

0431

**SAMPLE NUMBER: 431569****SUMMARY:**

This is a strongly altered sparsely plagioclase- and apatite-phyric silicic andesite lava that suffered an earlier sericite alteration and was later overprinted by intense chlorite-quartz  $\pm$  pyrite (the latter mainly in veinlets) alteration that produced a false brecciated texture in this rock.

**HAND SPECIMEN:**

This is a grey mottled chloritized felsic lava with an unusual devitrification texture.

**THIN SECTION:**

This is a very difficult sample to diagnose with certainty. It certainly was a felsic sample, either a lava or a lava breccia, but it has suffered strong and variable alteration that has overprinted and largely obliterated the primary texture. Former feldspar phenocrysts make up about 5 modal% of the rock but are totally replaced by polycrystalline quartz. Small apatite needles are common in the secondary quartz replacing feldspar, and were almost certainly inclusions in the original feldspar. One or two small phenocrysts were possibly augite, but are also now replaced by polycrystalline quartz. The only other phenocryst phases were small FeTi oxide microphenocrysts that are totally altered to leucoxenitic material, and not uncommon prismatic elongate apatite microphenocrysts.

The remainder of this rock is a rather heterogeneous textured matrix with what is probably a false pyroclastic or false breccia texture. A few least altered remnants have clear mosaic textures after devitrified glass. Domains from 0.5-4mm across (that give the rock its mottled appearance) have fairly sharp boundaries against other domains with variable alteration mineralogies. The dominant alteration assemblage is chlorite-sericite-pyrite-quartz, with the relative abundances of these minerals varying from domain to domain in the groundmass, with the paler-coloured domains being more silica- and sericite-rich. Sericite occurs as a fine web-like mesh lacking any obvious alignment or foliation. Chlorite is all-pervasive and relatively fine-grained except in veins. Diffuse veinlets composed of diaggregated polycrystalline quartz grains intimately sutured grain boundaries occur with in a matrix of pale green chlorite; idiomorphic pyrite grains rarely larger than 0.5mm across make up about 10-15 modal% of these veinlets