EXPLANATION OF PLATES

Photomicrographs of thin rock sections

PLATE I

Fig. 1  Feldspatic rock showing schistosity and preferred orientation of biotite, muscovite and quartz. Plagioclase feldspars occur as porphyroblasts. Note bending of foliation is possibly due to the growth pressure and rugged termination of feldspar porphyroblasts. (Crossed Nicols, X 125)

Fig. 2  Feldspatic rock showing chess board twinning in plagioclase. Note the xenoblastic outlines of plagioclase porphyroblast. (Crossed Nicols, X 125)

Fig. 3  Plagioclase showing sieve structure defined by inclusion of quartz and sericite in feldspatic rock. Note the diffused boundary towards the upper margin of the porphyroblast. (Crossed Nicols, X 125)

Fig. 4  Feldspatic rock in which the second generation (dark) exhibits cross cut relationship with biotite of the first generation (light). (X 60)
PLATE II

Fig. 1  Feldspathic rock showing development of chlorite porphyroblast (medium grey, north-eastern corner) with inclusions of discrete magnetite (dark).

(X 60)

Fig. 2 Chlorite-quartz schist showing inclusions of the first generation of chlorite in sulphide ores (dark).

(X 60)

Fig. 3  Feldspathic rock showing flexures and intrafolial folds in muscovite.

(Crossed Nicols, X 60).

Fig. 4 Chlorite-quartz schist showing disharmonic folding of its foliation planes.

(Crossed Nicols, X 60).

PLATE III

Fig. 1 Chlorite-biotite schist exhibiting regional foliation defined by preferred orientation of biotite (dark grey) and flattening of quartz grains (white) along the regional foliation.

(Crossed Nicols, X 60).

Fig. 2  Mylonitized biotite-quartz schist exhibiting alternate bands of quartz (white) and biotite (dark grey). Quartz is finely granulated and most of the grains shows preferred orientation.

(Crossed Nicols, X 60).
Fig. 3  Dhanjori volcanics showing elongation and distortion of amygdules in harmony with regional strain. Note the mutilation of the amygdule boundary (dark) in the central part of the figure.

(Crossed Nicols, X 60).

Fig. 4  Muscovite schist with a garnet porphyroblast. Note the development of muscovite in pressure shadow zone at 90° to the regional foliation.

(Crossed Nicols, X 60).

Photomicrographs of polished ore specimens

PLATE IV

Fig. 1  Chalcopyrite showing lanceolate to spindle shaped twinning (Etched with saturated chromic acid).

(X 100).

Fig. 2  Chalcopyrite showing straight twin lamellae (Etched with saturated chromic acid) (X 100).

Fig. 3  Pyrite (idioblastic) replacing chalcopyrite. Unreplaced portions of chalcopyrite in pyrite are present in both the crystals.

(X 50).
PLATE V

Fig. 1  Radial fracture in folded pyrite (Py).  
       (X 100).

Fig. 2  Partial replacement of pyrite by marcasite.  
       (X 100).

Fig. 3  Chalcopyrite showing 'triple-junction points' and occurrence of rounded pyrrhotite (Prh) at the junction.  
       (Crossed Nicols, X 100).

PLATE VI

Fig. 1  Mosaic of polygonal pyrrhotite showing recrystallization and 'triple-junction points' with dihedral angles approximately 120°.  
       (Crossed Nicols, X 100)

Fig. 2  Replacement of pyrrhotite (Prh) by pentandite (Pn).  
       (X 100).

Fig. 3  Exsolved cubanite (Cub) with composite lamellae abutting against chalcopyrite (Cpy).  (Crossed Nicols, X 100).

PLATE VII

Fig. 1  Streaks of exsolved valerite intersecting cubanite lamellae in chalcopyrite. Note deformation of cubanite along the glide plane of chalcopyrite.  
       (Crossed Nicols, X 100).
Fig. 2  Exsolved laths of valerite (V) in chalcopyrite (Cpy) showing their disposition at right angles to each other.  (X 250, oil immersion).

Fig. 3  Random laths of millerite (Ml) in chalcopyrite (Cpy).  (Crossed Nicols, X 250, oil immersion).

PLATE VIII

Fig. 1  The sub-hedral chalcocite (Co) replacing chalcopyrite (Cpy). Note pyrrhotite (Prh) partly replacing chalcopyrite  (Crossed Nicols, X 250).

Fig. 2  Second generation of pyrite (Py II, idiomorphic) replacing chalcopyrite. Chalcopyrite (Cpy) replacing first generation of pyrite (Py I, massive) (Etched with saturated chromic acid).  (X 100).

Fig. 3  Zoned pyrrhotite. (Etched with saturated chromic acid).  (Crossed Nicols, X 250, oil immersion).

PLATE IX

Fig. 1  Polysynthetic twin lamellae of chalcopyrite showing translation gliding. (Etched with saturated chromic acid).  (Crossed Nicols, X 250, oil immersion).

Fig. 2  Fractured pyrite showing the filling spaces by chalcopyrite (Cpy).  (X 10).
PLATE VII

Fig. 1 (+ nic., X 100)

Fig. 2 (X 250)

Fig. 3 (+ nic., X 250)
Fig. 1 (+nic., X 250)

Fig. 2 (X 10)