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Specimen 66/1, Beaconsfield

by M. J. Longman

The specimen consists of pyrite, arsenopyrite, sphalerite and chalcopyrite in a quartz siderite gangue. The sulphide minerals are extensively brecciated except sphalerite and chalcopyrite which heal pyrite fractures indicating two distinct phases of mineralisation. No visible gold occurs in the specimen.

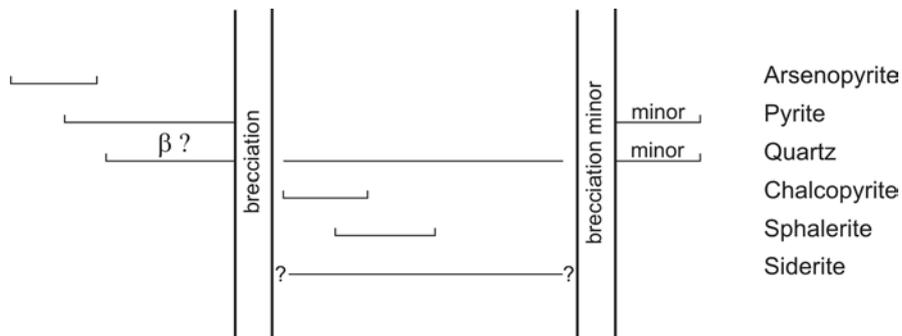
Mineralogy

Arsenopyrite occurs as fractured subhedral tabular crystals closely associated and euhedral towards pyrite, which is the most abundant sulphide, consisting of large fractured crystals in a brecciated groundmass also composed of pyrite. The fractures are healed by quartz, siderite, minor sphalerite and chalcopyrite. Sphalerite is pale coloured indicating the iron content is low, probably 1–2% and enclosed chalcopyrite which is the earlier mineral.

Two generations of quartz are present, the earlier phase as large fractured crystals, possibly β quartz euhedral towards pyrite, and the latter phase as small anhedral crystals filling fractures. Siderite also occurs as large anhedral crystals interstitial to the other components.

Small veinlets of quartz and pyrite of late origin and small breccia zones intersect the specimen.

Mineralisation sequence



The mineral association suggests a relatively high temperature deposition within the range 600°C to 400°C.

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