

R. 323 TR2-152-153

ABERFOYLE TIN MINING CO. N.L.
ORE

A sample of ore was submitted for concentration tests by Humphreys Spiral and jigging. The sample was received from the Department of Mines, Adelaide, who had conducted preliminary tests on ore and mullock after crushing to one inch size. Treatment consisted of heavy media beneficiation of the ore after screening out the — 10-mesh portion, and the examination detailed therein refers specifically to the — 10-mesh portion. The sample weighed 106 lb.

<i>Sizing</i>	<i>Percent</i>		
	<i>Weight</i>	<i>Tin</i>	<i>Distribution</i>
+ 22	33.2	1.49	28.9
+ 44	17.2	2.09	21.0
+ 60	7.4	2.29	9.9
+100	8.2	2.46	11.8
+200	8.0	2.62	12.3
—200	26.0	1.06	16.1
Composite.. .. .	100.0	1.71	100.0

Humphreys Spiral Test

This test unit is operated in closed circuit, and it was found that the coarser cassiterite lodged in the pump casing and pipe line to such an extent that the test was not reliable, and possibly a continuous feed would be necessary from a sample of this sizing.

Jig Concentration

Concentration was connected in a test Denver mineral jig to produce a low grade concentrate and a clean tailing.

Results

	Percent		
	Weight	Tin	Distribution
Concentrate	24.7	6.5	85.2
Tailing	75.3	0.37	14.8
Composite Feed .. .	100.0	1.88	100.0

This information was desired for use in consideration of ore beneficiation, proposals by heavy media and rough concentration of the — 10-mesh ore. Recovery obtained is particularly good and possibly much higher than that obtainable with a full-sized unit. Concentration tests in a commercial jig would provide more accurate data on obtainable recovery. It is considered that about 70% would be a reasonable estimate.