



REPORT ON THE BEN LOMOND TIN DEPOSITS.

Launceston, 9th September, 1881.

The stanniferous deposits which I have lately examined of Mount Ben Lomond proper occur in several groups; and they are located to the south south west and to the south east of the highest peak of that mount. The geological features of this region, as observed on the track from Avoca, consist (after crossing the South Esk River) of alluvial sands and gravels resting on conglomerates covering the bedrock, principally sandstone and granite. (These conglomerates have been proved tin-bearing higher up the river.) The fine and coarse-grained sandstones crop out at the foot of the leading spur, and these form the lithological base of beds of rock overlying each other in succession; viz.—indurated sandstones, hard and dense metamorphic schists, porphyrites (dykes), and very coarse-grained granites, which dykes principally form the wall-rocks of the veins or impregnations of tin ores.

Gipps' Creek, which empties into the South Esk River some distance below the Township of Avoca, skirts the ground (at a considerable level below same) taken up by several proprietaries, west of Lot 213, which is situate about twelve miles from Avoca. Only one Company was at work there with a full complement of miners; and I may here remark that, where so much ground is held under lease from the Crown, and in a locality where a rich vein of tin ore has been discovered, and consequently the mining operations have passed beyond the stage of prospecting only, it is disappointing to find so very little work done since the ground was taken up. Without more rapid progress is made in mining operations by the adjoining leaseholders, it is impossible to test and to develop an extensive tin-bearing region such as now has been proved to exist on the slopes of Ben Lomond.

On Messrs. Powell and Evans' leases, of 80 acres each, prospecting and permanent mining has been carried on, and from time to time impregnations of crystalline tin ores have been found in the porphyritic wall rocks. At present the indications for permanency have become more satisfactory, on account of a vein carrying rich tin ore having been discovered, which presents a very promising appearance. The ore, *i.e.* the vein, is about one foot wide, highly metalliferous, and fully one-third of same is rich "cassiterite;" it presents a good laminated appearance, the matrix being of a quartziferous nature. Veins of fluor-spar, of a fine deep violet color, arsenical and iron pyrites, occur regularly; also spots and nests of felspar, radiating tourmaline, and chlorite.

In following this veinstone in its eastern underlay for some distance beneath the surface a "slide" or "fault" disordered the hitherto regular course of the lode, and after some considerable search the lode was found in the footwall side, but thrown for a distance of twenty feet to the west of the original course of the lode above the slide. Under or beneath the slide the vein is somewhat poorer and smaller, but in mining experience this is frequently the case, and by intersecting the vein at the 60-foot level from the main shaft, and by driving along same, the indications are favorable for this lode resuming its former productive character. The lode has a strike of N. 30° W., with an underlay of one foot in nearly three feet; the hanging-wall is well defined, but on the opposite side the ore gradually disseminates through the strata underlaying the ore, there being no defined footwall. The whole formation has a promising appearance, especially on account of the metalliferous character exhibited.

The only drawback to tin-mining hereabouts consists in the want of a good road (or tramway) of easy gradients to Avoca. The mines being situated at a very considerable altitude, the transport of minerals would otherwise be both tedious and costly to Avoca, which will become, in course of time, the centre of an extensive mining district.

Close to the south-western peg of Jas. Handley and party's 80-acre sections, and north-west of sections last referred to, a large porphyritic dyke crops out of the surface, having a strike of nearly

N. 9° W. This dyke occurs at the brow of a hill above Gipps' Creek, thereby offering facilities for a test at a lower level by means of a tunnel. The ore has been tested, I am informed, giving 12½ per cent. of ore per ton, or 26 per cent. metallic tin per ton. The mining from the surface with that per-centage, and the dressing, transport expenses, &c. would leave not much to the owners. A further test to or at deeper levels would be judicious, especially as this porphyritic dyke contains, besides tin, other metalliferous substances favourable to future developments at greater depths.

South east of and immediately adjoining Lot No. 682, and about 4 miles from the lode described as situate upon Messrs. Powell & Evans' leases, four sections have been taken up, forming a part of Lot No. 20. Two shallow alluvial gullies have there been worked, with moderate results; and some work has also been done in two places, close to the alluvial, upon tin-bearing impregnations, which deposits resemble each other considerably.

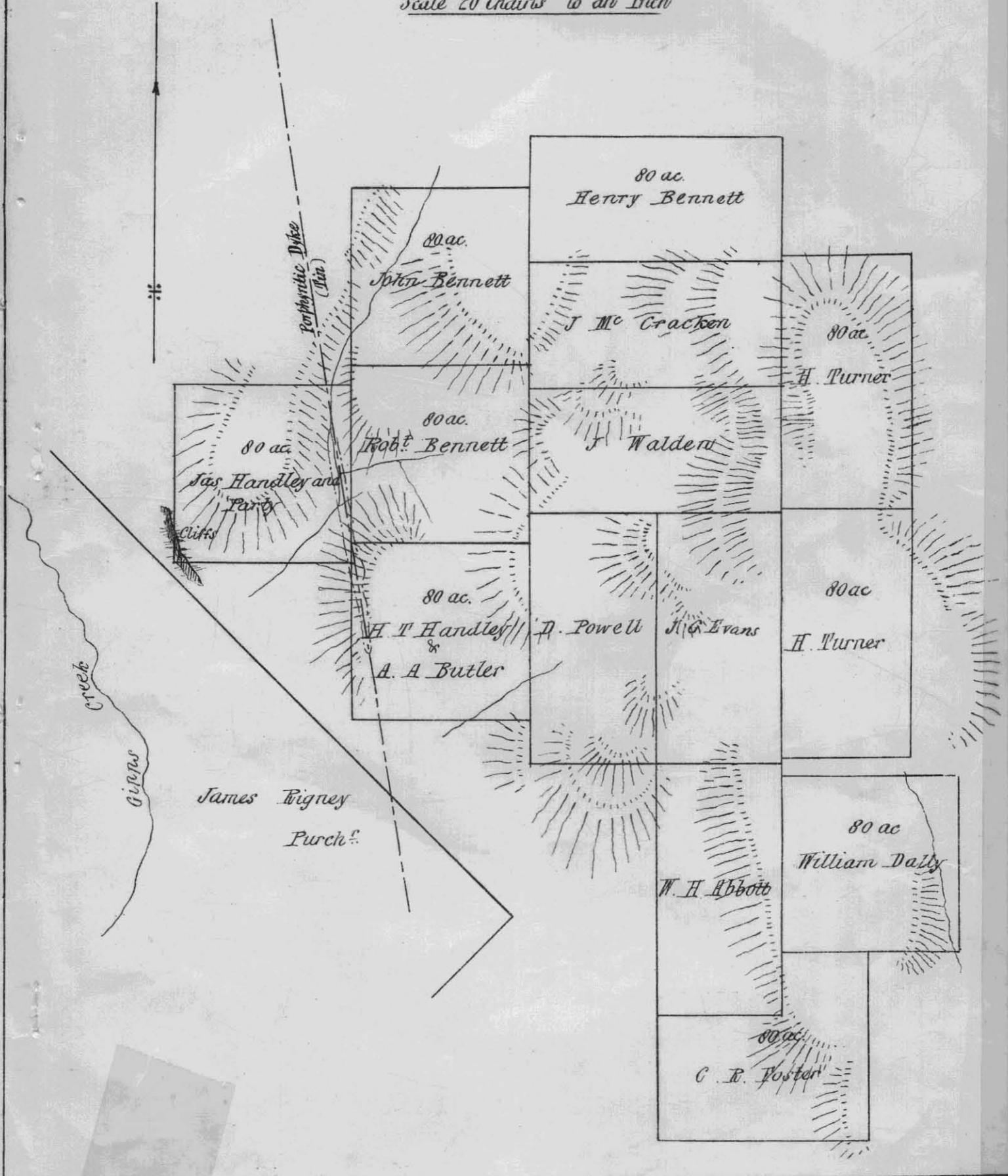
The tin ore occurs, as an impregnating medium, in a greenish, soft, feldspathic matrix, with indistinct crystals of quartz, bunches of radiating and very brittle tourmalines, also of a greenish hue. The veins are, so far as prospected to a depth not exceeding 13 feet, narrow, and the ore impregnations occur, for a width of from 4 to 9 inches, in small and large (complete) crystals throughout the matrix referred to, which is enclosed by granitoid and porphyritic rocks.

Several other alluvial deposits have been discovered; but as the mining operations thereon are, as yet, very limited in extent, further developments are requisite before such deserve examination with a view of specially reporting on same.

G. THUREAU, F.G.S.

BEN LOMOND TIN DEPOSITS

Scale 20 Chains to an Inch



4/5

GROSS SECM.
Ben Lomond T. Mining Co. Iode

