

work, enabling those companies through whose mines it passes to operate to much greater advantage than they could otherwise do.

14. Altogether, I may say that notwithstanding the temporary depression which at present prevails, the operations progressing, and the enterprising spirit shown by mine owners in the development of their properties, coupled with the rich prospects of the reefs, convince me that the future of the field will be prosperous as the past.

15. These are the principal workings on the field, and I may now give some details respecting a most important enterprise—namely, the Pumping Association. On this depends in a great measure the future of the gold field, as it is regarded as the test of whether or not the gold will continue in depth. To give an idea of the magnitude of the operations of this company, I will mention a few facts connected therewith. The company, as I previously stated, is an union of four of the leading companies, namely, the Caledonian, Tookey's, Golden Crown, and Imperial Crown. The object was to sink a main shaft through the Imperial Crown Mine, which would intersect the Caledonian reef at a greater depth than had previously been reached. This shaft would of course drain the workings of the other companies, and enable them to continue operations in their own mines. To accomplish this object the Association was formed, and the shaft sunk. The works have been carried on on a scale of magnitude seldom equalled in the Australian Colonies. The shaft has now reached a depth of 350 feet. Its size is $11\frac{1}{2}$ feet by $6\frac{1}{2}$ feet, inside measurement. In order to raise the water from this shaft, the largest and most powerful mining machinery in these Colonies has been erected. The engine, which has been erected on a massive stone foundation, works directly over the shaft. The nominal power of the engine is 350 horse-power. The cylinder of this massive machinery is 82 inches in diameter, and the length of stroke is 10 feet. The pump-pipes are 25 inches in diameter, and the whole is capable of raising fully ten tons of water per minute, when in full work. There are two drawing lifts and one plunger. The lower drawing lift has only newly commenced work, for the company has determined to sink the shaft a further depth of 30 or 40 feet, as it has not yet intersected the reef. The shaft is a splendid and costly piece of work. It is framed with massive kauri timber, measuring 14 inches by 12 inches, and these frames are fixed $3\frac{1}{2}$ feet apart, the intermediate spaces being closely lathed with kauri planks, 9 inches by 2 inches. These frames are supported by hanging bolts from heavy bearers placed at distances of 30 feet apart. It is estimated that up to the present time this shaft has cost £40,000, including, of course, the machinery and plant, and the expenses of erection. The best engineering skill obtainable in the Colonies has been procured by the company. Their operations have been very greatly retarded in consequence of a dangerous gas which apparently exists in the mineral water. Being very much heavier than the common atmosphere, it is extremely difficult to eject it from the mine, and often for days together the sinking of the shaft has to be discontinued. But the United Pumping Association has displayed an amount of enterprise and perseverance which is worthy of all admiration, for, in a great measure, on the success of this enterprise depends the future, I will not say existence but welfare, of the Thames Gold Field. It will, besides accomplishing the purpose of draining the surrounding mines, test the great moot question of gold carrying to great depths under sea level in this field. The operations of the company have already extended to a depth of about 340 feet under that level.

Grahamstown, 3rd March, 1873.

W. FRASER, Warden.

MARLBOROUGH.

No. 2.

Mr. Warden WHITEHORN to the UNDER SECRETARY for GOLD FIELDS.

Report on the Gold Fields of the Province of Marlborough for the Year ended 31st March, 1873.

Pelorus.—During the past year no improvement has taken place here. I regret to say the population has slightly decreased, the average being not more than about ninety. The unusually dry summer has enabled the miners to work out several portions of the Wakamarina which have been supposed to be very rich; the result has not been so satisfactory as was anticipated, still a very considerable amount of gold has been obtained. No new ground has been opened, but now the river is nearly worked out, the terraces will probably obtain a greater degree of attention. Nearly all of them are known to be more or less gold-bearing, but the anticipation of heavy finds in the river has hitherto almost absorbed the small population, and in consequence nearly the whole workings have been confined to the river.

As has been said in former reports, water is all that is required to make many parts of this gold field highly remunerative, but there are no capitalists among our population to initiate a work of the kind. A few inquiries have lately been made as to the terms on which Government aid could be obtained, but I fear nothing more will be done. The amount of gold produced still gives a high average of earnings.

During the year, three applications were made for leases on a line of reef; but after surveying, &c., the applications have been withdrawn.

Wairau.—This district is almost deserted. About twenty men are employed in the Onamalutu portion of it only. In my last I mentioned that a party was trying to sink in that locality. Though much troubled by water, they have bottomed on good gold; but the water is still a great hindrance to them. They are now trying by a tail race to reduce the labour of pumping.

The prospects obtained are very encouraging, even after the great delay in getting down, and the men have great hopes of ultimate success.

Another party about two miles further up the river are doing well, having for some weeks past got about 10 oz. per week to party of four.

There is every reason to believe that this district will yet produce a large quantity of gold.

Quartz-reefing is still in abeyance.

Ravenscliff.—A small gold field has been proclaimed at Cape Jackson at the mouth of Queen