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Sample Number : T 210

Identification : Sericitic and chloritic, mildly deformed,
intrusive, quartzose potassic andesite

Description :

The sample is a lightly weathered hand specimen which displays inconspicuous, light brownish grey feldspar phenocrysts, up to 2mm in size, within a finely speckled, mainly light olive grey groundmass.

A staining test revealed that the phenocrysts are plagioclase but that the groundmass contains moderately abundant K-feldspar.

In thin section the sample is seen to have a glomeroporphyritic texture, with subhedral phenocrysts, about 1 to 2mm in size, set in allotriomorphic, crudely micrographic groundmass, about 0.3 to 1mm in grainsize.

The phenocrysts are twinned plagioclase (optically negative - oligoclase/andesine) with light alteration to calcite, especially along deformation fractures and a few flecks of sericite. Subhedral and anhedral, equidimensional, 0.2-0.4mm grains of magnetite and leucoxenized ilmenite are commonly locked to the plagioclase phenocrysts. There are no primary mafic silicates preserved, but a few aggregates of chlorite may be crudely pseudomorphous. The groundmass consists of minor mildly strained, somewhat coarse and micrographic quartz, along with more abundant K-feldspar and plagioclase, much of it with "webby" sericite of probable dynamothermal origin. There is some fine chlorite, aggregates of leucoxene (suggestive of altered mafic silicates), minor calcite, fine magnetite and a few grains of apatite.

An approximate mode is :

65-75%	plagioclase
8-10%	K-feldspar
10-15%	sericite
4-5%	quartz
2-4%	chlorite
0.3-0.5%	calcite
1-1.5%	magnetite
0.3-0.5%	leucoxene (some after ilmenite, some after mafic silicates)

Comments and Interpretations :

The sample is interpreted with fair confidence to represent an intrusive, weakly porphyritic, potassic andesite. It originally consisted mainly of plagioclase with minor quartz, K-feldspar, mafic silicates, magnetite and probably minor ilmenite. It may have had little or no hydrothermal alteration and the production of sericite may well relate to dynamothermal metamorphism. It is uncertain when the chlorite, carbonate and leucoxene formed.

Perhaps this intrusive rock represents the feeder to its adjacent lava. If not, then it is a generally related subvolcanic intrusion.