

Sample: S382; TSC33698

Hand Specimen:

A pale greenish-grey, fine-grained schist in which there are scattered small grains and aggregates of pyrite and also small darker grains or patches.

Staining with cobaltinitrite shows no potash feldspar.

Thin Section:

A visual estimate of the minerals is as follows:

	<u>%</u>
Sericite	50-55
Quartz	30-40
Chlorite	10-15 (varies)
Pyrite	1-2
Leucoxene	trace
Apatite	minute trace
Zircon	minute trace

The matrix of this rock is composed mainly of sericite and quartz and differs from that in sample S381 in that there is a higher proportion of quartz and much of it has a common grain size 0.05 to 0.1 mm. In some parts of the rock the matrix is composed almost entirely of quartz and sericite but there are other zones or bands in which varying amounts of chlorite are intergrown with the quartz and sericite. Very small opaque grains and grains of leucoxene, many of them less than 0.1 mm in size are scattered sparsely through parts of the matrix and there are a few small, slightly turbid grains of apatite similar to, but smaller than those in S381.

The dark elongate patches visible in the hand specimen were found in thin section to be mainly elongate aggregates of sericite generally between 1 and 2 mm long. Some of these have a slight streaky appearance and it is possible that at least a few could have been fragments of pumice but there are a few which show some evidence of straight edges and sub-rectangular shapes which have been deformed and it is therefore suggested that some of these aggregates of sericite were probably phenocrysts or fragments of feldspar possibly plagioclase. One almost round grain of quartz 0.5 mm in size is present in the section and this is similar in general appearance to a small quartz phenocryst. In some parts of the rock there are elongate aggregates composed partly of sericite and partly of chlorite. In a few of these there are relict textures marked by leucoxene showing the former presence of one or two crystals of iron-titanium oxide up to 0.5 mm in size and in one of the patches of chlorite there is a group of slightly turbid apatite crystals 0.1 to 0.2 mm in size. These chloritic patches were possibly phenocrysts or aggregates of mafic minerals associated with opaque iron-titanium oxide and apatite with or without associated plagioclase but, because the rock has been so altered and deformed this suggestion is very tentative and little more than speculation.

There are a few crystals and crystalline aggregates of pyrite generally between 0.1 and 0.5 mm in size but these do not show any evidence of spherical shape as in sample S381. Some pyrite is concentrated along small, discontinuous veins and some is associated with migratory and/or recrystallized quartz which tends to show pressure-shadow textures where