

Murchison the source of the anomalies is attributed to magnetite-bearing rhyolites. The arcuate magnetic anomaly south-east of Mt. Farrell is interpreted as granitic in origin. These two anomalies are similar in character and the source of the Mt. Murchison response could be identical to the Mt. Farrell anomaly.

In the author's opinion there is a common source for the magnetic anomalies associated with the Eastern Sequence of the Mt. Read Volcanics. The explanation given by Corbett et al (1982) for many of the anomalies is volcanoclastic conglomerate, but it is unusual for magnetic conglomerates to have clean magnetic anomalies. A large amount of noise would normally be associated with the remnant magnetic components retained in the rocks which are randomly orientated throughout the conglomerate. The second source of magnetic anomalies has been identified as a Darwin type rhyolite, with detail mapping by Ruddoch (1974) supporting this interpretation. The third source is magnetite-hematite veins. The final source is the presence of an intrusive body, such as the porphyry body at Lake Dora or a magnetic granite as is the case at Mt. Murchison.

The magnetic data over this belt stretching from Mt. Farrell in the north to South Darwin Peak in the south is extremely consistent. It is broken up into discrete zones however, the breaks correlate with major faults identifiable in the magnetics striking north-west (eg. the Adamsfield Gravity Lineament). The width of the magnetically anomalous zone is consistent at 2.5 kilometres and the anomalies all have a similar amplitude. If the sources of these anomalies are similar then the model proposed is based upon a younger intrusive system, either a granite (eg. Murchison or Darwin Granites) or a porphyry system (eg. Lake Dora) intruding this belt. These intrusive bodies are the source of the quartz-magnetite-hematite veins.

The Central Sequence of the Mt. Read Volcanics is not as magnetic as the Eastern Sequence although there are small amplitude and short wavelength anomalies present. These responses may be of importance as they coincide with part of the currently recognised mineralisation. One of the larger amplitude magnetic anomalies in the Central Sequence correlates with a basic to intermediate intrusive at Great Lyell Mines, Corbett (1979). A similar source is located at 382000E and 346000N, 7.5 kilometres north of the Lyell anomaly, (Plate 5).

Five anomalous Zones were identified by Corbett et al (1982).

Zone 24 Mt. Huxley to Whip Spur; has a number of small amplitude anomalies generally described as felsic-intermediate volcanic rocks. Further to the south near Mt. Jukes are similar magnetic anomalies in the Central Sequence correlating with quartz-feldspar porphyry dykes.

Zone 26 Queenstown to Lake Margaret; incorporates a zone of small