

Sample: S 441; TSC34435

Location:

LS 8 at 299.8 m

Hand Specimen:

The rock contains small, very pale grey and pale pink phenocrysts and aggregates 1 to 3 mm long and also a few larger, pale-coloured fragments up to 15 mm long in a darker grey, fine-grained matrix. Most of the small, altered phenocrysts and fragments have been elongated in a common direction which is that of a weak foliation.

Staining with cobaltinitrite shows no potash feldspar.

Thin Section:

A visual estimate of the minerals is as follows:

	%
Quartz phenocrysts	10-15
Sericitized feldspar phenocrysts	5-10 (?)
Leucoxene and opaque oxide	2-3
Matrix of sericite, chlorite and quartz	>75
Calcite	1-2
Zircon	trace
Epidote	trace

The rock has been extensively deformed but there is sufficient evidence to show that it originally contained numerous quartz phenocrysts and angular fragments, at least a few feldspar phenocrysts and abundant fragments of volcanic glass, some of which were vesicular and were possibly fragments of pumice. There were also a few fragments of fine-grained volcanic rock but these were very subordinate.

The quartz phenocrysts now show undulose extinction between crossed nicols and a few have fine deformation lamellae but, although some have been fractured and the fragments displaced, there has been no general recrystallization of these phenocrysts. Feldspar phenocrysts have been almost completely replaced by sericite but the external shape of some has been moderately well preserved and in one large altered phenocryst there are very small remnants of feldspar, probably plagioclase. The volcanic-lithic fragments are composed mainly of fine-grained quartz and sericite.

The darker, finer-grained matrix of the rock is now composed mainly of sericite intergrown with varying concentrations of fine-grained quartz and chlorite and in many zones it also contains very fine-grained opaque oxide. Variations in composition, texture and amount of iron oxide show that it was originally composed mainly of fragments probably 1 to 2 mm in size and these have been elongated or drawn out in the direction of foliation. Relict textures which are defined mainly by variations in concentration of iron oxide suggest that many of the fragments were vesicular and were deformed while still soft.

Near one end of the section there is a zone containing slightly coarser-grained quartz intergrown with very turbid epidote and it is possible that this is an altered lithic fragment. In other areas there are scattered, irregular patches of very turbid epidote, some of which is concentrated along small fractures where it is generally associated with traces of