

- (iv) The chief contaminants in the flotation concentrate are magnetite, calcite, scheelite and amphibole. Further flotation cleaning stages should reject calcite and amphibole, but the magnetite occurs as fine inclusions in the fluorite. Differential flotation of the scheelite from the fluorite has not been studied.
- (v) It is unlikely that a high grade magnetite concentrate suitable for heavy medium use could be recovered from the ore because of the poor liberation characteristics of this mineral.
- (vi) The composite ore sample contains 0.13% Sn, 45% of which is present in solid solution in garnet. The remaining tin is present as cassiterite which is too finely disseminated for physical beneficiation.
- (vii) The composite ore sample contains 0.11%  $WO_3$  as scheelite. This scheelite concentrated to 0.4%  $WO_3$  with the fluorite during flotation but it is doubtful whether the scheelite could be recovered economically from this concentrate unless chemical treatment was carried out.

Discussion and recommendations

Amdel believe that it may be feasible to treat the Moina wriggilite by flotation to produce a low-grade concentrate at high recovery and then leach this concentrate to extract fluoride. They recommended that sufficient work be carried out to enable a preliminary assessment of the technical and economic feasibility of this process. This work has not been carried out.

My comments are:

- (i) The bulk sample which Amdel investigated included some calc-silicate rocks from holes 4 and 5; these calc-silicate rocks are not within the "indicated" wriggilite of the resource tonnage calculations (Section 17). This can throw a bias on the bulk sample by changing grades, minerals present etc. The bulk sample when it includes calc-silicate rock is probably more representative of the deposit as a whole, but the initial investigation would have been simpler if only pure wriggilite had been studied.
- (ii) Amdel have found that about half the tin is in solid-solution in garnet. I suspect that most of this garnet comes from the calc-silicate rocks and relatively little from the wriggilite (See table 3). Much of the calc-silicate rock occurs at the base of the wriggilite