

of the Tyndall-Darwin area. Consequently, expensive geophysical and geochemical techniques must be used to delineate these favourable horizons or contacts."

The Mt. Read Volcanics have been identified as a belt with a distinctive magnetic character which could be equated to the copper mineralisation. The geology of the area has been described by Corbett (1976, 1979, 1981 & 1982). The review of the regional magnetic data identified the subdivision of the southern Mt. Read Volcanics into Eastern, Central and Western Sequences, with some of the prospects in the belt located on the contact between the Eastern and Central Sequences. The magnetic results show this contact to have a most pronounced expression and indicate the interpreted source of the magnetic anomalies to be either the Tyndall Formation volcanoclastics or an almost continuous granitic or basic intrusive zone which includes the Murchison and South Darwin Peak Granites.

The main mineralisation in the Mt Read Volcanics is the Great Lyell Mines at Queenstown. This area has been mapped in detail by Corbett (1979) and an alternative review has been presented by Reid and Meares (1981). There is a magnetic anomaly coincident with the mineralisation (Regional Magnetic Section), with the source related to the basic to intermediate body which is intruded into the acid to intermediate agglomerate hosting the ore body. The magnetic anomaly is an isolated high, (Figure 15 & Plate 5), with an amplitude of 200nT, and directly over the mine. The response is due to magnetite with little or no pyrrhotite. There is no corresponding magnetic anomaly over the basic body one kilometre north-west of the mine. At 382000E and 346500N, (Plate 5) 7.5 kilometres north of Mt Lyell mine, there is an isolated magnetic high coincident with an area mapped as Comstock Tuff which may warrant checking as it is similar to the Great Lyell anomaly.

It is possible to detect the Great Lyell deposits by I.P. and electromagnetic methods and with no cultural interference, airborne electromagnetics should work.

The Central Sequence mineralisation also includes a number of small and currently uneconomic prospects as outlined by Corbett (1976, 1979, 1981 & 1982), Ruddock (1974) and Reid & Meares (1981).

- (a) Red Hills
- (b) Lake Selina
- (c) Henty Fault Zone
- (d) Beatrice
- (e) Lake Dora
- (f) Proprietary Peak and Adit Knob
- (g) Hyde's Prospect
- (h) Allan's Creek and Findon's Area
- (i) South Darwin Peak

The titles of the last four prospects are based upon local names