

amplitude magnetic anomalies identified as various volcanic and intrusive units.

Zone 33 Mt. Geikie to Mt. Read; has a variable magnetic response with no large amplitude anomalies. The source of the responses has generally been described as various volcanic units plus a number of shale lenses north of the Hercules Mine.

Zone 38 Rosebery, Tullah and Bastyan Dam Area; includes a number of small anomalies, the sources of which have not been identified.

Zone 41 Que River Mine; is a small, isolated magnetic high identified as the contact between the Owen Conglomerate and the Mt. Read Volcanics. This explanation is highly unlikely as the contact has not been evident elsewhere. It is probable that the source of the anomaly is an outlier of tertiary basalt.

The Western Sequence of interbedded volcanic and sedimentary rocks is sporadically magnetic. The typical response is a linear magnetic anomaly with a strike length of several kilometres. This region abuts a non-magnetic formation and the termination of the linear anomalies can be used to trace the contact between the western Mt. Read Volcanics and the Dundas Trough.

East of the Great Lyell Fault, (Plate 5), is a non-magnetic zone which correlates with the Owen Conglomerate or the Tyndall Anticline, (new name-Plate 5). The magnetic data shows that east of the anticline axis there is a steep magnetic gradient associated with the Eastern Sequence. West of the anticline axis the magnetic data is free from any disturbance and is characteristic of a graben structure filled with non-magnetic sediments. Qualitative estimates of this interpreted graben indicate the depth of sediments to be considerable.

Corbett (1979) proposed a volcanic model in the South Queenstown area based upon a series of roughly circular caldera similar to the San Juan area in North America. Although this model has some geological basis there are no supporting magnetic structures such as ring dykes, which could be interpreted as being associated with a caldera model. This model may fit the Eastern Sequence and explain the consistent magnetic signature which has been interpreted as an intrusive system in a rift zone 2.5 kilometres wide.

Four magnetically anomalous zones were identified over this area by Corbett et al (1982).

Zone 23 Lower Queen River; has been identified as mafic-intermediate volcanic rock possibly including basalt.

Zone 25 Lynchford; is an isolated magnetic high correlating with Comstock Tuff. This anomaly warrants investigation as it is representative of a number of anomalies at the margins of the Macquarie Graben.