

Sample Number : 10972

J.P.3 286.8m

Identification : Quartz-trachyte subvolcanic intrusion or lava flow with a stockwork of chlorite-magnetite-quartz-calcite-chalcopyrite-sericite veins

Description :

The hand specimen is a drill core sample of fine-grained, greyish red rock with a dense stockwork of fine, dark greenish grey, chloritic veins which carry magnetite, chalcopyrite and a few patches of carbonate.

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

In thin section the host rock is seen to have a very sparsely glomeroporphyritic texture, with lightly altered phenocrysts, up to 1mm in size, set in a crudely micrographic groundmass with grainsizes of about 0.1 to 0.5mm. The phenocrysts are untwinned plagioclase, clouded by (?)illite, chlorite and calcite. The groundmass consists of untwinned feldspar (mainly K-feldspar) with very fine hematite pigmentation, mildly strained quartz and irregularly disseminated, subhedral magnetite grains (0.02 to 0.03mm) and carbonate rhombs (?dolomite).

The prominent stockwork involves veins from about 0.02 to several millimetres thick. Some are distinctly of fissure style but many have fracture-controlled, partly replacement styles. The finest veins commonly consist of chlorite and magnetite, whilst the thickest involve mainly quartz, calcite and chalcopyrite. However the parageneses of the vein minerals overlap. Very minor sericite occurs in some chlorite veins. There are several grains of possible subhedral pyrite. Extremely fine hematite pigmentation occurs in vein carbonate.

An approximate mode of the section is :

0.4-0.6%	plagioclase phenocrysts (moderately clouded by ?illite, chlorite and calcite)
3-5%	groundmass plagioclase
75-85%	groundmass K-feldspar
8-12%	groundmass quartz
0.5-1%	groundmass magnetite and hematite
0.1-0.2%	carbonate rhombs (?dolomite)
3-4%	vein chlorite
0.2-0.4%	vein magnetite
0.5-1%	vein quartz
0.3-0.5%	vein calcite
0.2-0.3%	vein sulphides (mainly chalcopyrite and possible pyrite)
tr	vein sericite

Comments and Interpretation :

This sample is confidently interpreted to have originated from a very similar subvolcanic intrusion or lava flow of quartz-trachyte to 10971; it could represent the same rock unit.

Like 10971 this sample also features a prominent stockwork of fine veins, but they differ in carrying very prominent chlorite.