

Sample: S412; TSC33710

**Specimen:**

A greenish-grey rock which, when closely examined can be seen to contain a relatively high proportion of slightly paler-coloured grains mainly 1 to 2 mm in size. There are some zones in the rock where these larger grains are a much paler colour and have possibly been leached or altered.

Staining with cobaltinitrite shows a relatively high proportion of potash feldspar and many of these larger grains are of potash feldspar.

**Thin Section:**

A visual estimate of the minerals is as follows:

	<u>%</u>
Potash feldspar grains or phenocrysts	35-40
Quartz phenocrysts	10-15
Fine-grained matrix	40-45
Leucoxene	2-3
Partly oxidized sulphide	1-2
Apatite	trace

This rock has been deformed and partly sericitized but in some areas it is clear that it originally contained very numerous fragments and/or crystals of potash feldspar 1 to 2 mm in size and also crystals or phenocrysts of quartz 0.5 to 2 mm in size. Where these are abundant and well-preserved they are moderately closely packed with relatively small amounts of very fine-grained matrix in interstices. There are, however, other areas in the section in which there are smaller crystals and fragments of potash feldspar and quartz mixed with higher proportions of fine-grained matrix and there is one zone several millimetres long which is now composed predominantly of sericite. There is another area which contains only a few grains of quartz and feldspar and one possible lithic grain in an abundant very fine-grained matrix composed of sericite, chlorite, quartz and possibly potash feldspar.

There are a few grains up to 1 mm in size now composed mainly of leucoxene and chlorite and one grain of apatite 0.6 mm long was found.

In parts of the rock there are numerous small fractures or shearing planes along which there are concentrations of sericite and/or chlorite and in some there is also leucoxene. In some areas in the section there are crystals and crystalline aggregates of sulphide which has been partly replaced by iron oxide and this is associated with sericite and with a little recrystallized quartz. Some of the sulphide has invaded partly altered feldspar and some is present in the fine-grained matrix.

**Conclusion:**

This is a fractured and deformed rock which was probably a crystal tuff containing a relatively high proportion of potash feldspar grains.