

that magnetic methods were of no value in the Que River environment due to the lack of magnetic minerals in the ore and related rock units. The area was thoroughly tested with electromagnetic and induced polarisation methods which showed that while electromagnetic methods relocated the airborne EM conductor, induced polarisation techniques gave a far more detailed representation of the mineralisation.

The magnetic data over the Tullah and Mt Farrell mineralisation (Figure 18), locates two deposits, one on either side of a northerly striking linear. The northern extent of the linear feature correlates with the Farrell Slates but to the south the magnetic anomaly becomes part of the Mt. Murchison Granite response. The description of the mineralisation at Tullah and Mt. Farrell does not include any rock types which could explain the anomaly. This magnetic feature may warrant following up due to the ease of accessibility from the highway. If possible the source of the magnetic anomaly should be established and related to the Farrell Slate.

The Rosebery ore body is located in an area where the magnetic data is far from ideal (Figure 18). The main anomaly is a northerly striking, magnetically high response coincident with the Rosebery Fault (new name). North of the mine is the largest amplitude magnetic anomaly in the Mt. Read Volcanics, Central and Western Sequences, and this could be interpreted as a basic body with an easterly dip intruded into the Rosebery Fault. Ground identification of these anomalies is warranted. Two kilometres south of this anomaly and on the same trend is the Rosebery silver lead mine. The interpretation of the magnetic data in this area locates the ore body at the intersection of the Rosebery Fault and the Renison (gravity & magnetic) Lineament, striking north-east. Parallel to the major lineament are a series of secondary faults striking north-east, which appear to displace the northerly trends. The interpretation of the Rosebery area regional magnetics indicates complex structures and detail magnetic surveys will assist in mapping the area.

The Williamsford and Hercules deposits are located in non-magnetic formations (Figure 18) where magnetic methods cannot be used to refine the geological mapping.

Savage River Magnetite Deposits

Airborne and ground magnetic methods were successfully used to outline the Savage River magnetite deposits, Eadie (1970). These ore bodies gave an intense airborne magnetic anomaly of approximately 15000nT over the magnetite at Savage River plus a 5000nT anomaly at Long Plains. Ground magnetic surveys identified the source of the airborne anomalies as either magnetite localised at the contact of an amphibolite mass and metasediments, or magnetite concentrations in the amphibolite. For a detailed discussion of the geology refer to Urquhart (1966).