

4.4.2 Ground Magnetics

A total of 13.1 line km of 10m spaced data was collected on the Southwell valley grid using an EDA Omni 4 magnetometer, levelling was completed using tie-lines. Stacked profiles and contoured data are shown on plates MAC296b and 298 respectively. No anomalies were detected and the major feature appears to be a high associated with Tyndall Group lithologies. This data has been merged with the Mackintosh data base, which will be re-processed and a 1:10,000 image of the Mackintosh district produced.

4.5 Summary and Recommendations

Mapping of the Southwell Valley grid failed to locate the source of 1st order Pb and Zn stream sediment anomalies, now considered to be the result of vein style mineralisation on the margins of rhyolitic intrusives, but defined a zone of sericite-pyrite±silica alteration, the probable source of an Au and As stream sediment anomaly. This zone was surveyed by UTEM with negative results. No further exploration is warranted at present, although the results of research into the palaeo-environment and style of volcanism of the Southwell Sub-group may provide encouragement in the future

5. I₁ ZONE

5.1 Introduction

Diamond drilling on the Que River mining lease failed to close off the Que River alteration zone south of the Que fault. A fence of 5 holes, on section 6700N, intersected sericite-pyrite-silica±chlorite alteration which hosts stringer veins (e.g. DDH QR-29 213.75 - 214.25m, 0.55m @ 0.86% Cu, 6.06% Pb, 10.7% Zn, 17.0 g/t Ag) while strong Na depletion, in samples analysed from QR-29, indicates intense typical footwall alteration (Whitford et al, 1989).

Previous interpretation, based on IP data and mapping, suggested the alteration zone plunged to the north and daylighted around 6200N. However, lineament studies (I. B. Freytag, section 3.2.2) suggested that the alteration zone may plunge to the south, while a brief review of geophysical data by J. Silic (pers. comm., 1990) indicated that:

- i) there is a probably plunging channel 7 UTEM conductor (anomaly H2) in the alteration zone.
- ii) 25m dipole-dipole IP data suggests alteration becomes less intense to the south, but no predictions as to the plunge of the system could be made.

Diamond drilling was therefore proposed to test for a southern extension of this alteration while surface sampling was completed to aid geological interpretation of this poorly understood area.