

LAFFER TIN MINE - WELDBOROUGHNotes on result of Sampling

The Laffer Company of Hobart recently carried out some sampling work on the mine at Weldborough, under the supervision of Mr. H.G. Beltz.

On 7th September last the Writer in a brief report outlined a method for the preliminary work of sampling the extensive tin bearing Griesen ore bodies that traverse the leases.

It was then recommended that trenches should be cut across the lode outcrops at right angles to the strike and sampled in sectional widths eliminating as far as possible the bands of granite interbedded with the Griesen. The latter being the tin bearing rock on which the future of the mine, so far as crushing and milling is concerned, depends.

From particulars supplied by Mr. Beltz, he has included in the samples taken, the alternating bands of granite which in computing the tin content of the Griesen bands to some extent obscures the correct result. It has, therefore, to be arrived at indirectly, assuming that the granite contains no tin.

In all 15 samples were taken, cut from 7 trenches, spaced over a length on the ore body of 656 feet. The average width of tin bearing Griesen sampled being 15 ft., with the included granite the width would be 35 ft.

On the assumption that the latter contained no tin, or in such small proportion that would not materially affect the average of that contained in the Griesen rock, the latter shows a fairly regular distribution along the course of the ore body sampled.

The samples were assayed at the Mines Department Laboratory, Launceston, and calculated on the basis mentioned give an average of 0.58 per cent metallic tin. The highest individual assay was 1.98 per cent taken over a width of 5 ft. the lowest cut from a width of 15 ft. 8 in. 0.22 per cent.

Three samples were taken from the dump heaps of Yorking accumulated from sluicing operations which have been carried out for years past on the soft granite wall rock of the Griesen ore bodies.

The material composing these heaps should represent a fair average of the tin bearing Griesen bands which in the course of sluicing operations is carried to the sluice boxes.

The three samples taken from the dumps by Mr. Beltz, assayed, respectively 0.75., 0.60 and 0.50 per cent. The tin content of these indicate that those cut from ore trenches are fairly representative of the ore body, providing that the former were taken in a manner representing the dumps as a whole.

The question of the economic treatment of ore of the grade indicated by the sampling results would depend upon -

1. The quantity to be treated daily.
2. Cost of mining, transport and milling, including necessary power,
3. Maintenance of the average grade of the stone to be treated to allow for profitable operating cost.

Regarding (3), every precaution should be taken to ensure that whatever the minimum grade decided upon as being payable, may be an assurance that a continuous output of that grade can be maintained without an increase of cost in mining and transport costs, is essential.

The results obtained from the sampling by Mr. Beltz are encouraging enough to warrant further investigation with a view of the treatment of the ore bodies on scale sufficiently large to allow for a reasonable profit on outlay of plant and working expenses.

There are a number of natural advantages connected with the mine that would greatly facilitate the exploitation of the ore bodies. There are -

1. Comparatively cheap cost of mining owing to the soft nature of the wall rock which can be removed to a considerable depth by sluicing, thereby exposing the ore body for the cheapest form of mining - quarrying methods -
2. Facilities for utilisation of water for generation of power.
3. The favourable character of the stone for crushing and concentration purposes.

signed

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Mines Department,
Hobart,
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