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Phone Adelaide 791662, telex AA82520Winner of Award for Outstanding Export Achievement, 1975
Please address all correspondence to Frewville.
In reply quote: **CM 5/0/2862**

6 August 1976

The Manager Exploration
Comalco Limited
GPO Box 2773Y
MELBOURNE Vic 3001

Dear Mr Bartlett,

Treatment of Moina Fluorite
Project Proposal No. 5/0/2862

Thank you for your letter of 12 July 1976. In response, we are pleased to submit for your consideration the attached project proposal.

The investigation described in Andel Service Report No. CM 2873/76 showed that the iron content of the Moina fluorite ore was extensively attacked under the conditions used to extract the fluoride content. This would represent a major wastage of reagent, unless a recovery stage was incorporated to decompose the iron salt.

From this view point, because recovery of a magnetite concentrate is desired, and also because it is economically advantageous to have a feed material of higher CaF_2 content for chemical processing, we consider that physical beneficiation is an essential precursor to chemical treatment.

Minerals of economic interest are fluorite, scheelite, cassiterite and magnetite. Although it may be possible to beneficiate the ore by physical methods alone, separation of fluorite from scheelite may be difficult.

Accordingly, we propose aiming to produce a rougher flotation concentrate containing fluorite and scheelite for chemical processing.

Preliminary mineralogical examination carried out by Andel and Central Mineralogical Services Pty Limited has shown that the mineral texture is extremely fine and grinding to about 30 μm will be required to obtain adequate liberation.

Because of the complexity of the ore and the requirement to make five marketable products if possible it is not possible to specify in detail the flotation beneficiation programme. It is therefore proposed that the initial oredressing investigation, Part A, be confined to the production of a bulk fluorite/scheelite concentrate for chemical extraction, plus preliminary scouting tests to indicate the feasibility of producing separate fluorite, scheelite and cassiterite concentrates by flotation. Magnetic separation would be examined as a means of producing a magnetite concentrate and for removing iron from flotation concentrates where required.