

TR 10-132

R. 502

STOREY'S CREEK N.L.—DORSET TIN DIVISION: MAGNETIC SEPARATION TESTS—DRESSING SHED MIDDINGS

Sample

A sample designated "Dressing Shed fine middling" was received from the above Company.

The material as produced contains substantial quantities of ilmenite and the object of the test was the removal of the ilmenite by wet magnetic separation.

The sample submitted contained 15.4 per cent of tin and 20.8 per cent of titanium dioxide.

The Gill Magnetic Separator

The Gill separator used was a prototype four pole model, manufactured by H. T. Reading & Co., Lismore.

Test Conditions

Field: Amps	11.6
Rotor Speed: RPM	7
Feed Rate: lbs. Solids per hour	200
Feed Pulp Density: % Solids	approx. 30
Wash Water: gal. per minute per pole	3
Scour Water: gal. per minute per pole	1½

Test Results

Product	Weight	Per Cent		Per Cent Distribution	
		Sn	TiO ₂	Sn	TiO ₂
Magnetics	38.6	1.28	41.6	3.2	77.1
Non Magnetics	61.4	24.3	7.78	96.8	22.9
Composite Head	100.0	15.4	20.8	100.0	100.0

Summary

The test shows that 38.6 percent by weight of the sample can be removed as a magnetic product with minor loss of tin. The magnetic product contains 77.1 percent of the TiO₂ present.

The removal of the ilmenite from the sample would facilitate subsequent gravity concentration of the tin.