

SAMPLE NUMBER: MAC-10: 379.2m: 396709

SUMMARY:

This is a primitive olivine+augite-phyric basaltic lava, typical of the Hellyer hangingwall basaltic lavas regionally.

THIN SECTION DESCRIPTION:

This is a more typical Hellyer basalt. It is very slightly vesicular olivine+augite-phyric basaltic lava, with vesicles filled by polycrystalline quartz and chlorite. Characteristically-shaped pseudomorphs after quite large (to almost 2mm long) olivine phenocrysts, many with abundant small euhedral chromite inclusions, make up about 5 modal% of this sample, and are replaced by very fine-grained chalcedonic or microcrystalline silica. Augite occurs as stumpy small (<0.5mm long generally) microphenocrysts, and constitutes around 5 modal% of the sample. Plagioclase phenocrysts were never present in this fairly primitive basalt.

The groundmass of this lava was composed of randomly orientated albitized plagioclase microlites and tiny prismatic augite crystals set in glass. The glass has altered to albite, which has a slightly dusty appearance, and water-clear secondary quartz and chlorite. The latter occurs in small patches and spots, and in places clearly replaces groundmass augite; it is notably more abundant than in the previous basalt (39678). Small granular epidote crystals are present in the groundmass, and tiny leucoxene granules after FeTi oxide dust are abundant through the altered groundmass. Several veinlets composed of cores of chalcedonic quartz and rims of calcite transect the rock.

This is a typical, primitive Hellyer basalt, rather more altered (although still very well preserved) than the previous sample.