

consolidated, and forms a fair wall for the working of the second division of the reef. A very noticeable feature in this reef is that oxidized ore and sulphide ore are to be seen dipping in parallel veins. The ore-reserves appear to be ample for very many years to come.

The battery-works have undergone considerable alterations, and wet crushing has been substituted for the former system of dry crushing; in fact, dry crushing, which for several years was very general in the northern goldfields, is not now practised in New Zealand. The Union battery of forty stamps (formerly the property of the Waihi-Silverton Company) now belongs to the Waihi Company, and has been thoroughly overhauled and modified. This brings up the company's total crushing-power to 330 stamps, as follows: Union battery, 40 stamps; Waihi battery, 90 stamps; Waikino battery, 200 stamps: total, 330 stamps.

The ore treated during the year was 179,485 tons (this being an increase of 20,160 tons as compared with the previous year), yielding a value of £520,138 15s., or nearly £2 18s. per ton. The number of persons employed by the company was 1,141. Dividends amounting to £208,644 18s. 11d. were paid, bringing the total amounts of dividends since commencement to £1,005,934 6s. 2d.

None of the other properties at Waihi have yet reached a productive stage, but hopes are entertained that present difficulties will be overcome, and the mines made to yield an addition to the local output of gold and silver.

Three mines at Karangahake—namely, the New Zealand Crown Mines, the Talisman Consolidated, and the Woodstock—employed 456 persons and treated 54,733 tons of ore during last year. The returns amounted to £107,362 4s. 2d. This represents an average value over the whole of a little less than £2 per ton, but the value from the Crown Mines was rather more than £2 4s. per ton, and a reasonable profit was made on the year's work.

Mining at Waitekauri has been disappointing. Calcite has largely taken the place of gold-bearing quartz, and very little is being done beyond some prospecting-work at Golden Cross shaft.

The Komata Reefs Mines have acquired an area formerly held by the Waitekauri Company, which is being worked. The output for the year was 12,190 tons, value £27,140, or approximately £2 4s. 6d. per ton.

Tairua Broken Hills Mine, which is now held by an Auckland company, has had a very successful year. The mill, of twenty-stamp capacity, is well fitted out with gold-saving appliances, including cyanide plant; and the stone in the mine looks promising. The owners of this mine recently purchased the property known as the Mahara Royal Mine and battery at Tapu, with the intention of removing the plant to Tairua, but have decided, before doing so, to give the Mahara Royal another test at a lower level.

Work is in hand at Neavesville to open up the reef there and erect a battery, the result of prospecting and assays of the quartz being considered sufficiently good to warrant the expenditure.

Somewhat extensive prospecting-work is in hand at Te Puke. For some years a little desultory work has been carried out, and a body of ore running approximately north and south has been struck at various levels. It is with a view to the determination of the extent and value of this ore that the present work has been undertaken.

At Thames quartz-mining is being principally carried on by tributers and small parties of miners, operations by the large companies having come to a complete standstill. The question as to whether payable lodes exist at a greater depth than has hitherto been worked is still unsettled, notwithstanding its great importance not only to the locality but to the colony at large. The hopes that sinking operations would be resumed at the Queen of Beauty shaft have not been realised, and at the end of the year the prospects of such resumption appeared very remote. Some boring has been undertaken by the Victoria Quartz-mining Company, but work is at present suspended.

There is little doubt that the question of payable lodes at deep levels will have to be faced either by sinking or boring, or probably by both methods. The whole matter is one which requires careful consideration, and for the information of those directly interested I cannot do better than quote the following abstracts from a memorandum on the subject by Mr. Alex. McKay, F.G.S., Government Geologist. Mr. McKay says,—

“The Thames Goldfield, during the first twenty years subsequent to the discovery of gold, yielded fortune-making and highly satisfactory returns, after which period the product of the field gradually declined. For some years past, and at the present time, the state of the goldfield has caused, and is causing, the greatest anxiety as to its future prospects. Many mines have ceased to be as payable as was the case formerly, and not a few are in abeyance altogether; and those interested in the field have devised various schemes by which it was hoped a renewal of prosperity might be established.

“Foremost amongst the proposals indicated is sinking to deeper levels, in the hope of reaching another horizon of gold under the comparatively barren rock that underlies the auriferous zone that has hitherto yielded the bulk of the gold obtained. This seemed at first sight an altogether reasonable idea, the general opinion being that the gold in the upper portions of the reefs had reached that position from greater depth in the earth. Agreeably to this generally accepted belief, all that was required to be done was to fix on the most favourable position where deep sinking might be carried on. When Mr. Reginald Murray, the late Government Geologist of Victoria, visited New Zealand, Mr. Gordon, who was then Inspecting Engineer of the Mines Department, and myself accompanied him over the goldfields, and when at the Thames this matter of deep sinking was much and anxiously discussed. The bulk of opinion seemed to favour a position between the Prince Imperial and the Queen of Beauty Mines, principally for the reason that the mines in this part were worked to greater depth relative to sea-level than in other portions of the field. The geological data placed before us seemed to have little influence, farther than it was considered that the Hape Creek breccias had been reached in some of the deeper mines, and consequently further sinking would be commenced in rocks the position of which it had been ascertained