JP.3 89.0m

Sample Number : 10968

Identification : Probable porphyritic, flow-banded rhyolite which has dense stockwork veining by calcite-sericite-chlorite-pyrite and subsequent modification by regional metamorphism

Description :

The hand specimen is a drill core sample of conspicuously moderate orange pink rock with foliated, dark greenish grey, chloritic streaks and patches and a stockwork of white carbonate veins, some carrying fine pyrite. There are distinct similarities to 10967. The foliation is inclined at 20-30° to the core axis.

A staining test revealed that the orange pink rock is dominated by fine K-feldspar.

In thin section the sample appears to consist of porphyritic acid volcanic rock which has been stockwork veined then sheared and partly recrystallized.

Least altered parts of the sample display sparse, strained and recrystallized phenocrysts of quartz, up to 1mm in size, set in an allotriomorphic groundmass (about 0.03 to 0.05mm grainsize) with very thin bands of chloritized biotite and in some cases sericite which may delineate former flow bands. There are several small lenses of quartz and one of anhedral orthoclase. There are a few disseminated subhedral to anhedral grains of magnetite, commonly with associated chlorite, which may be of primary phenocrystal origin.

There is a dense stockwork of fracture controlled veins which has been modified by metamorphism to produce internal foliation of minerals and some blurring of boundaries. The veins consist variously of chlorite, sericite, calcite, quartz and pyrite. Carbonate dominated veins are thickest, but their late appearance in hand specimen may be illusory. They are deformed and there are sericite and chlorite veins which precede and succeed them. Most pyrite is in veins, but there are several disseminated grains.

An approximate mode is :

3-5%	recrystallized quartz phenocrysts
15-20%	groundmass quartz
65-75%	groundmass feldspar (largely potassic)
2-3%	chlorite in veins and groundmass
2-3%	sericite, mainly in veins
3-4%	calcite, mainly in veins
tr	vein quartz
0.3-0.4%	disseminated magnetite
0.2%	pyrite, mainly in veins

Comments and Interpretation :

Primary textures are poorly preserved, but this sample seems to have originated as a porphyritic, flow-banded rhyolite, probably a lava. There are close similarities to 10967. Dense fracturing has given rise to a stockwork of veins which consist dominantly of sericite and calcite but also carried chlorite, pyrite and quartz. Regional metamorphism has deformed the veins and host rock and caused some recrystallization.