

TR11-146-147

R. 507 and 508

25. KING ISLAND SCHEELITE (1947) LTD: JIG TEST ON TABLE TAILINGS

Samples

Two samples were submitted by the above company for concentration tests by jigging. The samples were described as follows:—

R.507 Nos. 1 and 2 Spigot table tailings.

R.508 No. 3 Spigot table tailings.

Investigation

Jigging tests were performed on each sample and an equal weight composite of the two. Examination of the products under ultra violet lamp indicated that little selectivity had been achieved in the operations. Unground samples of all products were forwarded to Mr N. Edwards of King Island Scheelite for microscopic examination and determination of WO_3 content.

Test Results

JIG TESTS R.507 AND R.508

R.507 Nos. 1 and 2 Spigot Table Tailing

Product	Per Cent		WO_3 % Dist.	Ratio of Conc. K
	Weight	WO_3		
Jig Conc.	46.7	0.29	62.9	2
Jig Tail.	53.3	0.15	37.1	
Composite	100.0	0.22	100.0	

R.508 No. 3 Spigot Table Tailing

Jig Conc.	49.4	0.15	44.9	Neg.
Jig Tail.	50.6	0.18	55.1	
Composite	100.0	0.17	100.0	

Mixed: Equal Weights of R.507 and R.508 (Two Tests)

Test 1 Jig Conc.	28.0	0.36	48.3	3.5
Test 1 Jig Tail.	72.0	0.15	51.7	
Test 1 Composite	100.0	0.21	100.0	
Test 2 Jig Conc.	57.8	0.23	63.6	1.7
Test 2 Jig Tail.	42.2	0.18	36.4	
Test 2 Composite	100.0	0.21	100.0	

Discussion

It can be seen that in each test the ratio of concentration is extremely low as are also the recoveries of WO_3 . It is considered that sizing and mineragraphic examination of the sized fractions from

the jig products would be necessary to determine whether scheelite in jig tailings is in the recoverable size range. It should then be possible to assess whether:—

1. Grinding of the whole tailing followed by table and/or tilting deck concentration; or
2. Jig concentration to discard an appreciable quantity of the material before grinding and concentration, would be the more desirable operation.