

046

13. MAGNETIC INDUCED POLARIZATION SURVEY.

A. PRELIMINARY.

During the drilling program to delineate wigglyite on Sheet 1, hole SMD 9 at 150E/100S intersected 27 m of pyrrhotite-fluorite-magnetite-actinolite skarn below limestone at a depth of 91 m. It was therefore thought that Renison or Cleveland style mineralization could occur in the area. The skarn contained only relatively low Sn values (generally about 100 - 900 ppm and up to 1700 ppm), but values at Cleveland are known to be very patchy so this was not particularly daunting.

To aid the detection of massive pyrrhotite an M.I.P. survey was commissioned by Scintrex Pty. Ltd. The survey was carried out in 1977 in areas peripheral to the main wigglyite mass, since it was thought that (a) the main wigglyite mass had been sufficiently investigated by drilling and (b) that pyrrhotite skarns if they existed could occur peripheral to the magnetite skarns; theoretically sulphide rocks could occur in a lower temperature zone surrounding a core of high temperature skarns.

Notes on the M.I.P. method, its theory and application are in Appendix 20.

B. SCINTREX REPORT.

A full report by A. Howland Rose on the survey details and results is Appendix 20. Plans to accompany report are a chargeability contour plan, horizontal magnetic field contour plan and interpretation plan, drawings TAS-78-134, 135, 136.

Spectacular chargeability and horizontal magnetic field ( $H_N$ ) anomalies, generally trending E-W, were obtained. In simple terms the coincident low chargeability and high  $H_N$  anomalies ('D type' anomalies) are caused by material less chargeable than the surrounding rocks and more conductive, such as massive pyrrhotite.

It was disturbing that no distinct anomaly was obtained over SMD 9.

C. COMALCO FOLLOW UP INVESTIGATIONS.

(a) Chargeable zones:

The main area of chargeability anomalies is in the same area as the "Post Office anomaly" previously covered by Comalco with electrical induced polarization (E.I.P.) and tested by drilling SMD 14. (See