

066

They carried out a series of scout tests applying normal concentration methods at three degrees of grinding. The concentration methods included heavy liquid separation, magnetic separation, gravity separation, and flotation of sulphides and fluorite. Full details are in Appendix 30.

Results

A full discussion of results is in a report entitled R 731, dated 21st December 1976, which is in Appendix 30. It was clear that very fine grinding of the wrigglite would be necessary to future work.

Conclusion

It was decided by H.K. Wellington (Mines Department) and A.H. Bartlett and P.W. Askins (Comalco) that the information emerging from the investigations would basically only mirror what Amdel had already determined. Therefore the future investigations were designed to accentuate problems which Amdel had not tackled, in particular scheelite recovery.

(b) Scheelite concentration project, investigation R 745.

Preliminary

As concluded above the exploratory project was requested to be continued with an emphasis on scheelite.

Thorough evaluation of scheelite recoveries had not been carried out by Amdel, partly because their bulk sample had a low tungsten content. Scheelite occurs in two main styles in the wrigglite: (i) as very fine grained scheelite disseminated within the fabric of the wrigglite. Under UV this fluoresces lime green and so is probably Mo rich; (ii) relatively coarse grained scheelite within the pink felspar veins which commonly penetrate the wrigglite. This generally fluoresces white and so is probably purer, with less Mo content.

It was thought that a thorough metallurgical evaluation of these styles of scheelite mineralization were warranted; scheelite could be more important economically than the tin. Assuming a mined recoverable grade of 0.1% WO_3 and prices of scheelite concentrate of \$120/m.t.u. then this is worth \$12 in-the-ground; - possibly sufficient to pay mining and milling costs.

Sample

The same sample as R 731 was used.

Methods

Successive grinding and concentration techniques were used to reduce a sample bulk of 95 Kg to a final particle size of - 53 μm . The ore was initially ball mill ground to -