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Elsewhere, in the interbedded greywacke and black shale sequence beneath the Mount Charter fault, petrological examination of samples taken from units thought to be basalt lavas at 482.5 - 489.9m and 502.9 - 503.9m has confirmed these lithologies are in fact volcanic derived greywackes.

A sample from the interval 520.9 - 530.3m, previously logged as interbedded basalt lava and greywacke has been petrologically identified as a dacitic to andesitic dyke. This is somewhat confirmed by a Ti/Zr ratio of approximately 18.9 and a Cr value of 75 ppm for the petrology sample and a Ti/Zr ratio of 18.3 and Cr value of 100 ppm for the core grind sample over this interval.

Polished section examination of mineralisation intersected between 121.5 - 125.38m suggests original pyrite formed during silica vein development and recrystallised during brittle deformation, has been partially replaced by sphalerite and lesser chalcopyrite and galena. This base metal sulphide replacement most likely occurred during post-deformation calcite veining which contains abundant inclusions of sphalerite throughout the entire basalt sequence.

In general lithogeochemical results for the dacite were consistent with Ti/Zr ratios generally between 8-12 and Cr generally less than 35 ppm for both petrology and core grind samples.

Polished section examination of pyrite mineralisation contained within a polymict volcanoclastic unit at the interpreted Mount Charter host horizon between 156.2 - 156.33m appears almost identical to the mineralisation described previously. Although silica-pyrite veining and brittle fracturing has occurred the post-deformation sphalerite-calcite alteration is not present.

A revised section of the hole is presented as Plate MAC-291. Petrological descriptions and results of geochemical analysis on these samples are included in Appendix 19.

Geochemistry

Results for split core geochemistry in the strongly mineralised zone from 121.5 - 125.38m have been reported previously in the progress report for the period February, 1989 to April, 1990. These results along with those from split core over the interval 156.2 - 156.33m and core grinds for the remainder of the hole are given in Appendix 20.

Results from core grind analysis appear to reflect the concentrations of base metal sulphide in drill core. The upper basalt, which contains abundant sphalerite as both inclusions in calcite veins and as disseminations on pillow margins, was significantly enriched in Zn with several intervals of greater than 10m containing above 1000 ppm. Results for both Cu and Pb were disappointing with maximum values of 215 ppm and 190 ppm respectively. No other values were considered anomalous for the elements analysed.