

Sample: S417; TSC33714

and Specimen:

A pinkish-grey rock which is porphyritic in that it contains scattered phenocrysts of quartz and pale-coloured feldspar or altered feldspar in a very fine-grained groundmass. The rock now has a moderately strong foliation.

Staining with cobaltinitrite shows minor potash feldspar, some of it in phenocrysts and some in the groundmass.

Thin Section:

A visual estimate of the minerals is as follows:

	<u>%</u>
Quartz phenocrysts	10-15
Sericitized feldspar phenocrysts	10-15?
Altered mafic phenocrysts (some biotite)	3-5
Remnants of potash feldspar phenocrysts	1-2
Groundmass mainly sericite and quartz	65-70
Leucoxene	trace
Secondary iron oxide	2-3
Zircon	minute trace

This rock has a clearly defined porphyritic texture with typical quartz phenocrysts mainly 0.5 to 2 mm in size and a few up to 3 mm. Relict textures show that it also once had some feldspar phenocrysts mainly between 1 and 3 mm long which have been almost completely replaced by sericite but which have retained some evidence of former crystal shape. There are a few feldspar phenocrysts in which there is some unaltered potash feldspar and, on the edge of the section, there is an aggregate of potash feldspar phenocrysts. There were originally some dark phenocrysts mainly 1 to 2 mm long which have been replaced by sericite, leucoxene and secondary iron oxide and it is possible that some of these were biotite but the textures have not been sufficiently well preserved for this to be confirmed. There are also a few grains up to 0.4 mm in size which are now predominantly leucoxene and these may have been crystals of iron-titanium oxide.

The groundmass contains a high proportion of sericite intergrown with fine-grained quartz, most of which has a common grain size of less than 0.1 mm and there is very probably at least a little potash feldspar intergrown with the quartz and sericite in the groundmass but, because of the abundance of sericite which obscures much of the finer detail the exact composition of the groundmass cannot be determined with certainty. The composition of the groundmass is relatively uniform throughout much of the section but there are some zones which contain lower proportions of sericite and there are also irregular patches and veins which clearly contain some secondary or migratory quartz. There are scattered patches of very fine-grained, secondary iron oxide, much of which is concentrated in altered phenocrysts but some is concentrated along small fractures and in deformed and sheared zones.

Conclusion:

Deformed rhyolite which may have been a lava flow. It contains minor secondary iron oxide.