

0597

**SAMPLE NUMBER:** 563714, MAC-27, 607.45m

**SUMMARY:**

This sample is a well-preserved, sparsely augite+plagioclase -phyric basaltic lava breccia; it contains similar reacted quartz xenocrysts to those noted in the previous samples.

**HAND SPECIMEN:**

This is an intensely brecciated and quartz(?) -veined dark grey basaltic (?) lava.

**THIN SECTION:**

Despite the brecciation, this rock is texturally and mineralogically very well-preserved within fragments. It is clearly a plagioclase+augite-phyric basalt, and, as for the two preceding samples, is unusual in containing (in this case) quite common rounded and resorbed quartz phenocrysts or xenocrysts. Augite and albitized plagioclase phenocrysts each make up about 3-5 modal% of the sample, although the albite phenocrysts are invariably much larger (mainly 0.5-1.5mm long), and more rounded. The small squat augite microphenocrysts are mainly fresh and grade into equidimensional groundmass prisms. Quartz phenocrysts or xenocrysts are almost as abundant as albite in this sample. They are invariably rounded and reacted, with occasional high-temperature reaction rims of augite; a few have brown melt inclusions, and several show prominent internal strain features such as tiny parallel microshears. They are, as in the previous sample, quite clearly out of equilibrium with the host magma (in this case, basaltic), and therefore best identified as xenocrysts.

The groundmass of this lava breccia, within fragments, was very fine-grained to glassy and charged with randomly orientated tiny albite microlites. Patchy development of secondary quartz is common, and several large segregations composed of intergrown radiating sheaves of secondary albite and minor intergrown prehnite and calcite are also present.

This sample is a relatively evolved basaltic lava; it is more primitive, however, than the preceding two samples, in which augite never was a significant primary phase.