

Molybdenite was detected as sporadic small flakes, and chalcopyrite occurs as fine, irregular patches. Sphalerite is the most abundant sulphide (apart from pyrite) but is erratic in its distribution.

#### Metallurgical Comments

The major problems in the recovery of fluorite are the fine grainsize and the small-scale intergrowths with other minerals. Magnetite is likely to be particularly troublesome, because of composites of fluorite/magnetite leading to fluorite losses. In view of these factors, fluorite flotation may have to be considered, but it is doubtful whether acid-grade fluorite could be produced economically from this ore (i.e. as examined).

However, the material should perhaps be considered as a whole, with the possibility of producing high-grade magnetite (for use as a dense medium?), metallurgical grade fluorite, minor scheelite and a bulk sulphide concentrate (for further separation). The cassiterite appears to be too fine and sparse to be considered economically, and if Sn occurs in other minerals, extraction would be problematical. This situation may be different with better grades.

The coarser fluorite is naturally more amenable to beneficiation, but constitutes a subordinate proportion of the ore; thus grades would be obtained at the expense of recovery, and vice versa.

#### Photomicrographs

These are intended to give a general impression of the material, showing fabrics, textures and distribution of minerals; illustrations of particular features were also prepared.

H.W. Fander, M.Sc.