Resulting from an application by Mr. S.M. Hill, for advice and assistance relative to tin bearing areas currently held by him as leases in the Moorina district, and now in process of transfer to Mr. P.G. Heyes, some boring was carried out during the period 8th to 18th December, 1953 inclusive. The leases are situated to the south of the township of Moorina between the main road and the Weld River.

The leases and water rights held in the name of S.M. Hill are as follows:-

Leases   70M/40   of   5 acres
            10M/41   of   20 acres
            44M/41   of   33 acres

Water Rights
           145/W   for   2 sluice heads
388/93W and 3096/W   for   5 sluice heads
         863/W   for   2 sluice heads
        1184/W   for   6 sluice heads
        2445/W   for   3 sluice heads
        2457/W   for   3 sluice heads
        2513/W   for   10 sluice heads
         20W/40   Deviation of 3096/W
      MR/WR 363   for   1 sluice head
27W/40 and 3W/45   for   1 sluice head

a total water right of 33 sluice heads to serve a leased area of 58 acres.

The lease on which the boring was carried out was lease No. 70M/40 of 5 acres which lies a little to the north of consolidated lease 40M/41.

The boring plant used was the hand boring plant of the Department of Mines. It is of 3 inch internal diameter and is capable of being used for depths of up to 70 feet. All samples taken from the bores were measured to within 0.1 of a quarter cubic foot and were washed at the site of the bore. The concentrates were dried and weighed each evening and later sent for analysis to the Mines Laboratory at Launceston.

The time occupied in boring was a total of 265 man hours extended over a period of eight working days. During this period eighteen bores were completed with a total footage of 347.5 feet, and excluding bores where repetition was necessary because of logs etc., with an effective footage of 301.5 feet.

The bores were placed on the intersections of grid lines of one chain interval. Each bore is, therefore, representative of 0.1 acre.

Of the eighteen bores completed, eleven bores proved ground of an economic grade varying from 7.1 oz. p.c.y. to a maximum of 71.8 oz. p.c.y., calculated to a grade of 70% Sn, with an effective average of 19.1 oz. p.c.y. For the eleven bores of economic grade the depth of ground varied from thirteen to twenty feet with an average depth of 16.7 feet or 5.5 yards.

In calculating the average grade of the wash proved by boring some allowance was necessary to counteract the effect of the few bores of excessively high grade.

The first procedure was, therefore, to calculate the average grade with all the high grade bores included. This figure, the general average, was 26.0 oz. p.c.y. Having obtained the general average a second calculation was made to determine the effective average by assuming as the maximum grade for any bore the figure obtained for the general average. An effective average of 19.1 oz. p.c.y. was obtained and should more closely approximate the recovery during mining operations.

It has, therefore, been proved by boring that over an area of 1.1 acres there occurs a body of wash and gravel of an average depth of 5.5 yards and an average grade of 19.1 oz. p.c.y. of concentrates containing 70% Sn.

The available reserves are, therefore, 29,000 cubic yards containing 15.4 tons of concentrate of 70% Sn. grade.

Accompanying this report are:-

A Bore plan showing the position of the bores relative to the existing workings and sections drawn along the various lines of bores.

A locality plan showing the position of the various leases relative to the township of Moorina.

A tabulated list of all bores of economic grade showing calculations to prove the reserves available.

(Sgd.) H.G.W. Keid

CHIEF GEOLOGIST

Department of Mines,
HOBART

12th January, 1954.

Bore No.	Depth	Field Grade oz. p.c.y.	%Sn.	Grade to 70%Sn.	Foot Oz.	Gen. Av.	Accepted Grade	Foot Oz.	Effective Average
1.	20.0	54.16	62.8	48.5	970		26.0	520	
2.	17.5	78.3	64.1	71.8	1258		26.0	455	
3.	19.0	28.1	63.4	25.3	483		25.3	483	
4.	17.0	26.1	63.4	23.7	405		23.7	405	
8.	17.0	25.4	63.4	22.8	387		22.8	387	
9.	17.0 NB	9.8	63.4	8.9	152		8.9	152	
14.	17.0	17.7	58.2	14.78	252		14.78	252	
15.	16.0	19.1	58.2	15.9	254		15.9	254	
16.	14.0	14.1	57.4	11.5	161		11.5	161	
17.	17.0	8.4	57.4	7.1	121		7.1	121	
18.	13.0 NB	32.0	57.4	26.1	338		26.0	337	
Total	184				4781	26.0		3527	19.1

Average Depth 16.7 feet

11 bores represent 1.1 acres = 5,324 sq. yards
Average depth 16.7 feet = 5.5 yards
Cubic Content = 5,324 x 5.5 =
29,280 cu. yds. say
29,000 cu. yds.

29,000 cu. yds. of average grade 19.1 oz. p.c.y.
(1.19 lbs.) contain 34,510 lbs. concentrates
of 70% Sn.
contain 15.4 tons concentrates of 70% Sn.