Note: The recovery of 75% of the fluorine and at least 50% of the tin contained in the ore is essential for the viability of this project.

Chemical Treatment of Moina Fluorite Ore

Reference your: Letter CM 570/2502, (3/1/4/0) dated 9th December, 1975, "Chemical Treatment of Fluorite Ore" and your subsequent report: CM 2873/76, (3/1/4/0) dated 6th July, 1976, "Fluoride Extraction from Fluorite".

From your report CM 2873/76 and from discussions with Bob Allen we understand the "AMDEL process" involves:-

(i) fine grinding of the fluorite ore to pass 100 mesh BSS sieve.
(ii) mixing ore with 100% reagent (1:1, 12.5 g. of each)
(iii) three (3) experiments roasting the ore and reagent mixture for 1, 2 and 3 hours at about 400°C.
(iv) in all three experiments about 56% of the fluoride was extracted, which was converted to aluminium fluoride (AlF_3) after a silica removal step
(v) next 300 g. of ore was mixed with 400 g. reagent (ratio 3:4), roasted for 2 hours, which achieved 70% extraction of fluoride.
(vi) the fluoride can (we understand) be converted to aluminium fluoride (AlF_3), hydro-fluoric acid (HF) or pure fluorite (CaF_2).

The viability of the 'chemical treatment' of Moina fluorite ore will depend on costs and in particular:

- cost of the reagent
- amount of reagent needed to extract not less than 75% of fluoride.
- amount of reagent consumed, that is not recoverable for re-use in the process.
- percentage of contained tin recoverable from residue.

Before proceding further with this particular method of treatment we will need to know full details of the process. We will be prepared to sign an agreement to maintain confidentiality.

Beneficiation of Moina Fluorite Ore by Flotation

Reference your: Letter ME 3/1/4/0 dated 15th December, 1975, "Moina Fluorite", also your Report MP 887/76 dated 20th October, 1975, "Examination of Metasomatic Fluorite Bearing Rocks" in particular sample - M2/200/4. In addition to consideration of the 'chemical

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