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Murchison Highway because of a power line down the centre of the Valley.)

INTERPRETATION

Figure 1 shows the 1777Hz responses over all of the lines surveyed. A conductor has been defined with a strike length of 275m: it is open and strong to the north, below the waters of Lake Rosebery and is open but weakening to the south, in the Sterling Valley. Such responses might be expected over a significant sulphide deposit, but they are also typical of graphitic shales (ie, the conductances and depths to source along strike of a black shale horizon may vary considerably). Nevertheless, in this environment, the most conductive sections of black shale horizons should be investigated since the shales themselves may be host to the mineralisation.

The low background levels recorded by the Maxmin indicate that the host rock is resistive and that there is little (conductive) overburden. Thus the standard interpretation procedures using tabular conductors in free-space should be applicable. Using the 1777Hz results on line 5375150mN for a 100m coil spacing, a conductive zone of approximately 10m width, centred beneath 385010mE, was interpreted with a depth (to the top of the conductor) of less than 10m. The dip was calculated to be 80° to the west and the conductance (conductivity x width) as 5.6 mhos. Similar values were obtained for line 5375100mN (position, 385000mE; width, ~10m; depth, less than 10m; dip, 65°W; conductance, 3.8).

Since surficial conductors may give similar shaped responses to bedrock conductors, further surveys are made over the most interesting anomalies using a variety of frequencies and coil spacings. The results for lines 5375150mN and 5375100mN using a 50m spacing and four different frequencies are shown in Figures 2 and 3 respectively. Figure 4 shows the results for line 5375150mN using 1777Hz with 25m, 50m and 100m coil spacings. Interpretation of the 1777Hz/50m coil spacing data for line 5375150mN gave shallower depth and dip (6m and ~50°W) but a comparable conductance (4.2mhos). The decreasing ratio of in-phase to out-of-phase with decreasing frequency in Figures 2 and 3 suggests that the conductor may have limited depth extent. Therefore a relatively shallow intersection is recommended.

Drill Target: 50m below 5375150mN/385000mE, drilled from the west.

Should this target prove to be prospective, the area beneath the lake could be investigated with EM methods using small boats.

J.R. Bishop
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