

MONAZITE IN TASMANIA

Monazite sand has been found in numerous localities in Tasmania in association with alluvial tin deposits. In every case the deposits occur near out-cropping granite of Devonian age.

Monazite has been observed in the granite in the Stanley River district, but not in any quantity. It appears certain that the Monazite is distributed throughout this rock, but that no concentrations exist, and the alluvial deposits derive their content from the eroded granite. The principal localities are North Heemskirk, Stanley River, Yellow Band Plain (North West), Mt. Stronach, Pioneer, Derby and other north east localities are Lottah, S. & M. Mine, West Bischoff Mine, Salisbury, Cleveland Mine.

The most important deposits are those at Stanley River and Yellow Band Plain situated on opposite sides of the Meredith Range in the north western part of Tasmania.

Stanley River

The Stanley River deposits is briefly described in the following reports -

G.A. Waller, Report on the prospects of the Stanley River Tinfield, 1904.

L.L. Waterhouse, The Stanley River Tinfield, Geological Survey Bulletin No. 15.

The monazite is associated with the alluvial tin deposits of the district. No assays were quoted, but it was stated the content of thorium oxide is too low to pay for the extraction. Samples recently obtained by the lease-holders have, however, given very high value of thorium. A copy of an Assay Certificate by Mt. J.C. Watson Chief Chemist of the Victorian Geological Survey Laboratory is attached hereto and shows a content of 10.22 THO₂. In the verbal communication the officers of the Victorian Department stated that the Thorium content of the samples was very irregular and that they came to the conclusion that thorium minerals other than monazite are present.

Mt. Stronach

During 1901 a reward claim was granted at this locality and work continued for a year or so. It was stated that the quality was satisfactory, but the quantity insufficient for commercial exploitation. It is also stated that the material contained only 2 percent thorium oxide.

A recent assay of material from this locality gave the following results in the Mines Department Laboratory, Launceston:-

Tin	46.0%
Thorium Oxide	0.4%

Pioneer Mine

The Pioneer Tin Mine is situated near the township of the same name in the northeastern Tasmania. In the streaming of the alluvial tin ore there is obtained, in addition to the marketable cassiterite a mixed concentrate of cassiterite, monazite, pyrite, pleonaste etc. This is divided into four products by jigging and skimming one of which consists of monazite and coarse cassiterite containing 14% Sn.

Yellow Band Plain

Material from this district was assayed in the Mines Department Laboratory, with the following results:-

Thorium Oxide 0.50 per cent

Other samples assayed for those interested are stated to have given higher results (8 per cent is quoted). There is apparently the same irregular thoria content as in the monazite from the Stanley River district and other thorium minerals are probably present.

- (a) Composition of the sand. This has been discussed above for each deposit as far as our present knowledge extends.
- (b) Extent of the deposits. In the absence of Geological Surveys the extent cannot be accurately stated. The Yellow Band Plains one is the largest and probably covers many acres.
- (c) Price of production. The two most important deposits (Yellow Band Plain and Stanley River) are rather lacking in lines of communication, being connected to larger centres only by tracks. Apart from actual working costs this factor would largely influence the total cost of production. No reliable estimate of the total cost can be given.

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26/6/25