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Introduction

Electromagnetic techniques have played an important role in the discoveries of the Que River and Hellyer deposits (Webster and Skey, 1979; Silic et al, 1985; Eadie et al, 1985). Since the Hellyer discovery, downhole Em techniques (DHEM, Silic and Eadie, 1989, Appendix I) have been an important part of the exploration strategy in the volcanic sequence hosting the above deposits because of the failure of blanket Em surveys to locate further targets worthy of follow up and because no other method can accurately target drill holes at depths beyond the surface Em detection limits.

The purpose of this report is to discuss and present the results from DHEM surveys in DDH MAC26 and MAC27, on the Mackintosh EIL 106/87.

Survey Specifications

All loops were designed so that their primary magnetic field would couple with targets at specified target horizons. Possible variations in dips of the targets from the predicted dips (based on the geological knowledge) was also taken into account, as was the detection limitations of the DHEM surveys, the parameters of which are known from in-house research studies (Silic and Eadie 1989).

Two 300m x 300m Loops with Loop 1 centered on the MAC26 drill hole collar, with Loop 2 sharing Loop 1's westernmost edge, were used to collect the data in MAC26, while two 300m x 300m Loops sharing a common edge 100 metres to the east of the MAC27 collar with Loop 2 being the westernmost Loop were used to collect data in MAC27.

Discussion of Results

Only responses from host volcanics are evident in the MAC26 data (Appendix II). The data quality however is good enough for a target of approximately 2 mt to have detected if it was within 150 metres from the holes. The MAC27 data set of similar quality, only shows the effect of the overlaying Que River Shales.

Conclusion

Not BMS target worthy of follow up have been detected by the DHEM surveys in MAC26 and MAC27.