

REPORT

on

MINERAL LEASES, Nos. 10180/M, 30 acres, 10181/M, 10 acres 9898/M, 5 acres, Chartered in the names of F. Hunter and others.

Situation and Access

The leases are situated in the district of South Mt. Cameron. The central portion of the area lies about $\frac{1}{4}$ mile of the eastern side of the road leading from South Mt. Cameron to Gladstone and approximately a mile distant from the former settlement.

Topography

The area is situated on the western side of the valley of the Ringarooma River and slopes gently to the east from the edge of the wide area of comparatively level country lying to the south of the Mt. Cameron mountain range.

The land surface is practically clear. It has been sparsely timbered with gum trees, most of which have been removed for firewood used for steaming purposes on mines in the neighbourhood. A small watercourse extends in a north easterly direction through the leases to the Ringarooma River.

The ground is favourably situated to work by gravitational sluicing. The slope from the higher parts of the area being of sufficient gradient for the effective discharge of tailings.

Geological Features

The deposit which carries varying quantities of fine alluvial tin oxide consist for the most part of clayey drift intermixed with varying quantities of waterworn pebbles of quartz and quartzite ranging up to about an inch or thereabout in diameter. The bed rock is of soft granite, where, in contact with the drift on other portions of the area where bare granite outcrops at the surface, it is hard. This alluvial drift has probably been laid down at a period when the channel of the Ringarooma River was at a much higher level than it now is, the tin bearing material having been transported from a neighbouring area and has been derived from the denudation of granite containing veins of quartz carrying tin oxide. From general indications it would appear that only the remnants of a former deposit is represented on this area. The best quality and deepest portion of the drift is situated on the comparatively level area on Section No. 10180/M, thinning out considerably on the hill slopes, with the usual accumulation in the form of a narrow strip along the bed of the watercourse. The northern portion of Section 10180/M shows bare granite outcropping over a considerable area that is north of the small watercourse referred to; the hard granite rock outcrops on the south side of the small dam on the north east portion of the section. On the hill slopes to the east towards the River the drift is very shallow.

The total area tested by pits sunk through the drift is roughly ten acres, the average depth as indicated by the shafts, is 6 feet. The estimated quantity of tin oxide in the drift is 15.46 oz. per cubic yard. The comparatively high average grade of the material is due to an enriched area in the vicinity of No. 6 shaft situated near the north central portion of Section 10180/M. Disregarding the high result obtained from sample taken from this shaft, the average is reduced to 5.8oz. per cubic yard.

The following is a list of the samples taken from the pits and the quantity of tin oxide per cubic yard in each:-

<u>Shaft No.</u>	<u>Depth in ft.</u>	<u>Ozs. per cub. yd.</u>
1	4	4.29
2	4	13.26
3	4	5.85
4	6	12.57
5	4	14.88
6	8	87.00
7	9	4.55
8	8	5.47
9	9	18.00
10	3	14.42
11	5	7.99
12	9	2.27

Taking an area of 10 acres of an average depth of 6 feet the quantity of drift available would be 96,800 cubic yards, assuming the average tin oxide content to be 15.46 ounces per cubic yard, the total quantity of tin oxide would amount to 41.7 tons. It would, however, not be safe to estimate the quantity of tin oxide on this area on the available data. More prospecting work is needed to prove the extent of the lead of drift located in No. 6 shaft.

The shafts have been sunk in more or less irregular positions, and, in order to obtain more reliable data than that at present available, further testing of the deposit is necessary. Pits should be sunk in regularly spaced rows in order that the area can be divided into blocks of known dimensions. By this means a fairly accurate estimate of the quantity, drift, and the contained tin oxide can be made.

The deposit is well situated for the cheap and efficient working by ordinary gravitational sluicing under nozzle pressure.

A narrow lead of sandy drift extends north easterly through Section 9898/M. Some sluicing work has been carried out here over a distance of several hundred feet. The width of the working varies from 25 to 8 or 10 feet. The tin bearing drift, ranging in thickness to 2 or 3 feet is overlain here with superficial sandy material up to 6 feet in depth.

On the southern portion of section 10180/M a similar lead of drift has been worked from the south towards the summit of the ridge. The material exposed in the face to a depth of 4 feet gives fair prospects of tin by dish washing.

The chief factor to be considered in working a deposit of this description - providing the quantity and tin content are sufficient to justify expenditure needed in equipment to work it - is an adequate water supply.

The only source from which the latter could be obtained appears to be from the Ringarooma River which flows through the north easterly portion of Section 10181/M. The River, owing to siltation from mine tailings has been lifted from its natural channel and, in many places, along its course overflows its banks often forming pools of water thereon. Through this cause a small reservoir has been formed on the north east portion of Section 10181/M which would serve as a source of water supply to work the drift on sections on the higher ground.

To obtain water and convey it to area tested by the pits would necessitate a pipe line 23 chains in length. The difference in height of water level to the highest point on the sections where drift occurs is 110 feet. To raise water to that height the horse power needed for each sluice head would be 7 to 9, depending upon the condition and diameter of pipes used.

J. B. Scott
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Mines Department,
Hobart.

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