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CUMBERLAND TIN MINING COMPANY
(Now embraced in the Federation Group)

Reporting in June, 1881, Mr. G. Thureau, F.G.S., then Government Geologist stated:-

The Cumberland Tin Mining Company's ground comprises what appears a favourable position in Tasmania for mines of that description; viz., - and upland basin in granitoid and porphyrite country rocks. Unlike the deposits at the Montagu, the tin has been shed rather profusely over some places; heavy boulders of rich "cassiterite" are found on the southern slopes of the Wilson's Hill, which elevated ground may be said to contain the matrices of very nearly all the tin deposits discovered so far at that high elevation above sea level. Lumps of tin ore more than fifty pounds in weight have been found, and the detritus in which they were embedded, besides much smaller pieces of ore, point to considerable fluviatile and diluvial action in the previous geological epochs of formation in that part of the island. The practical mining of these lodes, and of the more recently formed deposits, is undoubtedly greatly facilitated by the natural formation of the country, as both the drainage and the rapid disposal of debris offers no obstacle to rapid and economic mining. Then, also, the mining of the lode or lodes, occurring as they do in pecularly formed description of gneissous and porphyritic rocks, nearly schistose in character, will not form serious obstacles to progress at deep levels as if the tin ores occurred in purer and more dense granite. The water supply, and that of good timber for all purposes, is also everything than can be desired; the only drawback being the shipment or transport of cleaned ores from such a high altitude to the ports available in this vicinity, which difficulty applies in a proportionate degree to all the mines at Mount Heemskirk, but as soon as the actual output of ores has been ascertained, means can doubtless be adopted by the combined proprietaries to obviate that kind of difficulty. The mining operations, which have been principally projected and carried out by Mr. Wilson, the first discover of tin deposits on this ground, were simply to guide the company as to what they would have to do in the near future. Advice was sought at the hands of reputed authorities, and openings of ground by shafts, surface cuttings, and tunnels were taken in hand, and are, to some extent, still in progress; but, so far as I could see, these were all preliminaries to any well devised scheme for developing a very valuable mining property on a scale commensurate with its extent and large capacities or producing, for a length of time, a considerable quantity of tin ore. And this is really the point at issue, because if this and the other West Coast mining companies can secure rapid delivery of the ores they are evidently capable to produce for shipping via Hobart or via other

colonial ports, the future of this at present so dreary and altogether unproductive region will be very considerably improve upon, and the prosperity of that coast be proportionately enhanced.

MOUNT HEEMSKIRK.

The mining operations at the Cumberland Company's mine have already been alluded to, and these will be delineated on the geological sketch I am preparing. Of the lodes occurring in this Company's ground it may be desirable to give a consise description. There is the main lode, of first importance, as it forms, so to speak, the Crest of Wilson's Hill; the little lode in the Basin; and one or two parallel lodes, partly impregnations, half way up the southern slope of the rise, or about midway between the former.

The first lode, in its undulating bearings to the south west, consists of two parallel stones or veins separated by a band of friable granite, as shown in a tunnel driven fifty feet from the northern extremity of Wilson's Hill: these veins are poor until they increase in size and join together further south, and this high-level tunnel opens nearly sixty feet of "backs". Proceeding along the outcrop south, it becomes apparent that, owing to the granites, which here traverse nearly north by south, on being replaced by the porphyrites and other well-known tin ore-carrying strata, are attended with a considerable increase of the width of this well laminated formation. At the same time the lode does not strike regularly, which is considered a favourable circumstance by miners. At a distance of one thousand feet in a direct line from the tunnel a shaft has been sunk, timbered, and divided into two compartments to a depth of fifty feet; and, as the water had accumulated, I was informed that ten feet had been driven in the footwall at the forty feet level. This site for the shaft had evidently been chosen from the unusually heavy surface stones of tin discovered close by, and the finer tin shed down the steep slopes of Packer's Creek, north of Wilson's Hill. This outcrop looks very well (and the ore is rich) and strong; the formation is about 12 feet in width, and on the northern wall peculiar and large bunches of brown iron ore occur, thus adding to the generally favourable appearance of the lode. Owing to the underlay, it appears that the shaft cut through it into the footwall, but met with tin-bearing veins in the latter, in the softer strata than that of the opposite wall. In the order the more rapidly work this lode a main tunnel

was started from Packer's Creek, so as to provide about two hundred feet of ground to work beneath the mouth of the shaft, and this deep level tunnel has been driven due south for a total distance of one hundred and seventy feet. The strata passed through are porphyritic, and the working is of ordinary description, because any smaller dimensions would have interfered with speedy delivery of ore and debris as soon as the lode in the same direction similar features were observed, and the size and quality only varied so much as is ordinarily more and more perceptibly the matrix, thus entailing a greater scope for well-devised ore-dressing machinery in future. A peculiar set of tin-bearing porphyrites, branch, as it were, from where the main lode disappears beneath the surface of its dip. The porphyrites are, like all others in this vicinity, much contorted, and they contain tourmalines, and are feldspathic. One of these impregnations, rich in places, was intersected by means of a small prospecting tunnel near its mouth, and something near 30 feet was driven through. At right angles in the tunnel which crosses the formation, over 70 feet had to be driven to the opposite wall. One of these cross-veins or impregnations, or possibly the main lode itself, must have been more than ordinarily good, because a streak of stream tin, resting on a soft granite bottom, has been partly traced from the Basin up this Wilson's Hill, - pieces ranging from the ordinary sized ore to masses of nearly half a hundred weight. In the Basin itself, the little lode was examined and tested. The workings are not yet sufficiently deep to speak of the future permanency, nor is the vein more than about two feet wide, but the pan gave prospects from half a pound to two pounds each. Highly crystalline tinstone was also discovered on the range towards the Montagu, but on the eastern slope of and in the Cumberland Company's ground; and a rich deposit has also been worked in a gully west of the little lode. It will thus be seen that these mineral deposits, even in their present unexplored state, are rich in places; that they are extending rapidly in several directions, especially when it is recollected that the "coast sections" located between the Montague and the sea, those on the road to and at Mount Montagu itself, are yet to be reported on. There is one peculiar natural feature which deserves mention; viz, the drainage of the Cumberland basin has necessitated the erosion of a deep precipitous gorge, in which the torrents fall in cascades to a depth of over two hundred feet, the whole distance of which, however, is through a subterranean channel.

As this torrent emerges from its cavity below, the debris carried down from the higher level has been proved to be payable tin. Two other similar instances came under my notice; but in those cases the water-shed and cavernous outlets had been obliterated in the past, and only the very coarse wash-staniferous remained behind. The second occurs at Tin Creek, Mount Agnew where a very rich, but so far limited, deposit has been wrought; all prospectings for the source have been unavailing, though this angular boulder drift can be distinctly traced up the flanks of Mt. Agnew. In my opinion a good lode should exist at a considerable elevation above the Tin Creek; and in this view I was confirmed afterwards on examining the Cumberland Mine, where, as already described, a coars rich drift has been shed into the basin, near the little lode, so that since the pre-historical epochs a very considerable convulsion must have occurred, though the miners may yet derive considerable advantages from observing and prospecting all places where patchy or limited stream tin cannot be traced to its source whilst yet they are overlaid by coarse gravels and drifts.