

3. Grinding to 17  $\mu\text{m}$  is necessary for good liberation of fluorite. Scheelite is well liberated at flotation sizes but little cassiterite is liberated above 9  $\mu\text{m}$ . Much of the magnetite is liberated at 33  $\mu\text{m}$  but finely disseminated magnetite is evident in grains finer than 15  $\mu\text{m}$ .
4. 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.
5. 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.
6. 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.
7. The composite ore sample contains 0.11%  $\text{WO}_3$  as scheelite. This scheelite concentrated to 0.4%  $\text{WO}_3$  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.

#### Recommendation

As discussed in Section 6.7 of the Report, it may be feasible to treat the Moína ore by flotation to produce a low-grade concentrate at high recovery and then leach this concentrate to extract fluoride. It is recommended that sufficient work be carried out to enable a preliminary assessment of the technical and economic feasibility of this process be made. A Proposal for an economic evaluation of the proposed treatment dated 6 August 1976 has been forwarded.