

Specimen: S415; TSC33712

Specimen:

A pale greyish-green, fine-grained, relatively soft schist in which there are small paler coloured grains about 1 mm in size and a few larger fragments or aggregates up to 5 mm long.

Staining with cobaltinitrite shows moderately abundant potash feldspar, some of which occurs as scattered small crystals or phenocrysts and some is in the matrix.

Thin Section:

A visual estimate of the minerals is as follows:

	<u>%</u>
Sericite	30-35
Quartz	25-30
Potash feldspar	25-30?
Chlorite	10-15?
Plagioclase	trace
Leucoxene	1-2
Opaque grains	trace
Epidote	trace

This is a deformed and foliated rock which contains small fragments and larger crystals of quartz and potash feldspar, very few of plagioclase and at least a few recognizable but altered lithic grains in a matrix which is mainly sericitic and chloritic schist but which shows some evidence of relict textures indicating that it was fragmental.

The quartz grains vary in size from less than 0.05 mm to about 2 mm and the larger ones have external shapes typical of those commonly occurring as phenocrysts in acid volcanic rock. Some of these larger quartz crystals have been extensively deformed or fractured and partly granulated. Crystals and fragments of potash feldspar are generally smaller than the larger quartz phenocrysts and there are also one or two angular fragments of plagioclase. Some of the feldspar crystals have been deformed and extensively fractured and most of them are turbid and partly altered. There are scattered dark grains containing leucoxene or leucoxene and chlorite and these vary in size up to about 0.8 mm long. Some were probably fragments or crystals of iron-titanium oxide and others may have been dark volcanic-lithic fragments. Recognizable lithic fragments in the section are of volcanic rock, some containing phenocrysts of quartz and/or feldspar and they vary greatly in size.

The matrix is predominantly turbid, very fine-grained sericite intergrown with varying concentrations of chlorite and there is possibly some extremely fine-grained quartz and/or feldspar intergrown with the sericite. Variations in composition, grain size and texture suggest that the matrix was originally composed mainly of small fragments, many of which could have been volcanic glass and these have been deformed and elongated in the direction of schistosity. Boundaries between the former fragments are no longer clearly preserved except where there are sharp differences in composition. Much of the sericite shows a preferred orientation parallel to the schistosity and this curves around the larger fragments and phenocrysts. There are a few irregular patches of chlorite and some chlorite is concentrated along small fractures or veins.

Conclusion:

Deformed tuff probably of rhyolitic composition. The rock now has a moderately strong foliation.