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# LOGISTICAL REPORT

## INDUCED POLARIZATION SURVEY

## MT. ARMOUR PROJECT

## BARRIERE AREA, B.C.

on behalf of

CORPORATION FALCONBRIDGE COPPER
6415 - 64th Street
Delta, B.C. V4K 4E2

contact: Mr. Alex Davidson
(604) 946 5451

Field work completed: November 2 - 10, 1985

by

Alan Scott, Geophysicist
4013 West 14th Avenue
Vancouver, B.C.

November 11, 1985

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## 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.

## 2. SURVEY LOCATION

The Mount Armour property is located about 2 kilometers south east of Barriere, B.C. Access is via a network of old logging roads from the Agate Bay road.

## 3. SURVEY GRID AND SURVEY COVERAGE

27 lines (15.25 km) were surveyed on the Mount Armour property, for a total of 583 stations at multiple n separations. Details of survey coverage are given in the previously submitted production report.

## 4. PERSONNEL

Alan Scott operated the IPR-11 receiver and produced the accompanying data summaries and pseudosections using the Soft II program.

Steve Ocsko operated the transmitter.

Lawrence Michalchuk, Ken Moir, and Mike Paras were field assistants on the survey.

Ian Pirie was the project geologist on site on behalf of Corporation Falconbridge Copper.

## 5. INSTRUMENTATION

A Scintrex IPR-11 time domain microprocessor based induced polarization receiver was used on the survey. This instrument operates on an alternating square wave transmitted current pulse train, and samples the decay curve at ten semilogarithmically spaced times after cessation of each pulse. A 2 second on/2 second off pulse was used on the survey. The data is continually averaged until the operator is satisfied convergence has occurred, and is filed into solid state memory. The eighth slice (from 690 to 1050 milliseconds after shutoff: midpoint at 870 milliseconds) is the value that has been plotted on the plans and pseudosections.

A Scintrex IPC-7 2.5 kw time domain transmitter was used for the survey. Transmitted current was read from a digital ammeter.

The survey data was archived, processed, and plotted using a Corona PPC 400 microcomputer running the Scintrex Soft II software. All decay curves were submitted to spectral analysis by a curve matching procedure. Johnson (1984) summarizes the spectral parameters as follows:

Mo: The chargeability (Mo) is the relative residual voltage that would be seen immediately after shut-off of an infinitely long transmitted pulse (Seigel, 1959). It is related to the traditional chargeability as measured some time after the shut-off of a series of pulses of finite duration.

t: The time constant (t or tau) and exponent (c) are those measureable physical properties which describe the shape of the decay curve in time domain or phase spectrum in the frequency domain. For conventional IP targets the time constant has been shown to have a range from approximately .01 to 100.0 seconds and is thought of as a measure of the grain size. Fine disseminated material loses charge quickly and coarse grained material holds charge longer.

c: The exponent (c) has been shown to have a range of interest from .1 to .5 or greater and is diagnostic of the uniformity of grain size.

## 6. RECOMMENDATIONS

A preliminary examination of the results from the IPR11 survey on the Mount Armour property indicates that several moderate to strong chargeability anomalies were detected that merit diamond drilling and/or trenching work. A detailed interpretation of these survey results, and correlation to the geological and geochemical data bases, is recommended to select specific targets.

Respectfully Submitted,

Alan Scott,
Geophysicist