D.R. MALLINSON'S PROSPECT, MUSSEL ROE

In connection with an application by D.R. Mallinson, of Gladstone, for assistance under Section 5 of the Aid to Mining Act, 1927, to enable him to purchase a pipe column, 2900 feet in length, I made a brief examination of the Mussel Roe area, in which the applicant's mineral lease No. 11843/M and associated water right No. 3120/W are situated.

The mineral lease, of five acres, is one of a group formerly held by and worked intermittently over a long period by such well-known tin mining companies as the Cutty Sark, Aberoe, Mussel Roe, New Mussel Roe etc. It is situated approximately seven chains north of the balance dam connected with the water right. The northern part of the section is bounded by old working faces created by previous efforts to mine these gravels. Owing to the generally collapsed condition of the faces, only a few were available for sampling in a manner which would give a close approximation of average tin content.

The water right consists of a race over 19 miles in length through which the applicant has the right to convey three sluice heads, the intake being in the Great Mussel Roe river immediately below the Mount Cameron water-race intake. I did not inspect the race to determine its present condition or capacity to carry the water available.

The ground treated in these workings consists essentially of the shallow ground on the western side of the old Mussel Roe deep lead. The deposit shows a desending section of one foot or more of black peaty soil resting on approximately six feet of granite drift at the bottom of which is a layer of tin-bearing wash six to nine inches thick resting on a soft granite bottom. An infiltration of silica into the partly consolidated drift has resulted in various stages of cementation.

The concentrate shows a strong admixture of ilmenite, with the tin ore, which adversely affects the assay. This ilmenite is characteristic of the Mussel Roe lead.

Apart from one small shallow cut, no attempt has been made to determine the tin content of the ground held under lease and in order to get some idea of its tin content, several samples were taken from old working places in the immediate vicinity. These samples are indicative only of the ground sampled and cannot be used in assessing the value of the ground held under lease.

The first face sampled was a small cut south of the balance dam about two chains east of the hut on section No. 11822/M. It was taken in two sections, consisting of a bottom section of 3 feet 3 inches and a top one of 3 feet.

No. 1 Sample

The material consisted of a few inches of coarse , black stained wash overlain by the typical granitic drift. The section cut represented one half a cubic foot and gave 0.776 oz. of concentrate assaying 20.0 per cent tin which is equivalent to 8.37 oz. of tin per cubic yard.

No. 2 Sample

This consisted of a three foot section immediately above Sample 1, of tightly cemented drift and gave a return of 0.03 oz. of concentrate assaying 14.5 per cent. tin which represents 4.86 oz. of tin per cubic yard.

The average tin content of the ground represented by Samples Nos. 1 and 2 over a depth of six feet three inches is 6.7 oz. per cubic yard.

No. 3 Sample

This sample was taken from the north face approximately two chains east os samples Nos. 1 and 2.

The weight of concentrate obtained from approximately one half of a cubic foot was 0.151 oz., assaying 38.8 per cent tin and represents an average over a six foot section of 3.24 oz. of tin per cubic yard.

The only other samples taken were two obtained from the old faces some 20 to 30 chains north of the applicant's lease. One, from Lumsden's face gave an indicated average of 13.3 oz. of tin per cubic yard over a ten foot section while the other was not a measured sample and, therefore, is indicative only of the tin content of the concentrate namely 38.0 per cent.

The examination of these old workings indicates that the depth of the gravels probably does not exceed six feet.

The recorded production since 1937 gives an indication of the average tin content of the material treated and is equivalent to 8.0 oz. of tin per cubic yard. The most significant feature regarding this production, is the small amount of material treated, the maximum monthly quantity not exceeding 1,000 cubic yards and this level was seldom reached; the normal rate of treatment being more of the order of 100 cubic yards per week.

Apparently, the two chief factors operating against maintaining a greater and more constant production are the extremely variable silica cementation and the limited water supply with its low static head. The maximum head available on the applicant's section would not exceed 40 feet.

Assuming that the drifts exist over the whole of the five acre section with an average depth of six feet, there would be available some 50,000 cubic yards of drift with an unknown tin content.

In view of the factors controlling production in this area, it is essential that the tin content of the ground should be determined before operations are commenced. Therefore, as the ground to be tested is relatively shallow, I must insist upon some effort being made to ascertain the grade of material available before a recommendation for the required expenditure can be made.

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Department of Mines,
HOBART.

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