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3. BANCA MINE, WINNALEAH DISTRICT

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INTRODUCTION

An investigation of the alluvial tin deposits at the Banca Mine (fig. 3) has shown that reserves of tin-bearing alluvium are sufficient for several years of working at the present operating scale. Several leases cover the tin-bearing alluvial ground, all held by R. L. Rainbow; they are 11433M of 5 acres, 9192M of 6 acres, 112M/47 of 10 acres and 135M/47 of 15 acres.

The deposit is located approximately 6 miles N of Winnaleah in North East Tasmania. Access is via the main Winnaleah-Bridport road which passes through the leased area.

Approximately 108 tons of cassiterite has been produced from the area, the present average yearly production being $3\frac{1}{2}$ tons of cassiterite. The average grade of the alluvium being worked is $1\frac{1}{2}$ lb cassiterite per cubic yard.

GEOLOGY

The country rock in the area is Devonian granite but locally Pleistocene to Recent sediments form a thin veneer over the basement rocks. The granite is the normal feldspar porphyry type found covering a large area of NE Tasmania; dykes of aplitic material and microgranite cut the granite in a NE-SW direction and small (up to 2 inches wide) milky quartz veins were also seen cutting the granite in a NE-SW direction. The alluvium contains mainly granite detritus but occasional weathered schistose pebbles of probable Mathinna Group sediments were found, indicating that at least some of the surrounding hills were, until the Pleistocene, either covered by Mathinna Group sediments or that the sediments occurred as roof pendants in the granite.

The maximum depth of alluvium present on the granite is probably less than 10 feet thick and the average depth of alluvium 3-4 feet. The bottom sedimentary layer is a 4-6 inch band of angular to sub-angular white quartz pebbles interbedded with coarse grit and this layer carries most of the cassiterite. Overlying this coarse angular wash is 3-4 feet of clayey granite detritus generally containing little or no cassiterite. Occasionally cassiterite is found at or near the surface of the alluvium as a result of the exposure and part redeposition of the deeper layers of alluvium by the present erosion cycle.

The bottom 6 inches of tin-bearing wash is markedly different from the overlying granite detritus and must have been deposited during a different erosion cycle. The source of the angular white quartz pebbles and the cassiterite is most likely to be the surrounding hills, especially those just N of the alluvial area. The heavy minerals recovered by sluicing are cassiterite and very small amounts of rutile and secondary pyrite. The lack of other heavy minerals (such as topaz, corundum, spinel, &c.) usually found in the NE

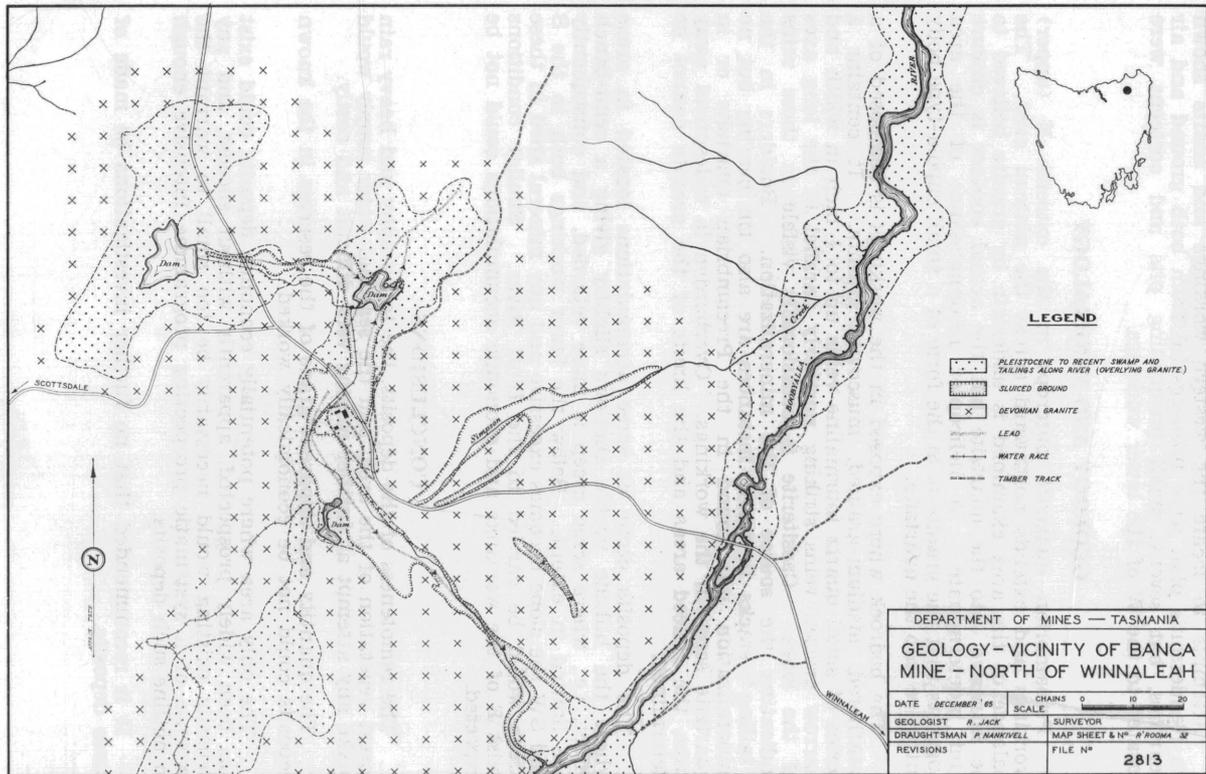


FIGURE 3

tinfields indicates a slightly different origin for the cassiterite in this deposit. Here the cassiterite and angular quartz pebbles are thought to be derived from veins in the granite and possible overlying Mathinna Group sediments and not from the more usual sources of tin in the NE, i.e., the quartz mica and mica greisen veins in the granite, and the fine grained altered muscovite granite or "tin granite".

CONCLUSIONS

The shallow deposits are ideal for small scale working and can support the present lessee for many years. A bar to the more rapid working of the deposits is the lack of water during the summer months. Further prospecting of the alluvial in Prices Creek and Sandy Creek is warranted and prospecting of all the alluvial flats in this area is advisable before any of the land is alienated from the Crown.