

Size Fraction (μm)	Cassiterite Liberation, %			
	PC1	PC2	SC1	SC2
+300	30-40	20-30	10-20	30-40
-300 +150	50-70	50-70	30-50	70-90
-150 + 75	70-90	>90	70-90	>90
- 75 + 53	>90	>90	>90	>90
- 53	>90	>90	>90	>90

Unliberated cassiterite is locked with silicates; liberated silicates are the main diluents; as iron oxides and sulphides have been removed by the acid leaching.

B5. OVERALL TIN DISTRIBUTION AND LIBERATION

The overall distributions of tin including the proportion of liberated and locked tin and the proportion of tin and cassiterite and stannite are given in Table B10. In all of these samples cassiterite is the major, or only, tin-bearing phase.

The samples show variable liberation characteristics with SC2 showing the best liberation properties and SC1 showing the worst. Only the SC2 sample shows an approximate 75% liberation within the size fractions examined, with the -105 +53 microns size fraction being 72% liberated. The finest size fraction (-105 +53 microns) of the PC1 sample is 67% liberated and it is expected that this sample would show a 75% liberation at a size of approximately 50 microns. The other two samples PC2 and SC1 would show a 75% liberation at a size below 50 microns, probably around 30 to 40 microns.

A diagram illustrating the tin liberation as a function of particle size is shown in Fig. B1.

B6. MINERALOGY OF ORE SAMPLE NO. 1

Mineralogical analysis was also carried out on both the minus 1.70 mm and pulverised material of the Mt Bischoff Ore Sample No. 1 (Stage 1).

A portion of the pulverised sample was riffled out and examined by X-ray diffraction to determine its bulk mineralogy. A polished section (PS28680) was made of the minus 1.70 mm material and examined by reflected light microscopy to identify opaque minerals.