

Mineralogical examination of the sulphide and tin flotation rougher concentrates revealed the following.

Both liberated and locked tin minerals in the coarsest size fractions (-75 +38 μm and cyclosizer Cone 1) were recovered by flotation.

A majority of the stannite was recovered in the sulphide rougher concentrate and none was reported in the tin rougher concentrate.

Both cassiterite and stannite were reported in the sulphide rougher concentrate in a ratio of about 55% cassiterite to 45% stannite with a weighted average of 86% liberation for both minerals. Unliberated cassiterite and stannite were mainly locked with non-opaque gangue. The proportion of tin in cassiterite increased with finer grain size.

A majority of the cassiterite was concentrated in the two coarsest fractions (-75 +38 μm and cyclosizer Cone 1) of the tin rougher concentrate. Cassiterite in the -75 +38 μm fraction was about 67% liberated and a weighted average of about 96% liberation was estimated in the -38 μm (cyclosizes) fractions. Unliberated cassiterite was mainly locked with non-opaque gangue and to a much lesser degree with iron oxides. The proportion of non-opaque gangue increased markedly with decreasing grain size.

Identification of tin losses in flotation rougher tail was not included in the present mineralogical study. However it was assumed that this product contained the same proportion of cassiterite and stannite as the original head material. The mode of occurrence of these minerals has yet to be established.