

A polished briquette (PS22487) was made of the heavy product and examined in reflected light.

Photomicrographs were made of each concentrate showing typical textures of tin minerals.

### G3. MINERALOGY

#### G3.1 PC1/BF and PC2/BF Sulphide Recleaner Concentrate

These two concentrates have very similar mineralogies, consisting mainly of pyrite and a smaller amount of non-opaque gangue with trace to accessory pyrrhotite, marcasite, arsenopyrite, covellite and sphalerite. A trace of galena was also noted in Sample PC2/BF. The covellite and sphalerite tend to form small grains approximately 0.05 mm and 0.1 to 0.15 mm in size respectively. The galena in Sample PC2/BF generally has a grain size similar to the sphalerite.

The major tin mineral in Samples PC1/BF and PC2/BF is stannite, with cassiterite being much less abundant. The stannite typically occurs as liberated grains up to 0.1 mm in size. The cassiterite forms small grains generally about 0.05 mm in size, some of which are locked with non-opaque gangue. Only a very small proportion of the cassiterite is locked with sulphides.

#### G3.2 SC1/BF Sulphide Rougher Concentrate

This concentrate consists mainly of pyrrhotite with a smaller proportion of non-opaque gangue and pyrite. Arsenopyrite, chalcopyrite and sphalerite occur at trace to accessory levels. The chalcopyrite has a maximum grain size of 0.1 mm and the sphalerite is generally slightly finer-grained. A single grain of an anisotropic copper sulphide mineral was noted intergrown with chalcopyrite. This mineral could be idaite or cubanite.

Both stannite and cassiterite are present in this sample. Most of the cassiterite is locked with sulphides (mainly pyrrhotite) or sulphides and non-opaque gangue as small grains with a liberation size of about 0.05 to 0.1 mm. Some cassiterite (possibly about 10%) is locked with very small (50  $\mu$ m) marginal sulphide intergrowths and some cassiterite (possibly about 20%) is locked with non-opaque gangue as grains typically about 0.05 mm in size. Only minor liberated cassiterite was noted as very small grains below 0.05 mm in size. Stannite forms grains up to 0.1 mm in size which are commonly associated with chalcopyrite.