

SAMPLE: 562697

SUMMARY: This sample was a glassy felsic crystal lithic tuff that has suffered some brecciation and silicification.

HAND SPECIMEN:

This is a grey-green plagioclase-phyric massive dacitic lava with a rather heterogeneous groundmass, possibly partially silicified.

THIN SECTION DESCRIPTION:

This is a difficult sample to diagnose with confidence. It is clearly a felsic, plagioclase-phyric volcanic rock, although whether it is a crystal tuff, a massive 'false-brecciated' lava, or a genuine lava breccia, is difficult to ascertain. The only important mineral phase in the rock is albitized plagioclase. This occurs as well-formed phenocrysts to at least 2mm long, but also is present in abundance as angular crystal fragments and rounded and reacted crystals, suggesting some heterogeneity in the origin of these feldspars. Many albitized feldspars are riddled with yellow epidote crystals. No definite former mafic phenocrysts were noted.

The groundmass of this sample is quite heterogeneous texturally. A few areas that were probably definite fragments of altered glassy felsic lava are present. However, in its least-altered areas, the matrix of this rock is clearly formerly glassy, and well-developed former perlitic cracks are evident in several 'fragments'. In some places, this groundmass seems to have devitrified to isotropic irresolvable material, but in other areas, blebby fine-grained quartz has crystallized from the devitrified glass. Dark 'fragments' of least-altered rock are surrounded by angular and anastomosing regions of paler-coloured, quartz-rich material, slightly more coarse-grained than the devitrified glass; these areas are thought to be due to soaking by silica-rich solutions during alteration. The rock is cut by veinlets of quartz, quartz-albite, quartz-chlorite, and rare calcite. This sample was probably a glass-rich crystal lithic tuff in which the uncommon lithic fragments were also glassy felsic lava.