

Sample Number : 3054

Identification : Sericitized, chloritized, recrystallized
porphyritic andesite with a trace of
disseminated pyrite

Description :

The hand specimen is an essentially fresh, medium greenish grey, fine-grained rock with a vaguely arenaceous texture and minor disseminated, fine pyrite.

A staining test revealed no K-feldspar.

In thin section the first impression given by the sample suggests a finely arenaceous texture with lightly sericitized equidimensional grains of untwinned plagioclase (0.1 to 0.2mm) and an interstitial matrix of sericite and chlorite. However, careful searching reveals some aggregates of sericite and chlorite, about 1mm in size, with shapes highly suggestive of subhedral plagioclase phenocrysts and some others of chlorite with rutile (and in several cases zircon), suggestive of biotite phenocrysts. There are a few evenly distributed grains of anhedral fine quartz. Very sparse grains of subhedral pyrite, up to 0.5mm in size, occur in altered phenocrysts.

An approximate mode is :

80-85%	untwinned plagioclase
1-2%	quartz
8-12%	sericite
4-6%	chlorite
0.1%	rutile
rare	zircon
tr	pyrite

Comments and Interpretation :

The sample is moderately sericitized and chloritized and distinctly recrystallized, but it seems very likely that the precursor rock was an andesite with sparse, small phenocrysts of plagioclase and biotite. It was probably a lava, but possibly a subvolcanic intrusion.

The sample shows pervasive sericite and chlorite which could be of metamorphic or imposed hydrothermal origin, but the presence of a few grains of replacement pyrite suggests that at least some of the alteration may be related to hydrothermal mineralization.