REPORT

ON

GEOPHYSICAL SURVEYS

ARGOR EXPLORATIONS LTD.

KESAGAMI LAKE AREA, ONT.

INTRODUCTION

Geophysical surveys, consisting of electromagnetic and magnetic, were carried out over a previously cut grid of lines in the Kesagami Lake Area of Ontario. The object of the survey was to locate on the ground electromagnetic anomalies outlined in an airborne survey. The surveys completed are part of Project Terrane.

The following report and accompanying maps describe the results of the surveys.

PROPERTY AND LOCATION

The area surveyed is part of a Concession held in the Kesagami Lake area, approximately 90 miles north of Cochrane and some 60 miles south of James Bay.

The property is accessible by ski-equipped aircraft from Cochrane or South Porcupine.

GEOLOGY

The area is unsurveyed and published geological information is scarce. The rocks are classed as Archean Age and include acid intrusives and granitized sedimentary and volcanic rocks.

This is a general classification but previous work carried out on this project may be of some assistance in interpreting the geology of the area surveyed.

SURVEY METHODS AND INSTRUMENT DATA

The geophysical surveys were carried out over a previously cut grid with lines in a north-south direction at 400 foot intervals.

The original plan was to use an EM-17 horizontal loop electromagnetic unit with a 400 foot coil interval to obtain maximum penetration. However, due to instrument trouble, only the extension of lines 8W and 16W was completed with this instrument. The balance of the survey was completed with a Ronka Mark 1V unit with a 300 foot coil interval. The EM-17 was also used on line 12W and 8W where a weak conductor was indicated with the Ronka unit. The readings obtained on both units were roughly the same and thus it was felt that the Ronka would give sufficient penetration.

In the horizontal loop type of survey both the in-phase and out-of-phase components of the secondary field are measured, whose special characteristics make possible a fairly accurate evaluation of the conductivity. A conductor caused by sulphide mineralization will produce a curve going from positive readings through zero to negative and back again to positive. Both the in-phase and out-of-phase readings show the same general curve. The ratio between the in-phase and out-of-phase readings over a conductor is an indication of the conductivity of the body. A good conductor would cause a greater deviation of the in-phase component than the out-of-phase component. The opposite is true of a poor conductor.

The magnetic readings were taken with a Sharpe MF-1 fluxgate magnetometer measuring the variations of the vertical component of the earth's magnetic field. Readings were plotted as gammas on the accompanying maps after correction for diurnal variation.

RESULTS OF THE GEOPHYSICAL SURVEYS AND INTERPRETATION

The results of the electromagnetic and magnetic surveys are plotted on separate maps accompanying this report. The conductors are also shown on the magnetic map to aid in the interpretation. The magnetic survey did not cover the entire grid but was largely confined to the area of the conductive zones.

The electromagnetic survey outlined several conductive zones generally trending in an east-west direction. The major conductive area is in the northwest part of the grid where there are a series of more or less parallel conductors ranging in length from 400 feet to 1,600 feet. In addition to these, there is a very strong conductive zone on the extension of lines 8W and 16W to the south. The readings here show ratios as high as 9:1 and from the intensity of the readings the depth of overburden is not too great.

A brief description of the conductive zones follows and the interpretation is based on geophysics only.

A ZONE

This zone corresponds to airborne anomaly "V" and shows as a very strong conductor on lines 8W and 16W. On line 8W the conductor has an approximate width of 90 feet but is narrower on line 16W. The dip appears to be nearly vertical. The intermediate line 12W did not pick up the zone which is quite surprising but it is possible the line has not been extended far enough.

The conductor has a coincident magnetic anomaly and strangely enough, the highest magnetic readings are on line 12W. Another magnetic anomaly shows on the same line to the south but the survey would need to be extended to interpret the magnetics. However, the coincident magnetics with the conductor strongly suggests the presence of sulphides containing pyrrhotite.

B ZONE

This is another strong conductive zone that has a length of approximately 1,600 feet and would correspond to airborne anomaly "D". The ratios are quite good, especially on lines 24W, 28W, and 32W, and the dip is to the south. The conductor shows a width of 25 to 40 feet in the central portion and becomes narrower at both extremities. There are some slight responses to the west that might indicate an extension in this direction but the magnetics do not corroborate this.

The conductor lies on the north flank of a rather irregular magnetic anomaly which complicates the picture somewhat. However, it does appear that the magnetic readings are higher over the conductor which suggests that the conductor may represent sulphide mineralization.

C ZONE

This is a weaker conductor east of "B" zone that could possibly be the faulted extension of "B" zone. The magnetics suggest this possibility although again the magnetics are complicated by a north striking magnetic zone along line 8W. The weak conductivity here may be due to greater overburden although this conductor was checked with the EM-17 with a 400 foot coil interval and the readings were almost identical. If the overburden was deep, the readings should have been higher with the 400 foot interval. It is more likely that it is a weak zone.

D ZONE

This zone is to the north and east of "C" zone and shows a higher conductivity. It may extend further east but the survey did not cover this area. This was apparently not detected in the airborne survey so it may be a rather short zone. Both "C" and "D" zones show a relatively narrow width.

There is no magnetic anomaly associated with this conductive zone but it probably has the same cause as "B" and "C" zones as they appear to be en echelon zones.

E ZONE

This is a short zone in the northwest corner of the grid and is somewhat similar to "D" zone in that it has no magnetics associated with it.

OTHER ZONES

There are a number of one line conductive responses but it is difficult to determine their significance without more detailed surveys. The most important appears to be the one on the south extension of line 36E. This appears to have a coincident magnetic high and the conductivity is quite strong.

The magnetic map is somewhat complex and a little difficult to interpret as the coverage is somewhat limited. The conductive zones in the northwest corner of the grid are all in the vicinity of an irregular magnetic anomaly that extends off the grid to the north. This is again complicated by what appears to be two north trending magnetic anomalies on lines 8W and 44W. These may represent north striking basic dykes.

The south extension of lines 8W and 16W also show areas of above normal magnetic readings and this may be part of the magnetic complex to the north but more work is necessary to interpret this.

In contrast to the magnetic readings in this western area, the readings to the east are uniformly low, only broken by small magnetic lows. This suggests a different rock type unless the bedrock is very deep but this seems unlikely. It is also significant that there are no conductive responses in this area.

It is possible that geological information and airborne magnetic data available may help in making a more accurate interpretation of the ground magnetic survey.

CONCLUSIONS AND RECOMMENDATIONS

The ground geophysical surveys outlined several conductive zones, of which at least two have a good chance of representing sulphides on the preliminary interpretation from the geophysical data. A more accurate interpretation can probably be made by correlating the ground geophysics with any available geological data and the airborne data.

Diamond drilling is recommended for "A" and "B" zones and further investigation should be made on the response on the south extension of line 36E. It seems likely that all the conductors may be similar in the northwest corner and thus their importance will depend largely on the results of the investigation of Zone "B".

If initial results are encouraging, detail surveys are recommended in the vicinity of the one line conductors.

Respectfully submitted,

PROSPECTING GEOPHYSICS LTD.

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Montreal, Que.
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