

*Kumara Deep Level.*

No work of any kind has been done in connection with the Kumara Deep-level Tunnel during the year, except keeping the mouth clear for the free discharge of drainage-water.

*Wainihinihi Race.*

The dam at the head of this race has stood the test of very severe floods without showing any signs of weakness, and is perfectly watertight, so that the whole of the water in the river is picked up by the race, except in flood-time, when there is more water than the race will carry. A slip from the mountain above the race came down and crossed the race, but no portion of the race was carried away; it was only filled with *débris* on the track of the slip. The race has been cleared out and covered to prevent any damage from a recurrence of slip.

Portions of the race where the ground was bad have been timbered, and the by-wash which takes the water during floods has been completed, and acts well. The whole of the race is in good condition, and the supply of water has been of great service during dry weather. The supply, however, has sometimes been very limited, as the whole of water available in the creek has more than once during the year been less than fifteen sluice-heads.

I have, &c.,

ALEX. AITKEN,

The Under-Secretary, Mines Department, Wellington.

Manager, Water-races.

[For table showing the result of working the Kumara Water-race for nineteen years, see page 128A.]

Mr. R. MURRAY, Manager, Government Water-races, Naseby, to the UNDER-SECRETARY, Mines Department, Wellington.

SIR,—

Naseby, 17th May, 1902.

I have the honour to submit the following report on the Mount Ida and Blackstone Hill Water-races for the year ending the 31st March, 1902:—

*MOUNT IDA WATER-RACE.*

The total sales of water from this race during the year amounted to £1,210 15s., a falling-off of £341 19s. as compared with last year. The expenditure on maintenance and repairs for the same period was £1,396 15s. 9d., an increase of £150 3s. 9d. The total cash received was £1,208 0s. 10d. On account of payment in advance, free water to the value of £51 6s. 11d. was supplied. Free water to the value of £2 4s. 2d. was supplied to assist in opening up new claims, and free water for washing up was also supplied to the value of £86 4s. 7d. The total value of water supplied from this race during the year amounted to £1,350 10s. 8d. The average number of miners supplied with water was 58·4, an increase of ten over that of last year. This increase is principally due to the discovery last November of a layer (6 ft. thick) of payable wash in the "Maori bottom" in Main Gully, immediately above the Town of Naseby. The approximate quantity of gold obtained by parties using water from this race was 1,889 oz., valued at £7,272 13s.

From the 1st April to the 23rd May, the weather being so dry and the reservoir empty, there was barely sufficient water to keep the miners going on half-time. A heavy fall of snow on the 22nd May so increased and kept up the supply that there was plenty to meet the demand until the 25th June, when all mining was suspended on account of the hard frost.

The winter was a very long one, with hard frost and very little snow, lasting from the 25th June to the 24th August (fifty-four days). On this date a thaw set in, and on the 26th I started to clean out the race with all the strength available. Having got as far as the reservoir on the 3rd September, the water was turned on to the miners, enabling them to make a start. The cleaning-out was completed on the 13th October.

On account of hard frost setting in several weeks before any snow fell, it penetrated deeply into the banks of the race, especially the high, clayey gravel sidelings; thus, when the thaw set in, it loosened and brought down a heavy lot of stuff into the race, making the cleaning-out in many places very heavy. The snowfall on the range supplying the race was less last winter than it was for nine years previously. It was practically gone by the end of August, and in consequence of the weather from this date to the 19th November keeping dry there was barely a half-supply, the reservoir having run dry on the 27th September.

Heavy rain set in on the 19th November, raining almost daily, and on the 15th December a thunderstorm broke along the race from Coal-pit Gully as far as Pearce's Gorge, filling up the race in this and Johnstone's Creek, Wedderburn West Siding, and a large amount from Coal-pit to Home Gully Dam. Again, on the 10th January, the rainfall was so heavy from Johnstone's Creek upwards that large quantities of shingle were carried down the creeks off the mountain-range and along the race sidelings. Assistance had to be sent to the two upper maintenance men, as they were unable to cope with the effects of the flood.

On the 19th March heavy rain set in, continuing for five days, when on the 22nd and 23rd there was an extraordinary flood in the creeks from Hill's Creek downwards, especially in the East Eweburn, which was dangerous to cross. The ground became so saturated that a large number of slips into the race took place, the worst being in Coal-pit Gully, where the material is of a sticky lignite clay, hard to shift; while on both sides of the Wedderburn Creek a large amount of *débris* was brought down.

Only three small breaks occurred during the year.

The large amount of extra labour that had to be employed during the last four months, and the dryness of the period during the whole of April to the 23rd May, and from the beginning of Sep-