

verse beams of timber to the rock floor with iron bolts. On these beams the planking is to be fastened to the full width of the tunnel (9ft.), the sides of the tunnel are to act as sides for the tail-race, and the whole of the floor is then to be closely covered with railway-rails laid transversely, which will act as ripples. The cost of the tunnel excavation was £3 per foot, and the rails, delivered on the ground, £8 per ton. The cost of shafts is stated to be £3 per foot, and the total expenditure on these works to date at £6,000, to which will have to be added another thousand pounds before gold-bearing wash is reached. In course of time, after the bottom of the river has been reached, and a long—a very long—opening has been made, it is more than likely that it will be found necessary to bring water to the claim at a high level, and use giant nozzles to do the work quickly. Having this in view, the company intend constructing a head-race about two miles long, from Boxing Billie Creek, to be 500ft. high at or near the present operations, and to carry twenty Government heads. It is intended to erect a 10-ton crane to lift the large stones out of the paddock and throw them to one side out of the way.

Sunrise Lease Quartz-mine (25th April, 1892).—I inspected the high-level adit, and instructed the manager to cover an open shaft at the side of the footway. Went down a shaft to a 50ft. level, where a little stone was being got, and some prospecting-work going on. The lower adit is 930ft. long, and 150ft. below the top level. There appears to be very little work doing. There are, on an average, about five men employed. The air was good.

There has been but one fatal accident in the gold-mines brought under my notice during the year: William Campbell was killed in the Bendigo Mine on the 28th March.

The Under-Secretary, Mines Department, Wellington.

I have, &c.,

J. Gow, Inspector of Mines

No. 19.

Mr. A. AITKEN, Manager, Waimea-Kumara Water-race, to the UNDER-SECRETARY of MINES, Wellington.

SIR,—

Kumara, 24th May, 1892.

I have the honour to submit the following report on the Waimea-Kumara Water-races for the year ending 31st March, 1892:—

WAIMEA RACE.

The total sales of water from this race for the year amount to £1,121 16s. 2d., and the total expenditure on maintenance for the same period, £784 13s. 10d., leaving a credit of £337 2s. 4d. on the year's transactions. The average number of miners supplied with water from the race was seventy-six, and the approximate quantity of gold obtained was 2,590oz., valued at £10,100 17s.

The sales of water are £267 1s. 3d. less than for the preceding year, and the yield of gold 482oz. less. The expenditure for maintenance is less than for the previous year by £148 9s. 5d. Besides the sales of water above referred to, four claims were supplied with free water to the value of £96 19s. The parties supplied with free water have all been paying for water from the race for many years, and in each case inquiries as to the amount of gold being obtained were made by me, showing that the parties could not afford to pay for the whole of the water used and make a living.

During the holidays at Christmas time the usual repairs to the tunnels, trestlework, and fluming were effected, and the whole of the race is in a fair state of repair, taking into consideration the length of time since the timber structures were erected.

There appears to be a gradual decline in the number of miners using water from the race and in the quantity of gold being obtained, but still there are a few paying claims which will not be worked out for some years to come.

In the district there are a considerable number of miners making a fair living, and in some instances more than that, in claims that the water of the race does not command.

Branch to Callaghan's.

During the year I examined the country in the vicinity of Callaghan's, Italians', and to the northward of the Waimea Creek, and reported to the department the result of my examination. Since that time a survey for a branch race to Callaghan's has been made. The branch will start from the lower end of the pipe-line on the Waimea Race, along the eastern slopes of the range by Akeroa and Duffers' Creeks, crossing the main Kumara-Hokitika road at its summit-level near Greeks' No. 1 Gully, and thence to Italians' and Callaghan's. The recent survey takes the race-line into Callaghan's 52ft. higher than the former survey, and the distance is proportionately less. This branch race will pass through gold-bearing country throughout its entire length, and will not only supply water to the country it passes through but will also supply the middle branch of the Waimea Creek, where considerable areas of auriferous ground are still unworked.

KUMARA RACE.

The total sales of water from this race during the year amounted to £6,645 11s., and the expenditure was £1,584 10s. 11d., leaving a credit balance of £5,061 0s. 1d. on the year's transactions. The average number of miners supplied with water from the race was 172, and the approximate quantity of gold obtained by parties using the race-water was 10,239oz., having a value of £39,932 2s.

Besides the sales of water above referred to, water to the value of £413 3s. 4d. was supplied to parties as subsidies on the cost of deviations of race, which, in all instances, consisted of the substitution of steel and iron piping for portions of race in open cutting and high fluming. Free water to the value of £339 17s. 3d. was supplied to assist in opening up new claims, and claims