

Sample: S 434; TSC34430

Location:

LS 8 at 217.0 m

and Specimen:

A greyish-green rock containing a few relatively small quartz phenocrysts and also some larger aggregates of quartz found in thin section to be a deformed quartz vein. The matrix is very fine-grained and has a foliation at a moderate angle to the direction of the drill hole. Groups of small sulphide grains, probably pyrite, are scattered throughout the rock.

Staining with cobaltinitrite shows no potash feldspar.

In Section:

A visual estimate of the minerals is as follows:

	<u>%</u>
Quartz	35-40
Chlorite	35-40
Sericite	20-25
Opaque oxide and leucoxene	1-3
Pyrite	1-3
Apatite and zircon	trace

This volcanic rock differs from many of those described above in that it contains only about 3 to 5% or less of quartz phenocrysts which vary in size from 0.5 mm to 4 mm and most of the larger ones are very embayed. The rock contains several elongate to lenticular aggregates of sericite a few millimetres long and at least some of these probably represent completely altered and deformed feldspar phenocrysts but, in general, no relict textures or evidence of former crystal shape have been preserved. There are several irregular and elongate aggregates of chlorite which vary greatly in size and a few small, elongate groups of very fine-grained iron and titanium oxides which could represent completely altered mafic phenocrysts or flakes of biotite. Deformed and altered crystals of opaque oxide up to 0.8 mm long are scattered through the rock.

The matrix or groundmass of this rock consists largely of quartz with a common grain size of about 0.05 mm intergrown with orientated chlorite and sericite and, in general, it contains a higher proportion of chlorite than the specimens of deformed rhyodacite described above. The chlorite and sericite curve around many of the small quartz grains giving the rock a very small-scale lenticular texture and in areas which show less evidence of deformation the general texture resembles that found in the groundmass of many acid volcanic rocks. It appears to be fairly uniform in composition with no definite evidence to suggest the former presence of lithic or vitric fragments or shards. There are one or two crystals of apatite, the largest being 0.5 mm long and a very minute trace of zircon.

There are a few crystals and aggregates of sulphide scattered through parts of the rock and some of the larger crystals are partly surrounded by pressure-shadow quartz.

There is a contorted quartz vein about 1 mm thick which was present before the latest episode of deformation and much of the quartz in this vein now shows evidence of strain and local granulation.