

SAMPLE NUMBER: MAC-10: 457.4m: 396714

SUMMARY:

This is a distinctive plagioclase+augite+hornblende-phyric andesite lava, reminiscent in many respects to the Crown Hill andesites which mainly intrude the CVC N of Queenstown.

THIN SECTION DESCRIPTION:

This is a distinctive andesite lava with abundant phenocrysts of albitized plagioclase, and less abundant large augite phenocrysts, with important but modally subordinate small olive green hornblende phenocrysts. Albitized plagioclase phenocrysts make up about 20 modal% of this sample; they are generally small (<0.5mm long) rather ragged subhedral crystals, clear of any alteration, and frequently occur in multi-crystal clots. In contrast, augite phenocrysts are much less abundant (2-4 modal%) but are relatively large, up to 3mm long. They are almost entirely altered to dirty brown calcite, but cells of fresh augite are occasionally preserved in the bigger crystals. A notable feature of this sample is the presence of four or five small phenocrysts of brownish-olive hornblende, less than 0.5mm long. Microphenocrysts of FeTi oxide are dispersed sparsely through the sample.

The groundmass of this rock was glassy, and again, suggestions of fine-scale perlitic cracks are preserved in places. The groundmass has recrystallized to quartz and albite mosaics blotched with chlorite and calcite. Fracture fillings of green chlorite are common.

This sample is important. It is the only one I have seen in the Hellyer sections that contain primary hornblende, and in this regard invites comparison with the very similar hornblende-plagioclase-augite andesites from Crown Hill, where they intrude the CVC. Significantly, the Ti/Zr of the latter andesites is around 22-24, as is this sample from MAC-10. Further geochemical study of this unit in MAC-10 is required to confirm or otherwise this correlation. If valid, it records a period of transitional andesitic magmatism from the dacite-rhyolite dominated CVC to the basalt dominated Hellyer basalts. I should talk to you more about this.

SAMPLE NUMBER: MAC-10: 364.1m: 396708

SUMMARY:

This is a

THIN SECTION DESCRIPTION: