

Sample: S 425; TSC34424

Location:

LS 8 at 64.0 m

Field Specimen:

A pale yellowish to greenish-grey rock containing numerous quartz grains and aggregates in a finer-grained matrix. The rock has a weak foliation and many of the quartz aggregates are drawn out or elongated parallel to this direction.

Staining with cobaltinitrite shows no potash feldspar.

Thin Section:

A visual estimate of the minerals is as follows:

	%
Quartz	50-55
Sericite	35-40
Chlorite	3-5
Calcite	2-3
Opaque oxide and leucoxene	1-2
Epidote	trace
Apatite	trace
Zircon	minute trace

In composition and texture this is very similar to sample S 424 in that it contains very numerous, extensively fractured and deformed quartz phenocrysts which have been invaded by calcite in a deformed matrix which is mainly sericite and fine-grained quartz but which shows variations in composition, texture and grain size suggesting that this was a fragmental rock.

This differs from sample S 424 in that many of the quartz phenocrysts appear to have been larger and some were probably up to 4 mm in size. As in the previous sample these have been extensively fractured, the fragments drawn apart and the spaces filled by calcite. In this rock there are a few altered opaque oxide crystals, some of which are now porous aggregates of leucoxene and the largest of these is almost 1 mm in size. There are a few aggregates of chlorite up to about 0.5 mm in size but in general these do not show recognizable relict textures. However, there is one elongate mass of sericite about 1 mm long with concentrations of extremely fine-grained leucoxene marking possible former cleavage planes and this could have been a flake of biotite. Streaks of very fine-grained opaque oxide and leucoxene are parallel to the foliation and similar to those in the previous sample.

The matrix is very similar to that in sample S 424 and consists mainly of fine-grained muscovite or sericite intergrown with fine-grained quartz and these minerals vary in concentration suggesting that this could have been a fragmental rock but boundaries between former fragments are not preserved.

Accessory apatite and zircon are similar to those in the previous sample and at least one of the zircon crystals has been fractured. In one area there is a streak of fine-grained, brownish epidote.

Conclusion:

This is a deformed rhyolite which was probably similar to, but coarser-grained than sample S 424.