

Sample: S390; TSC33702

**Hand Specimen:**

A pale grey, fine-grained rock containing disseminated pyrite which is more concentrated on some joint surfaces. Parts of the rock show a weak foliation.

**Thin Section:**

A visual estimate of the minerals is as follows:

	<u>Z</u>
Quartz	35-40
Sericite	50-55
Pyrite	5-10
Leucoxene	1-2
Chlorite	trace
Zircon and apatite	minute trace

The rock consists of fine-to medium-grained quartz intergrown with very variable concentrations of sericite and in some zones there is still some evidence of original textures. There are a few relatively large patches containing high concentrations of sericite showing a streaky and slightly spotted appearance and almost certainly these were areas for fragments originally composed mainly of volcanic glass. Some of these sericitic patches are over 10 mm long and they contain a few skeletal and porous leucoxene grains 0.2 to 0.4 mm in size and also a few relict textures inherited from small phenocrysts probably of feldspar about 1 mm long which have been replaced by secondary quartz. Much of the sericite in these sericitic zones is orientated about parallel to the weak foliation noted in the hand specimen but this curves around patches of quartz and relict phenocrysts. The boundaries of these sericitic zones are rather irregular and generally poorly defined and it is therefore uncertain whether these zones represent the bulk of the original rock or former vitric fragments.

Other areas in the rock contain fine to medium-grained and locally some coarse-grained, recrystallized and/or secondary quartz intergrown with sericite and these areas show no recognizable evidence of relict texture.

Groups of pyrite crystals are scattered through the rock and are commonly, but not invariably, associated with coarser-grained quartz. Some pyrite crystals have clearly been fractured and the fragments displaced during an episode of deformation and shearing and in some of these zones, quartz showing pressure-shadow textures is in contact with coarser-grained pyrite. There are a few traces of chlorite and slightly coarser-grained muscovite associated with some of the coarser-grained quartz and pyrite in deformed or sheared zones.

**Conclusion:**

Deformed pyritic quartz-sericite metavolcanic rock or schist which was probably a pyroclastic.