

**SAMPLE: 562803**

**SUMMARY:** This rock was a glassy plagioclase-phyric evolved andesitic or dacitic lava.

**HAND SPECIMEN:**

This rock is a massive grey-green finely porphyritic andesite lava transected by cm-sized calcite streaks that may be very elongate vesicles.

**THIN SECTION DESCRIPTION:**

This is a vesicular, formerly glassy plagioclase-phyric andesitic to dacitic lava with an unusual groundmass texture due to devitrification of glass. It was composed of about 3-5 modal% of tabular albitized plagioclase phenocrysts up to 2mm long set in glass. The plagioclase has been strongly sericitized. A few elongate chloritized mafic phenocrysts were probably augite, and FeTi oxide microphenocrysts are present but rather uncommon and altered to leucoxene. Long narrow apatite microphenocrysts are present but not common.

The groundmass of this lava was glassy, but has devitrified and recrystallized to a most unusual mottled intergrowth composed of curving and impersistent domains of three types. Most abundant is a relatively coarse-grained but 'dirty' snowflake textured mosaic, rendered murky by the presence of tiny clay- or sericite-altered plagioclase microlites. These zones pass outward into even murkier areas in which tiny chlorite flakes are riddled through glass and leucoxenitic blebs are common. These zones grade into areas composed entirely of secondary polycrystalline quartz; the latter reach more than 1mm long. This unusual devitrification texture may have developed in response to a more fluid-assisted alteration than the normal devitrification textures seen in felsic Mount Read lavas, with the domains in the groundmass defining 'diffusion fronts'. Vesicles are relatively abundant, and vary from strongly elongate (but not deformed) to almost rounded, with the larger vesicles being most elongate. All vesicles are filled by calcite, often with a quartz border. Several stylolitic zones only a fraction of a mm wide are defined by concentrations of tiny hematite(?) grains.

It is difficult to judge whether this sample was a dacite or an evolved andesite. The paucity of (former) augite phenocrysts compared to Que andesites with only a few % MgO suggest that the rock may well have been dacitic. However, the amount of fine-grained chlorite in the groundmass, and the un-dacite-like (new term) devitrification texture make me lean more to an evolved andesite.