

bed; since then the extension of the channel is averaging 2 chains per month. As yet the tailings run into the river by the channel have not been moved by the floods.

Kapitea and Loopline Dams.—The dams are in good order, and with ordinary “West Coast” weather we should not lose a great deal of time for the want of water.

Electric Light.—The advantages of a light of this kind throughout the length of the channel would be very great both by day and by night. It would save the heavy cost of candles, as there is great waste on account of the continuous draught. Each man uses two candles, but they do not give enough light to enable him to do his work quickly. With the electric light overhead the men could see what they were doing without having to continually take a candle in hand to examine their work, or to search for every tool required. As it is at present a nail cannot be driven unless a candle is placed in a position very close to see it. A good light from end to end of the channel while it is in use by the miners would enable the man in charge to see at once when it was choking, and facilitate his movements in giving the signals quickly, thus saving much valuable time to the miners.

I have, &c.,
Herewith please find tables showing the revenue and expenditure on account of the Waimea-Kumara Races and Sludge-channel, maintained by the Government from the 1st April, 1883, to the 31st March, 1884. Also the number of men employed by the races, their average earnings (approximately), and quantity of gold obtained by them, after deducting water-charges.

The Under-Secretary for Gold Fields, Wellington.

J. Gow,
Manager.

No. 20.

Mr. D. DOYLE, Manager of the Argyle Water-race, to the UNDER-SECRETARY for GOLD FIELDS.
SIR,—

Charleston, 10th April, 1884.

I have the honour to forward report for the year ending the 31st March, 1884, on the working and maintenance of the Argyle Water-race.

The receipts are not so satisfactory as anticipated at the beginning of the year, owing chiefly to alterations being carried out along the principal part of old race, whereby the supply of water was limited to a couple of parties whom alterations did not interfere with. Another cause of falling off in revenue was the loss of three parties, who left taking water from Argyle Race, and commenced taking water from Butterworth, at a reduced price per head of water: those three parties leaving caused a loss of about £250.

The ensuing year will give a good improvement in revenue from sales of water, as there are new claims being taken up along the course of the race, and a good supply of water is in reservoir. I anticipate a larger increase in reservoir if the proposed extension to Back Lead is carried out, as there is a large extent of auriferous ground which race would command—over one hundred acres. This ground cannot be worked without the Argyle Race is extended to Back Lead. At the present time I am supplying three-quarters of a head of water there by means of allowing the night water to flow into two small dams, and from thence down a gully, where it is picked up into a private race and carried along to Back Lead, about three-quarters of a mile in length. The party working with this water are getting very fair returns for their labour—about £4 per week per man, after expenses of water. There would be a large quantity of ground taken up in this locality if water was available. The expenditure for the ensuing year will not be so heavy for maintenance as I do the greater portion of repairs myself. By this means I keep down the expenditure as much as possible, employing labour only when absolutely necessary.

As the gold-working on this field differs from any other in the colony, the men work in small parties to economize water, and gold being so very fine it is collected on tables, covered over with lighter plush or baize, erected in the course of the gullies or creeks. These cloths are washed into a tub every day, and when this tub is filled the sand is run over a small table again. By this process they separate the greater portion of the sand from the gold before amalgamating with quicksilver. There are a number of claims of this sort down the Darkie's Creek which make a good thing of it by passing the tail-water and tailings over their tables in the same manner. These parties, although benefited to a large extent by the tail-water from Argyle Race, pay nothing for water, and when Argyle Race is stopped they must also stop, as they will have no water to work with.

In my last report I mentioned that Sections 5 and 6 were in progress of working, and those were finished by the end of May, 1883. Tenders were invited for sections from 7 to 11, which would terminate at end of Argyle Race. Those tenders were called for in July, but the contracts were not completed until the end of January, 1884. The cause of the long delay over contract time was owing to delay in getting ironwork from foundry in Wellington. During the progress of work on those contracts for enlarging old race the water was stopped, but as little as possible. The conduit and flumes are now capable of carrying a large quantity of water, and will require but very little repairs for years, except clearing landslips out of conduit.

The outside supply-races are now capable of carrying a large supply of water in rainy weather into the reservoir, but it wants constantly watching, as the nature of the ground is very porous, chiefly limestone formation, and after heavy rains there are always some repairs to be done.

The raising of the dam-wall three feet has given a great holding capacity for water. I consider the three feet of water on top is equal to two-thirds the quantity of water that the old dam was capable of holding. I have a good supply of water in reservoir yet, after all this dry season. I may say every dam in the Charleston District is dry at the present time, and no sign of rain, so that all the men are nearly idle for the want of water. We have had no rain since Christmas, with the exception of some slight showers.