

0584

SAMPLE: 562660**SUMMARY:** This sample is a holocrystalline plagioclase+augite-phyric andesitic dyke rock with a low greenschist facies alteration assemblage.**HAND SPECIMEN:**

This is a weathered pinkish speckled felsic lava or shallow intrusive with abundant clay-altered feldspar phenocrysts and black chloritic spots, some several mm long.

THIN SECTION DESCRIPTION:

In thin section, it is clear that this sample is a holocrystalline andesitic rock, probably a dyke rock, with abundant phenocrysts of augite and albitized plagioclase, and common groundmass quartz. The plagioclase phenocrysts make up around 10 modal% of this rock, and are totally albitized; many are longer than 2mm, although multi-crystal clots of intimately intergrown plagioclase crystals are present. These are speckled with sericite and little crystals of epidote, but are not clay-altered, as suggested in the hand specimen description. Rather, it is the augite phenocrysts that are partly altered to dirty brownish-red clayey material. Augite crystals make up around 5-8 modal% of this rock and are often altered to chlorite and the clay material noted above; significantly, they show actinolite fringes on many crystals, indicating lowermost greenschist facies conditions of recrystallization. They range from several mm long to tiny crystals in the matrix, and are rather ragged and often intergrown with plagioclase at their margins. Several small gabbroic inclusions are composed of intergrown augite and plagioclase crystals identical to the phenocrysts, and are clearly cognate.

The groundmass of this rock is holocrystalline, being composed of intergrown albite laths, stubby chloritized augite, and common interstitial quartz, with subordinate tiny leucoxenitized FeTi oxide grains. Angular patches of green chlorite up to several mm across frequently have quartz crystals projecting into the chlorite. Secondary minerals other than albite and chlorite include not uncommon granular epidote, that also forms veinlets, and interstitial palest green acicular actinolite.

This sample was definitely an intrusive andesite or basaltic andesite. The greenschist metamorphic assemblage is unusual for the Hellyer area, and may be of some significance.