

RENISON LIMITED
DIAMOND DRILL HOLE PLOT

HOLE No.: BT 71

066

SCALE:

104082

REPORT CMS 80/1/11

Anchor Mine Samples

Four drill-core samples from DDH BT 71 were received for petrological examination, with special reference to the occurrence of cassiterite.

The samples (from 17.6 m, 17.9 m, 18.5 m, 19 m) were thin-sectioned and examined; because of their similarities, they are described collectively.

Petrology

The rocks are greisenised, mineralised, dominantly sodic granites, with fairly evenly distributed cassiterite.

The rocks consist of abundant, coarse quartz, as anhedral interlocking patches up to 3-4 mm across, with smaller laths of fresh albite, minor orthoclase, and relatively coarse muscovite flakes (and pale phlogopite). Replacive minerals, of pneumatolytic origin, are irregular to subhedral topaz crystals, and subradiating groups of muscovite flakes.

The cassiterite is generally associated and intergrown with the introduced muscovite; unlike previous samples, in which cassiterite forms good, often coarse crystals, the occurrences in all four intersections tend to be skeletal, irregular, poikiloblastic patches; these patches, though quite large, are intergrown with muscovite and thus lack the compactness of single crystals without intergrowths. The textures are unusual and are illustrated in the accompanying photomicrographs.

Because of the skeletal nature of the cassiterite, its effective grain size (in terms of liberation) is much smaller than in other samples; compact masses (i.e. cohesive grains) seldom exceed 300 μ , and many are in the 10 μ - 100 μ or even 10 μ - 50 μ range; nevertheless, topaz is the only other "heavy" mineral present in any quantity. However, the metallurgy will naturally be affected.

Photomicrographs

- No. 1 (T.S. 30655, BT 71/17.6 m) Crossed polars, 30x
A single skeletal cassiterite crystal (black) intergrown with muscovite, quartz, albite.
- No. 2 (T.S. 30655, BT 71/17.6 m) Crossed polars, 125x
A single crystal of cassiterite intergrown with muscovite (mottled appearance).
- No. 3 (T.S. 30656, BT 71/17.9 m) Crossed polars, 30x
Two skeletal cassiterite crystals (two patches with different optical orientation) with fine muscovite, coarser quartz and albite.
- No. 4 (T.S. 30658, BT 71/19 m) Crossed polars, 30x
One large and two smaller skeletal cassiterite crystals intergrown with silicates.

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