

J5. CHARACTERISTICS OF THE LEACH RESIDUES

The results of the acid digestion of the two size fractions of the table/superpanner concentrates are summarised below:

Sample	Size Fraction (μm)	Weight (g)		% Residue
		Original	Residue	
PC1/BF	-250 +150	2.466	0.432	17.5
PC1/BF	- 75 + 53	1.687	0.564	33.4
PC2/BF	-250 +150	3.505	0.691	19.7
PC2/BF	- 75 + 53	3.258	1.481	45.5
SC1/BF	-250 +150	3.486	0.327	9.4
SC1/BF	- 75 + 53	3.495	1.970	56.4
SC2/BF	-250 +150	3.426	0.827	24.1
SC2/BF	- 75 + 53	1.562	0.551	35.3

Examination of the residues shows that they consist of cassiterite and silicates (mainly colourless or white). Iron oxides and sulphides are not present.

The distributions of weight and tin in the size fractions of the residues are summarised in Table J3. Examination of these size fractions indicates that in the -150 μm fractions cassiterite is essentially liberated whereas in the +150 μm fractions cassiterite liberation is 40 to 80%, the main locking of cassiterite being with attachments and intergrowths of silicates. The cassiterite forms equant crystal fragments or crystal aggregates and does not show any marked development of elongate, prismatic form. The colour of cassiterite in the PC samples is mainly dark brown to yellow-brown whereas the colour of cassiterite in the SC samples is mainly reddish-orange.

It can be seen from Table J3 that most of the cassiterite in the residues reports in the size range of the original material.

J6. TUNGSTEN MINERALOGY OF MT BISCHOFF TIN ORES

Due to the rather high tungsten contents of the table/superpanner concentrates, some Mt Bischoff ore samples were examined for the possible presence of scheelite.