

The upper part of the hangingwall lava sequence is anomalous in Zn, i.e. from 249.8-335m, 85m @ 0.3% Zn, 0.1% Pb, howevermost Zn rich interval is 759.3-761m i.e. 1.7m @ 1.23% Zn which is associated with weakly elevated Cu, 120 ppm, but very low Pb (25 ppm).

Lithochemical data confines the andesitic and basaltic units logged in the hangingwall and suggest that the interval 759.3-767m logged is altered andesitic-dacite is andesitic with Ti/Zr ~ 20 and Cr of 70 ppm.

Ti/Zr ratios in the basalt below the sandstone and shale, from 652-668.3m, are high, from 40-57, and in the range of the core lava of Jack (1989). The separation of this lava type from more typical Hellyer basalt by a sedimentary unit is a feature that has recently been recognised from many holes in the Hellyer area (S. Richardson, pers. comm. 1991). The lack of these high Ti/Zr basalts in DDH MC-14 to the east suggests that their occurrence is localised, although this hole did not the basal part of the hangingwall basalt/andesite sequence, and may be related to the Mount Charter fault.

The High Ti/Zr values are not reflected in petrological samples (563716, 717 Appendix 16) from this interval. As standards were included in the core-grinds and are satisfactory it is possible there were analytical problems with the petrological samples. Some correlations have been attempted using this petrological data (see Appendix 16) and comments by the petrologist suggest there may be problems with these assays.

Geophysics

DDH MAC-27 was cased with PVC and read with DHEM. (Zonge GDP-16). No off-hole conductors attributable to massive sulphides were detected. Results of the survey are included in Appendix 23.

7.3 Summary and Recommendations

DDH MAC-27 failed to intersect the interpreted Que-Hellyer host horizon at the base of the dacite due to a very thick (570m) hangingwall basalt and andesite sequence and fault complications. The hole did intersect a large thickness of weakly sphalerite mineralised hangingwall lavas that coupled with the intersections in DDH MC-14, HP-1 and 4 indicate a large low temperature unfocussed hydrothermal system was active in this area. The basal basalt unit in the hangingwall sequence has Ti/Zr ratios similar to that of the core lava of Jack (1989).