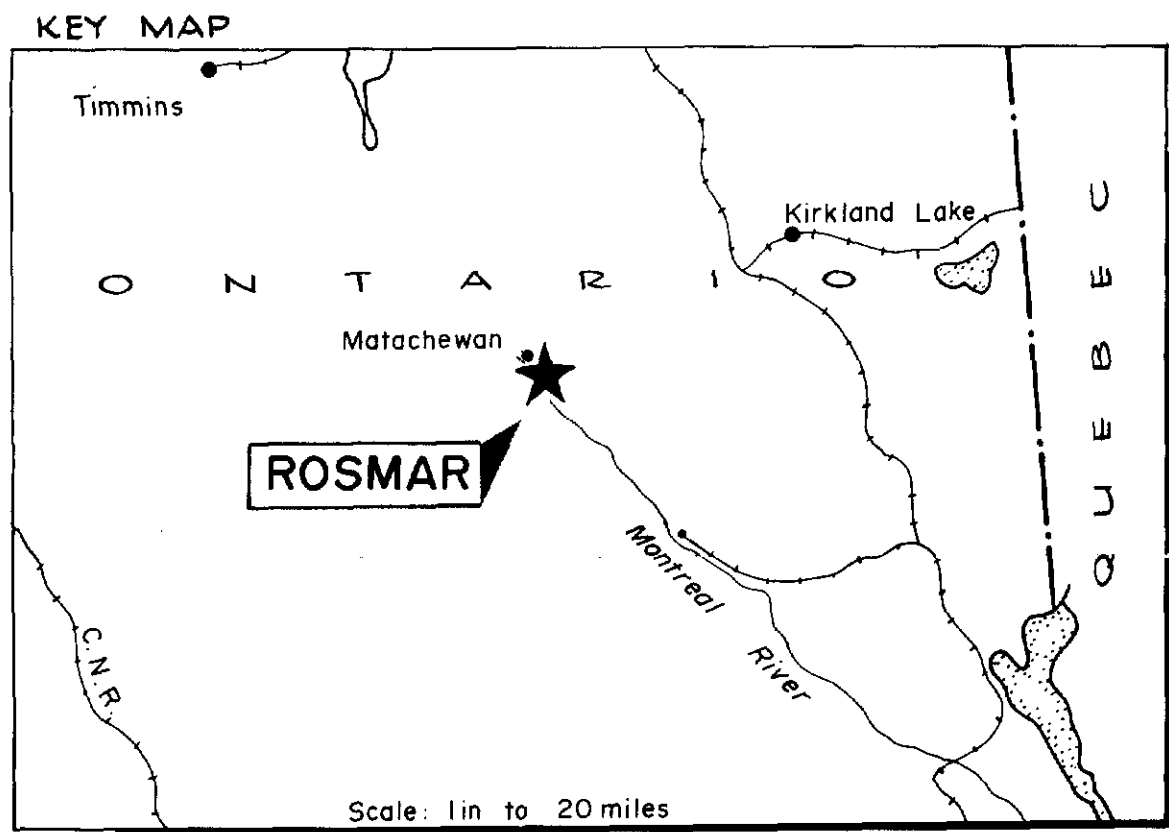
SELF POTENTIAL SURVEY
ON THE PROPERTY OF
NORTH EXPO MINES LTD.
CAIRO TWP., MONTREAL RIVER MINING DIVISION, ONTARIO.
ADVANCE GEOLOGY AND GEOPHYSICS
TORONTO, CANADA



ROSMAR CORP. LTD.

CAIRO TWP., MATACHEWAN AREA, ONT.

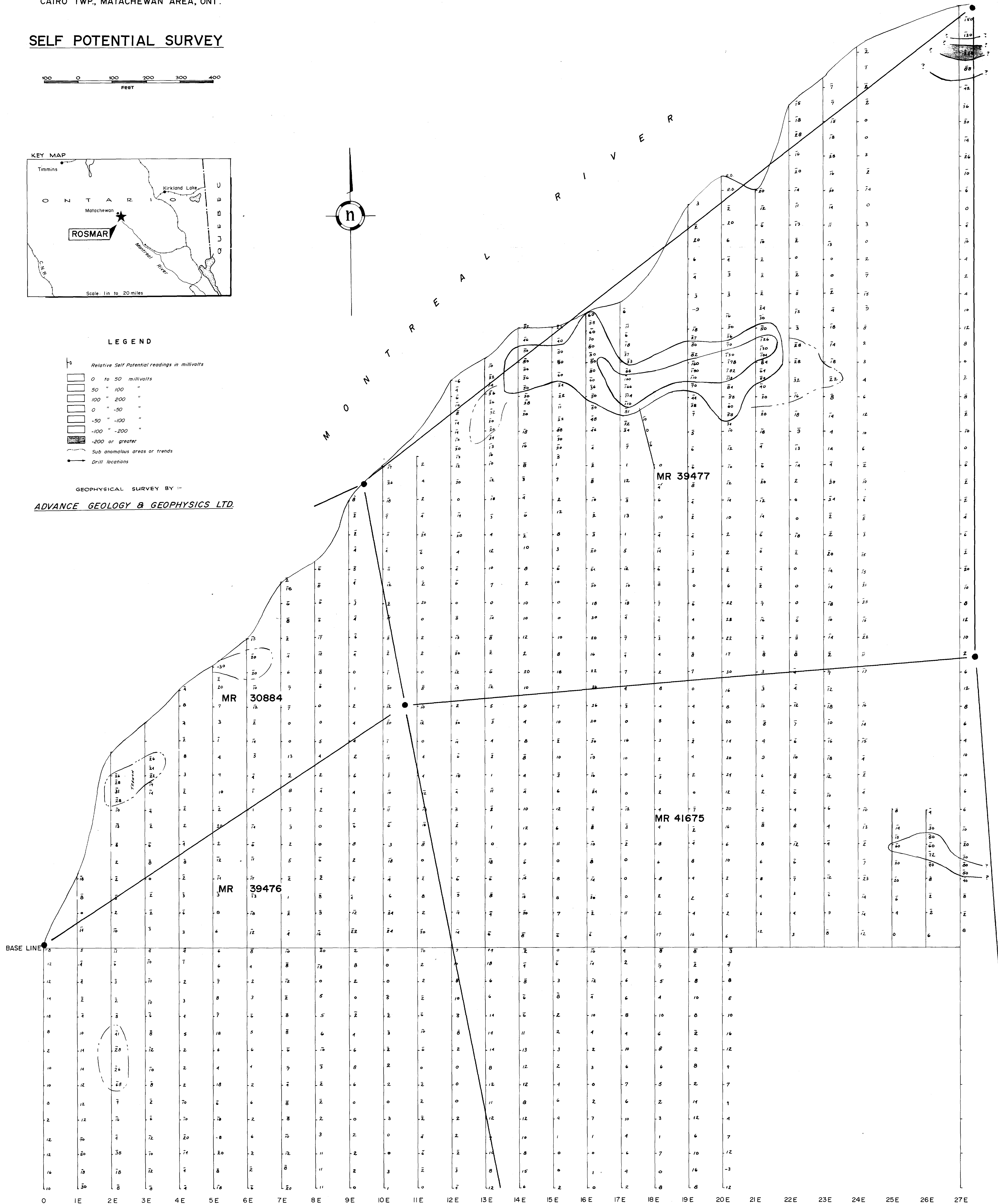
SELF POTENTIAL SURVEY



LEGEND

- Relative Self Potential readings in millivolts
- 0 to 50 millivolts
 - 50 " 100 "
 - 100 " 200 "
 - 0 " -50 "
 - 50 " -100 "
 - 100 " -200 "
 - 200 or greater
 - Sub anomalous areas or trends
 - Drill locations

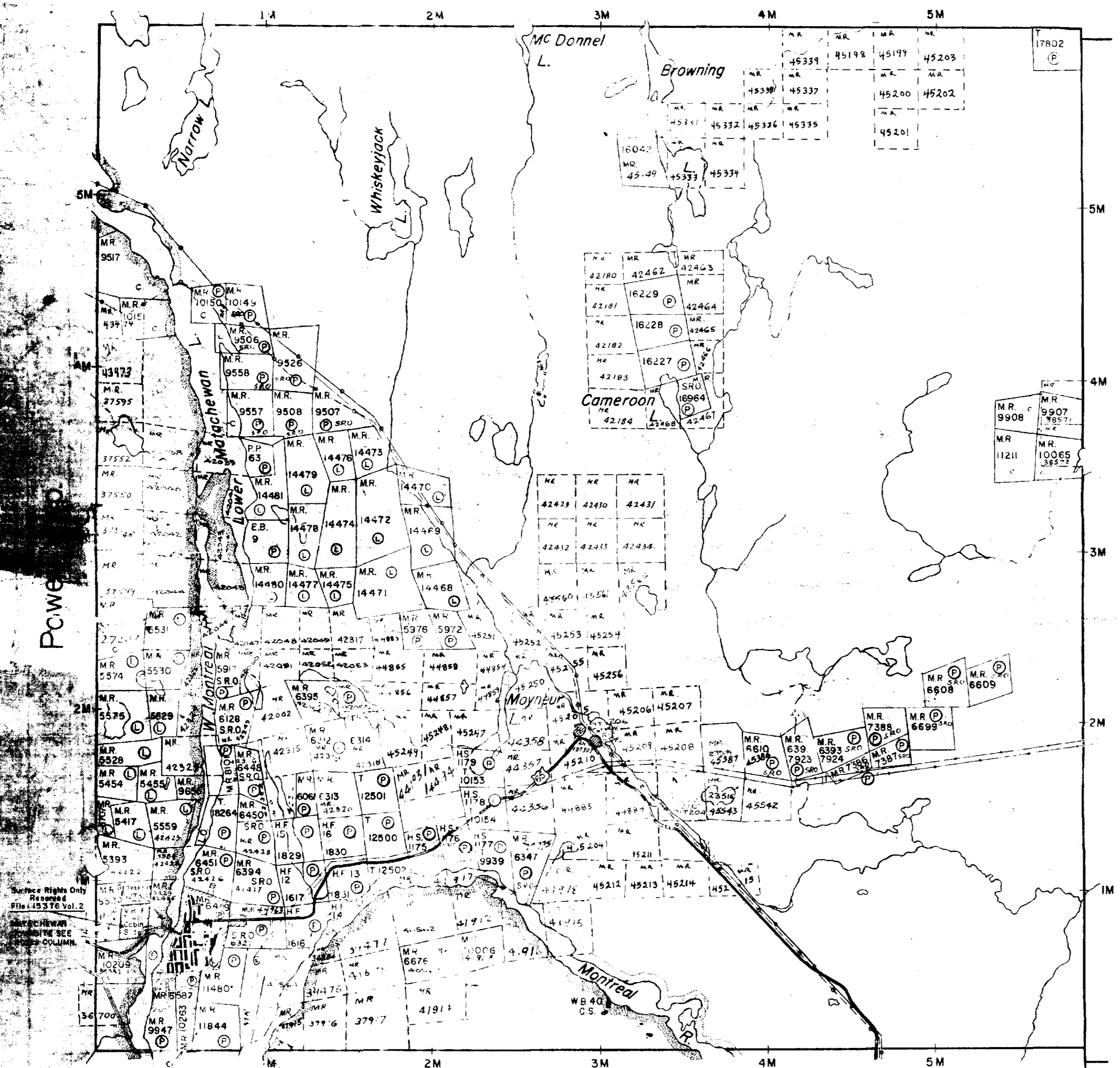
GEOPHYSICAL SURVEY BY :-
ADVANCE GEOLOGY & GEOPHYSICS LTD.



63.1785
A.L.K.
02/11/65

S.M. DIST. 551A

Alma Twp.



Kimberley Twp.

THE TOWNSHIP OF **CAIRO**

DISTRICT OF
TIMISKAMING
MONTREAL RIVER
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	Ⓢ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	—
IMPROVED ROADS	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	Ⓜ
CANCELLED	C.

NOTES

400' Surface rights reservation around all lakes and rivers.

Timagami Provincial Forest boundaries shown thus: —

L.O. 1392. to H.E.P.C. shown thus:
file: 48110. —

L.O. 1415. to H.E.P.C. shown thus:
file: 46332. —

L.O. 6166. to H.E.P.C. shown thus:
file: 104344 —

Montschewan towns with claim from staking shown thus: — file: 37293 Vol. 4

ONT. DEPT. OF MINES
MINING LANDS BR.
THIS MAP FOR CHECKING
PURPOSES ONLY - MUST
NOT BE SOLD
PLAN NO. 70

DATE OF ISSUE
NOV 14 1958
ONTARIO DEPT. OF MINES

DEPARTMENT OF MINES
— ONTARIO —

