

476



DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES  
287 WELLINGTON STREET  
SOUTH LAUNCESTON 7250

TELEPHONES:  
Metallurgical Research .. .. }  
Laboratory .. .. } 44 2431-2  
Mines Inspection .. .. } (2 lines)  
Explosives & Inflammable Liquids }

21st December, 1976.

R.731

Introduction

A sample of wrigglite ore selected from surface dumps at the Shepherd and Murphy mine, Moina was submitted by Comalco Ltd., for concentration tests to recover the fluorite which occurs as very fine grains disseminated throughout the mass.

As it was envisaged that concentration would not be simple a series of scout tests applying normal concentration methods at three degrees of grinding was done to get an appreciation of the ore.

Sample

1. Chemical analysis of the head sample gave the following results.

<u>Element etc.</u>	<u>Percent</u>
S.Fe	21.2
acid insoluble	26.0
loss on ignition	4.36
Mg	1.1
SiO <sub>2</sub>	28.5
Ti	0.08
Al	4.7
CO <sub>2</sub>	0.33
S	0.55
F (as CaF <sub>2</sub> )	7.8 (see method, para 7)
WO <sub>3</sub>	0.14
Sn	0.24
Zn	880 g/t
Pb	150 "
Bi	440 "
Sb	24 "
Cu	140 "
Mo	120 "
Au	0.6 "
Ag	1.7 "

2. Davis tube separation of the head sample gave a result of 26 percent of magnetic material at a nominal size of grind of 90 per cent -45µm.

Method

1. Sample preparation: The 'as received' material was crushed to pass 12.7mm mixed, and then riffled to produce a sample weighing approximately 6 kg for heavy liquid separation tests. The remainder of the material was then crushed to pass 3.17mm, mixed and then riffled to produce a head sample and samples for scout tests.