

entirely owing to want of skilled labour to develop the mines, and too great an eagerness on the part of discoverers to float shares before testing the real value of their discoveries. Litigation has ensued, and really sound payable reefs have been left idle in consequence. But I have yet hopes that before the frost sets in the batteries will have proved the several reefs sufficiently to have established their proper value.

In the Cardrona Valley, which extends twenty miles down to Pembroke and Newcastle, the former township on the shores of Lake Wanaka, the latter on the banks of the Clutha, there are resources for a large population, the number of residents at present being 350, of whom 80 are Chinese. Mining is carried on by a few parties, who are deep-sinking and tunnelling, the latter being almost the only method of extracting the gold, the results varying from £2 to £6 per week.

New workings to a small extent have been discovered by the Chinese at Pringle's Creek, near the township, with highly satisfactory results. Branch Creek, for so many years a mainstay to the Cardrona, is nearly exhausted, there being only about 12 miners left. The Chinese generally in Cardrona have been working in the old abandoned ground, which has become nearly exhausted. There are 42 European miners in the vicinity of the township, and I believe we may look upon them as permanent settlers. The yield of gold during the year from these diggings has been about 3,500 ounces. The average earnings of the Europeans £2 10s. per week, and that of the Chinese £1 15s.

*Pembroke.*—It is but a question of a little time when this place will have acquired the position of a settled township; a wool-classer and scourer has recently erected an establishment to carry on his trade, and employs about 15 hands already. The importance of Pembroke is also heightened by its being the terminus for the boats engaged upon Lake Wanaka, and by the fact that through it must pass the products of the several stations in the Upper Wanaka District, and the supplies for working them; it is likewise the depôt for a great portion of the local timber required by the runholders and miners in this direction, and onwards to Cromwell; the several interests in the locality are sound, and it is making steady and permanent progress. A further impetus will be given on the completion of the steamboat now in course of construction.

In the Matukituki Valley there are about ten thousand acres of land equal in quality to any in Otago for agricultural purposes. The opening of a block in this place would speedily induce settlement, and add to the importance of Pembroke. Russell, Ewing, and Co.'s sawmills give constant employment to about a dozen hands, who, with their wives and families, have located themselves there during the past twelve months.

Although alluvial mining is declining, and the quartz reefs, of which there are several, are as yet undeveloped, new industries have sprung up to keep and even raise the population, and justifies me in reporting that this division of my district was never so sound and prosperous as at present.

*Upper Shotover.*—Alluvial mining in the Upper Shotover during the past twelve months has not been an improvement on former years, but, I think, has declined. The reason for this is, as I have already stated, that the ground that could be easily worked without much expense has been getting less every year; most of the miners have not the money to carry out great works in poor ground so as to make it pay. Most of the terraces in the Upper Shotover, having a rim rock next the river or creek running near them, cannot be sluiced away without expensive rock tunnels or deep tail-races, which will cost, in many cases, hundreds of pounds' outlay before an ounce of gold can be got at. This entirely places the ordinary miner in such a position that this class of ground is locked up from him. There is very little prospecting for new ground, the poverty of a great many miners not allowing them to lose much time in looking for new ground, although I believe a large extent of new, and a great deal of it untried, ground exists at the branches of the Shotover and Skippers. A party of three men are now prospecting new ground at the head of Skippers, and are sanguine of success. Should it turn out as they expect, a large extent of new ground, five or six miles in length, will be opened up. The Chinese have, within the last week or two, been leaving Skipper's Creek, so much so that the Chinese store has had to close. This tells its own tale about the easy ground being worked out—John does not care for prospecting or spending much money in getting gold. Individual cases of success are getting rare, but a few parties of Europeans have claims which will pay fair wages for many years to come. With regard to the Phoenix Quartz Reef, the extent of new ground opened, the various levels for prospecting and other purposes, have been 609 feet; the reproductive expenditure on lodes being 400 feet, crop-drivings, risings, and sinkings, amounting to 209 feet.

The quantity of quartz raised for crushing 1,200 tons, producing 262 oz. 18 dwt. of gold, or an average of 4 dwt. 9 gr. per ton. The subdivisions of this quantity in the several crushings vary in yield from 2 dwt. to 12 dwt. per ton. The size of lode from which the bulk of quartz was taken is 12 feet wide, with well-defined walls, principal gold-bearing vein on the south side of foot wall. The present cost of raising quartz, including material, is 7s. 3d. per ton; spalling and trucking to battery, 3s. 1d.; crushing, including management, smith, wear and tear, and timber used on works is 3s. 8½d.; total cost, 14s. 0½d., or about 3 dwt. 20 grains per ton of quartz. Alterations are now being made to increase power of battery for the working of twenty-five heads of stampers, which will considerably reduce the price of crushing on which this report is based—150 tons per week. The process of crushing and amalgamating are quite separate. The screens are of 290 holes per square inch, and to be further increased to 400. The pyrites are collected for the purpose of calcination, then reduced by arastra. The average fineness of gold is '9250.

The following is a short account of what has been done in the Cornish and Nugget reef since April, 1877:—The main level driven 80 feet on the line of reef; a portion of the reef stouped for a distance of 70 feet in length and 15 feet high; length of level altogether, 769 feet; distance from main level to level in the old workings, 203 feet in the underlay of the reef; a paddock made to hold over 200 tons of quartz; tramway constructed to connect the main level with the battery; battery re-erected with new framing, new stamper-boxes, self-feeding gear, and a portion of gearing new; increased the pressure from 135 feet to 150 feet, to drive the battery.

*Kingston.*—This portion of my district is quite out of the influence of gold-mining. Its popula-