

Sample: S401; TS33703

Hand Specimen:

This is a medium-grained to moderately coarse-grained rock containing quartz and some pale orange-stained feldspar. Many of these grains are separated by thin zones of darker, finer-grained material.

Thin Section:

A visual estimate of the minerals is as follows:

	<u>%</u>
Quartz	35-40
Potash feldspar	25-30
Sericite probably including altered plagioclase	25-30
Chlorite (some altered biotite)	5-10
Leucoxene	trace-1
Opaque iron oxide	trace-1
Zircon	trace
Apatite	trace

This was once a coarse-grained rock containing quartz grains 2 to 6 mm in size intergrown with potash feldspar crystals, at least some of which were up to 4 mm long. There are also some areas which are now composed of sericite or very fine-grained muscovite and, as some of these show evidence of crystal shape they probably represent completely altered feldspar crystals possibly plagioclase. There is some evidence to show that the rock also once contained at least a few flakes of biotite up to 1 mm long but these have been extensively deformed and replaced by chlorite and secondary white mica. There are a few crystals 0.2 to 0.3 mm in size now composed of porous leucoxene and there are a few crystals of zircon up to 0.3 mm long some of which have been fractured.

The rock has been extensively fractured and crushed and now contains fractured or brecciated remnants of the coarse-grained quartz and feldspar separated by very numerous zones composed of finely crushed material associated with chlorite and sericite and many of these zones of granulated material also contain scattered, very small crystals of iron oxide up to 0.05 mm in size which may have been magnetite. As noted above, a few of the larger zircon crystals have been fractured and the portions displaced and some grains of leucoxene have also been deformed. Remnants of chloritized biotite have been crumpled and merge with the granulated material.

Conclusion:

Extensively fractured and crushed, coarse-grained rock composed of quartz, feldspar and some biotite. It was probably a granitic rock.