

MODDER RIVER TINFIELD - CAPE BARREN ISLANDLocation and Access:

This area is situated at Cape Barren Island, on the south side of Mount Munro Range, about the upper reaches of Modder River.

Access is by means of an unmetalled road from "The Corners" jetty southerly through the Reservation to within a half mile of Thunder and Lightning Bay, where the cart-track deviates easterly and terminates at the workings in a total distance of 9 miles.

Topography:

The field occupies the upper portion of a wide low-lying valley through which the stream known as "Modder River" flows, on a south-westerly course from its source between Mount Munro and Double Peak, to the sea at Thunder and Lightning Bay. The floor of the valley forms a plain, up to one mile wide, in which Modder River and its branches are entrenched to depths ranging from 20 to 50 feet.

The northern limits of the plain conform with the bottom of the steeply rising foothills of Mount Munro and Double Peak, while it is confined to the east and west by high southern trending spurs of the same mountains.

History:

Tin was discovered in this area prior to 1909, in which year Barrett and Graham produced the first marketable product. At intervals several attempts have since been made to mine the tin, notably by Mansfield and party in 1918 and again in 1934 by Gardener and Barrett.

About 1927 a small area in vicinity of the workings was bored to an average depth of 22 feet. It is said that the holes averaged $2\frac{1}{2}$ lb. of tin oxide to the cubic yard and that the best result for a single bore showed 12 lbs. per cubic yard. The boring was instituted by private enterprise and results are not officially recorded. It is estimated that to 1935, 10 tons of tin concentrates have been produced from this area.

Geology:

The bedrock of the district consists of Devonian granite. It outcrops on the hill slopes to the east and west of the plain and composes the whole of Mount Munro Range. Upper Tertiary tin-bearing drifts are spread over the plain to a maximum depth of 50 feet. In places the underlying granite is exposed along beds of the streams. Along the lower portion of the valley towards Thunder and Lightning Bay the drifts give place to Tertiary sands and limestones.

The Workings:

About the junction of the upper branches of Modder River 210 acres of land are held as Mineral Leases in the

names of Gardner and Barrett, and 2 acres (8310/M) are leased by C.J. and T.J. Barrett. In addition an area of 5000 acres surrounding the leases has been granted to G.D. Gardner for prospecting purposes.

No extensive workings have been carried out in the area and only two comparatively small faces have been sluiced. These occur on a small tributary to the west of the main stream.

The oldest workings exist within Section 11168/M of 80 acres, near the south boundary of Section 11128/M where the drifts consist of sands and quartz grits with small pebbles of quartz, tourmaline, cairngorm and granite in the bottom layers. The thickness of the deposit at this point is variable but reaches a maximum of 13 feet, and averages 8 feet, over the sluiced area, extending for three chains long by one chain wide. Granite is exposed in bottom of workings with a slight dip of the surface to the east, and in places overlain by large decomposed boulders of the same rock. The upper three to four feet of the drifts are unconsolidated but the lower portion has become partly cemented. The latter was not worked in the early stages of mining in 1909 but in 1934 was sluiced to bedrock. Tin oxide in association with ilmenite is contained in the drifts from surface downwards but is more concentrated in the lower portion. It is reported locally that three tons of tin were won from these workings.

At twenty chains further south, along east side of the creek, other workings exist on Section 8310/M of 2 acres in extent, and leased by C.J. and T.J. Barrett. The northern portion of these workings, now caved, consisted of an adit and approach there to driven easterly into the low hillside for 75 feet. It is reported that 11 bags of tin were recovered from drifts encountered in the adit.

South, and adjoining adit workings, a small face sluiced by Archer produced one ton of tin oxide.

Immediately to the south of the latter the newer workings of the main face expose sands, grits and narrow clay bands to a maximum thickness of 20 feet. Small pebbles of quartz, cairngorm, tourmaline, and granite are distributed through the lower eight feet, while some boulders up to 15 inches in size occur near granite bedrock. Quantities of fine grained ilmenite also occur throughout the deposit. Some of the sands and grits in the upper portion are cemented to a slight degree but not sufficient to interfere with sluicing. These workings extend for one chain and a quarter in length over a width of $\frac{1}{4}$ of a chain and have been mined at different periods. The grain size of the tin is generally moderately fine, averaging $\frac{1}{32}$ of an inch, but in places pieces up to $\frac{1}{2}$ of an inch are found, sometimes adhering to quartz. It is reported that production from this face amounted to $5\frac{1}{2}$ tons of tin concentrates.

The last mining was carried out here in 1934 by the present lessees who employed a Lanz tractor engine of 16 h.p. to pump sluicing water to the face and also elevate the drifts to boxes. Although the maximum capacity of the plant was considered to be 20 cubic yards per day the amount actually treated averaged 10 cubic yards per day and was found to be insufficient for economic working.

At time of inspection (1935) the lessees were engaged in a vigorous hand-boring campaign over large portions of their holdings. The first line of six holes, along the north boundary of Section 11168/M was completed and showed an average depth of 26 feet.

Water Supply:

Without conservation, water supplies for sluicing, except on a small scale, are inadequate. A short race from east branch of Modder River conveys water to the southern face but supplies are not perennial and head pressure is insufficient for sluicing without pumping. Two other water rights have been granted, one each from the east and west branches of the river, but races have not yet been constructed.

To augment the supply it will be necessary to construct dams about the intakes of the proposed races.

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