

NOTES ON BLUE TIER WELD MINE.WELDBOROUGH

The writer made a brief visit of inspection to this property on 2nd March, 1928, for the purpose of conferring with the management respecting the methods of operation and to advise as to future working and exploration of the deposit.

The Director of Mines made an examination of the property on 13th October, 1927, and as a result of his visit furnished full particulars in his report of that date. The geological and general features of the deposit have been described in detail.

The conditions then prevailing at the Mine are practically unaltered today.

At the time of the writer's visit, operations were confined to working the soft granite formation at the entrance of the open face.

A partial shortage of water necessitated a temporary cessation of operations at the main face.

Working Conditions

The present method of operation on the narrow bed of sub-basaltic gravel is not conducive to the best results being obtained. The deep covering of basalt boulders and soil and the very large proportion of heavy wash renders the work very difficult. Moreover, the disposal of the boulders seriously handicaps the operations generally, owing to the great amount relatively of hand labour necessary to remove and stack the heavy stone.

The main face which is being advanced in a south easterly direction is approximately 250 ft. wide, the average depth is about 30 ft. Except for the narrow bed of wash ranging from a few inches up to a thickness of 8 ft. the whole of the overburden material is practically devoid of tin. The wash shows very rich prospects of tin, owing to it dipping as the face is advanced the quantity of overburden increases.

Under much more favourable working conditions the results could not be expected to be remunerative unless an improved system of dealing with the overburden is instituted.

If under the present system of working the quantity of tin recovered is sufficient to cover expenses of mining, a much improved return would be made by working the face in a more comprehensive way.

The face is wide, which allows room operating it to the best advantage.

To obtain the best results under the conditions it would facilitate the general working of the deposit by removing alternative sections of the overburden. That

is to divide the face into two sections, confining all work on one section until a sufficient quantity has been removed. The area of each section uncovered will be governed by the room available for stacking the heavy wash. During the time the bottom of tin bearing portion of the drift is being sluiced, the removal of the overburden from the other section would be proceeded with.

It would take a considerable amount of time to reach the productive stage in such a scheme, but it appears to the writer to be the only efficient way of working the deposit. Following the removal of the first section of overburden productive work would be continuous from alternate sections of the face.

The management would be in a position to judge if the expenditure necessary to carry out such a scheme is justified on the results hitherto obtained in working the deposit. Relatively, the proportion of overburden to be removed is very high, under the conditions of working the gravel would need to be exceptionally rich to show a profit over working expenses.

Gravel deposit

This deposit is the only source of tin above the bedrock on which it rests. It has the appearance of being an old river bed, the deepest portion of which lies some distance south west of the present face.

The surface of the land for a distance of a few chains wouth west of the face shows no appreciable rise. A short distance ahead of the face a slight depression occurs running parallel to the face. To the south west of the face the land surface falls away rapidly, affording a good opportunity to test the ground in that direction for the extension of the bed of wash.

A steeply inclined channel falls away to the west. This would serve as a tailings race if operations were commenced from a point on the hillside at an elevation that would correspond with the depth at which the gravel would be met with. This could be ascertained sufficiently close enough by a survey of the bed of wash exposed in the workings and making allowance for the dip for the distance separating the two points.

A series of bore holes would be a possible means of testing the area, but owing to the thick layer of basalt and granite drift covering the tin bearing wash, boring would be slow and costly.

The more efficient method would be to extend the pipe line to the position referred to and open up the deposit by sluicing. In the event of the wash being located in payable quantity, productive work could proceed without delay. The drift could be dealt with much more economically from that position than the present one.

The increase in thickness of the tin bearing gravel is sufficiently encouraging to prosecute work with a view to locating the gutter.

General Porphry Formation

It is understood that the original purpose of the Company was to work the soft granite formation by sluicing and during the progress of this operation the bed of alluvial wash was located.

This bed rock granite is intersected by narrow veins of tin bearing quartz and when broken down a complete separation of the tin is effected by ordinary sluice box methods.

The successful working of a deposit of this description will depend entirely upon the quantity of the material treated.

It is essential that operations be continuous so long as water is available.

General

The mine is well equipped with plant, but is placed at a disadvantage in working owing to a shortage of water for sluicing purposes.

In working a property of this description, success will depend to a great extent upon the continuity of work.

On the prospects generally the property is worthy of a full investigation both in regard to the extension of the alluvial drift and the tin bearing granite formation.

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