

## PRELIMINARY INTERPRETATION

## INDUCED POLARIZATION SURVEY

MT. ARMOUR PROJECT

BARRIERE AREA, B.C.

on behalf of

CORPORATION FALCONBRIDGE COPPER  
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Field work completed: November 2 - 10, 1985

by

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## FIGURES ACCOMPANYING THIS REPORT

Chargeability and apparent resistivity pseudosections (27 figures)

Chargeability contour plan (n=1)

Apparent Resistivity contour plan (n=1)

## 1. INTRODUCTION

Induced polarization and apparent resistivity surveys were conducted over portions of the Mount Armour property, Barriere area, B.C. on behalf of Corporation Falconbridge Copper, in the period November 2 to 10, 1985. The field work was performed by Alan Scott, Geophysicist.

The pole dipole electrode array at an "a" spacing of 25 meters, and "n" separations of 1, 2, 3, and 4 were used on the survey. The online current electrode was to the west of the receiving electrodes on all survey lines.


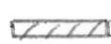

Details of the lines surveyed and field procedures were given in the previously submitted logistical report. This report gives a preliminary interpretation of the results of the survey and recommends anomalies that may be amenable to testing by trenching.

## 2. DISCUSSION OF RESULTS

The results of the survey are presented in standard pseudosection format as the 27 blackline prints accompanying this report. The first separation (n=1) values are also plotted in contour plan form.


The 8th slice of the chargeability (690 - 1050 milliseconds after current shutoff) is the value that has been plotted. The contour interval is 5.0 millivolts/volt, and the 20.0 mv/v contour has been highlighted. The apparent resistivity has been contoured at logarithmic intervals of 1, 1.5, 2, 3, 5, 7.5, 10 etc. Units are ohm meters on the contour plan and ohm meters/100 on the pseudosections.

The chargeability response has been categorized on the plans and pseudosections as follows:

-  strong chargeability high (>30 mv/v, well defined)
-  moderate chargeability high (20 - 30 mv/v)
-  weak chargeability high (15 - 20 mv/v)
- poorly defined chargeability high at n=3 or n=4

The n separation at which the response is first defined is stated below the anomaly bar. (If not stated, it is defined at the first separation.)

The apparent resistivity response has been categorized as follows:

-  local resistivity low coincident with high chargeability
- | - - - | resistivity high (>500 ohm meters at n=1)

The chargeability highs are discussed in this report in relation to the anomaly bars. However, this does not imply a width to the source as the method measures the average response of a large volume of material, and is limited in its resolution to the dipole spacing.

A major resistivity low, defined by the less than 100 ohm meter contour line on the contour plan, trends grid north northeasterly across the survey area from line 800S (400W to 500W) to line 150N (150W to 290W). This feature may represent a major fluid filled shear zone. Less continuous zones, with similar low resistivity and similar strike, occur on both sides of this feature, but primarily on the downslope side.

Several isolated areas of high apparent resistivity, defined as greater than 500 ohm meters at the first separation, are noted on the contour plan, and by the "H" symbol on the pseudosections. These higher resistivity features may represent bedrock of lower porosity and water content, such as rocks that have been invaded by silica.

The background chargeability in the survey area is quite high, with values seldom less than 10 mv/v. In those cases where the values are less than 10 mv/v, there are invariably higher values at the further separations, suggesting a non polarizable overburden as opposed to barren bedrock.

As the immediate objective is to define targets that may be amenable to investigation by trenching, only those chargeability highs that are defined at the first separation are discussed in this preliminary report.

Four separate categories of response, with varying associated resistivity and inferred geological settings, are given below:

I Near surface coincident chargeability high and local resistivity low. (massive sulphides?) As these targets may behave as discrete EM conductors, it is recommended that they be checked with VLF to better define the axis prior to trenching.

- 1 L300S; 150W - 200W: probable axis @ 170W  
L275S; 125W - 200W: probable axis @ 165W  
L250S; 125W - 200W: probable axis @ 170W
- 2 L500S; 150W - 200W: probable axis @ 165W  
L450S; 100W - 150W: probable axis @ 120W  
(NOTE: this anomaly appears to extend at depth to lines 400S and 350S, and possibly connects with 1 above.)
- 3 L-150S; 0 - 125W: probable axis @ 75W  
(NOTE: this anomaly appears to strike grid SW to NE and extend to lines 100S and 200S.)
- 4 L150S; 200W - 275W: probable axis @ 230W

II Near surface coincident chargeability high and local resistivity high (quartz flooding with disseminated pyrite?)

- 1 L300S; 250W - 325W: probable axis @ 285W  
L275S; 225W - ?  
L250S; 250W - 325W: probable axis @ 275W

III Near surface chargeability highs within major resistivity low (shear zone?)

- 1 L150S; 300W - 400W: probable axis @ 345W  
L100S; 300W - 375W: probable axis @ 330W
- 2 L250N; 550W - 600W+  
L400N; 500W - 575W: probable axis @ 550W
- 3 L450S; 325W - 400W: probable axis @ 350W

IV Near surface chargeability high at the contact of major resistivity low to higher resistivity.

- 1 L50S; 225W - 275W: probable axis @ 230W

### 3. RECOMMENDATIONS

The above described targets are recommended for trenching, subject to topographic conditions, as an initial follow up to this induced polarization survey.

Respectfully submitted,



Alan Scott,  
Geophysicist