

0561

SAMPLE NUMBER: 562247

SUMMARY:

This is a weakly foliated distinctive almost aphyric basaltic lava, recognized elsewhere in the Hellyer section, which has suffered intense alteration, with silica-pyrite veining being post-dated by sphalerite-calcite alteration

HAND SPECIMEN:

This sample is a streaky, schistose and highly altered basalt with abundant disseminated pyrite and sphalerite.

THIN SECTION:

This sample is a texturally variable and variably veined and altered almost schistose basalt that lacks former mafic phenocrysts although it contains abundant small plagioclase (albitized) microphenocrysts. In the least altered portions of the sample, it is clearly an essentially aphyric basaltic lava which had very little glassy mesostasis compared with the overlying basalts. It varies texturally due more to alteration and shearing rather than primary textural control, with the best preserved areas being composed of intergrown albite and chlorite in which randomly orientated albite microlites are set.

The sample is traversed by common shear zones in which extensive granulation and recrystallization has occurred, with strong sericite-pyrite development along the shears. Very patchy development of silica alteration pervades much of the rock, and is associated with disaggregated pyrite bands in places. Sphalerite is distributed throughout the sample intergrown with calcite in calcite veinlets, or else with quartz and albite in small patches of recrystallized groundmass.

This aphyric basalt unit has been recorded from within the upper basalts at other locations in the Hellyer area, and may be a useful and distinctive marker horizon.

OPAQUE MINERALOGY

This section has an opaque mineral assemblage and paragenesis almost identical to the previous rock. It contains disrupted and granulated bands of fine-grained pyrite being replaced by orange, Fe-rich sphalerite. Many former euhedral pyrite crystals, some up to 1-2mm across, have been broken up and dragged out in augen-shaped bodies with ribbon quartz shadows and sericite defining a weak foliation. Discrete pyrite crystals and anhedral spots of sphalerite also occur disseminated throughout the rock in very minor amounts.