

The primary currents for the three downhole electrodes show that the massive sulphides are relatively much more conductive than the barren volcanics and the black shales. Throughout the survey the currents flowing into the ground through the three electrodes were 1.65amps for C3, 0.23-0.25amps for C2 and 0.43-0.55amps for C1.

Figures 3 and 4 respectively show contours of the primary (Vp) and secondary (Vs) potential fields for downhole electrode C3 and stationary potential electrode P1. Both show a slight N-S elongation, roughly along the regional geological strike. However, the contour patterns for both C2 and C1 primary fields also show this slight N-S elongation. It is concluded, therefore, that the elongation is due to the anisotropy of the rock units, i.e. to the N-S foliation.

There is no strong evidence for a substantial conductive body in electrical continuity with the RH5 massive sulphide intersection.

3. Sirotem E.M.

An 8.0line-km Sirotem ground E.M. survey was carried out by Georex Pty. Ltd. over lines 4S to 40S. The system was used in the Turam mode (large fixed transmitter loop with a roving vector receiver) and four 400mx 200m loop setups were employed (Figure 5). Station interval was 20m. On lines 4S to 29S both the vertical and the horizontal E-W (across strike) components of the transient field were recorded. On lines 30S to 40S only the vertical component was recorded. Survey dates were 29th January to 13th February, for the original readings, and from 26th March to 9th April for repeat readings on lines 22S to 29S.

Several times during the course of this survey, and subsequent surveys on the Mine Lease and the Dora-Spicer Grids, the Sirotem system gave spurious results, in most cases due to breakages in the cable between the vector receiver coil and the transmitter-recorder box. Because of doubtful readings, lines 22S to 29S were repeated. Another major drawback of using the Sirotem system in the Turam mode was the significant "loop effect" which gave inconsistent above-background readings up to 80m away from the transmitter loop.

Prior to commencement of the grid line surveys, downhole logging of DDH RH5 was attempted (Figure 6). Readings were made at 4m or 2m intervals down to 195m where 1m was used to 200m, below which point the hole was blocked. Results show that the massive sulphide lens between 196m and 199m is not significantly conductive, probably due to the high proportion of sphalerite.

Line profiles of the vertical component of the transient E.M. field (Figures 7a to 7t) and the horizontal E-W component (Figures 8a to 8n) show no significant anomalies.

4. Genie, SE-88

Lines 4s (4SmW-595mE) and 29S (250mE-770mE) were surveyed with Scintrex's new ground E.M. system, SE-88, "Genie" (Table e, Figure 5). The system was used in the 'Slingram' mode, with horizontal coils 50m apart for line 4S, and 50m and 100m apart for line 29S. Station interval was 20m.