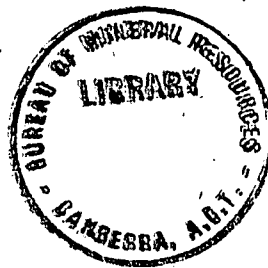


*Proposed Drilling at King Island.  
Scheelite Mine, King Island.*

*Report No 1944/11.  
Recd*



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DEPARTMENT OF SUPPLY AND SHIPPING.

Mineral Resources Survey Branch.

PROPOSED DRILLING AT KING ISLAND SCHEELITE MINE,  
KING ISLAND.

Report No. 1944/11.

I. INTRODUCTION.

On the 5th February, Mr. A. A. McLeod, General Superintendent of King Island Scheelite, N.L., telegraphed that it was desired to obtain further information about the ore structure to the north-east of cross-section line 13, and suggested the drilling of two diamond drill holes.

Telegraphed advice was sent to him on the 7th ultimo and letters (accompanied by cross-sections) on the 7th and 9th ultimo, and three possible sites and holes were discussed.

In response to a request from Mr. McLeod, a visit was paid to the mine on the 26th and 27th ultimo, when returning from Mount Bischoff mine, Tasmania.

The whole position regarding the above portion of the deposit and open cut was reconsidered, and problems regarding drilling further west on the northern side were also investigated.

A short statement was prepared while at the mine. That statement forms the basis of the remainder of this report, but it has been somewhat amended and expanded.

II. ROAD PROBLEM BETWEEN 600E AND 800E.

The roads as planned at present in the north-eastern part of the open cut are situated on rocks of the mineralised zone. If this portion of the mineralised zone contains ore of profitable grade, the roads would prevent the quarrying of that ore in the near future. If the roads are constructed as planned, drill holes could be put in at a later date from the roads to determine the amount and grade of ore which would have to be mined later from the portion of the mineralised zone which they occupy. The mining of any ore below the 100-foot road would, however, have to be delayed until that road was no longer required for transport. Alternatively test holes could be drilled immediately and the road and mining operations planned in accordance with the results obtained as regards the amount and grade of ore.

Under the latter scheme, test holes at the following three sites would be necessary. In addition to assisting in the solution of the road problem, the hole at site 1 would give important information about the Top orebody north of the No. 5 fault.

1. Hole to start from 868E/88N at a level of approximately 58 feet and to be drilled in a direction of 290 degrees and at a depression angle of 50 degrees. This hole would cut sea-level at 821E/107N. The length of the hole would be 158 feet to the top of the Bottom orebody, which would be reached at 60 feet below sea-level. This hole would be drilled between Nos. 5 and 3 faults, the positions of which are not accurately known in this vicinity. If the white muscovite-quartzites were intersected, it would be necessary to stop drilling and move to a site a short distance to the south. It would probably be advisable to extend the excavation in the vicinity of the above site in order to expose bedrock beneath the sands, etc. If this were done, it would be possible to definitely locate the site necessary to drill the portion of the mineralised zone between Nos. 5 and 3 faults.

2. Vertical hole at 735E/185N. Depth 100 feet.

3. Vertical hole at 687E/230N. Depth 80 feet.

By not drilling the test holes immediately, the roads might be situated too far to the north and, therefore, have caused the removal of too much overburden. This would be the case if the Bottom orebody, as intersected in the 2 and 3 holes suggested above, was found not to contain ore of profitable grade. If there was no profitable ore in the Bottom orebody, it might have been possible to have moved the 100 and 150-foot roads a distance of 50 to 20 feet southerly from their suggested positions.

A visual estimate of the proportions of overburden and ore along two cross-sections in the block concerned, was  $1\frac{1}{2}$  to 1.

Approximate estimates of the additional excavation required above the 100-foot level if all the ore proved to be of profitable grade, indicate an amount of 12,600 cubic yards or 28,000 tons of waste rock.

The corresponding amount of ore to be obtained by the additional excavation would be approximately 19,000 tons.

### III. FOOTWALL PROBLEM FROM NO. 8 LINE WESTWARDS.

For the purpose of fixing the sites of the 100 and 150-foot roads westwards from the No. 8 line, the northern ends of lines 8, 4, 3, 2 and 1 should be drilled in the above order so as to determine the grade of ore and the positions of the footwall and/or the No. 3 fault. The sites of the suggested drill holes are given below. All holes should be drilled in a direction of 10 degrees and with a depression angle of 50 degrees.

Line 8. Between 200 and 210 feet from the base line. Length 95 feet.

Between 290 and 300 feet from the base line. Length 85 feet.

Line 4. 275 feet from base line and at a level of 183 feet (or corresponding distance and level if the overburden in that vicinity has been previously removed). Length 110 feet.

Site 4E. Drilling of this hole would determine the northern batter of the 150 foot bench.

Line 3. A hole at site 3F. Length 120 feet (the question of leaving the drilling of this hole until the overburden has been removed above the 150-foot bench should be considered).

480 feet from the base line. Length 80 feet.

Line 2. Hole at point 400 feet from base line. Length 200 feet.

Hole at point 540 feet from base line. Length 100 feet.

Line 1. Hole at site 1F. Length 160 feet.

The drilling of the four holes (two on each line) on lines 8 and 4 are fairly urgent in order that the extent of profitable ore can be proved and the roads planned accordingly.

The drilling of the five holes on lines 3, 2 and 1 is not so urgent. These holes would test the portion of the mineralised zone north of the probable fault shown on plate 11. (The presence of this fault is proved on line 1, hole 33 being north of the fault). The down-faulted block north of the fault

would contain ore down to the 100-foot level and in some places down to the 75-foot level. It is possible that this ore could be quarried at a later date from a small sub-parallel open cut branching from the open cut and in this case the drilling could be postponed. Alternatively, if it is desired to know the position of all profitable ore on lines 3 to 1 so that roads can be planned in the near future, the drilling should be done at once.

It is recommended that the holes on lines 8 and 4 should be drilled as soon as possible and that the position regarding roads and further drilling should then be reconsidered. If it is decided to proceed with further drilling, the position could be reconsidered after the two holes on line 3 had been drilled.

#### IV. OTHER DRILLING.

The drilling suggested above is to assist in the solution of fairly urgent problems associated with the opening up of the open cut and the construction of roads in it.

Such drilling does not represent all that is necessary in connection with the future working of the open cut. After the above drilling is done, there would remain (1) The completion of the drilling of lines 5 and 6 and subsequently the drilling of other lines to the west from line 6, (2) Intermediate holes between existing holes to more accurately determine, if required, the amount and average grade of the ore.

CANBERRA, A.C.T.  
23rd March, 1944.

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