

some little mining was done by aid of this race, as reported in May, 1877; but since November no work has been done, the race having been injured by floods during that month and the company not having since seen their way to its restoration.

Hibernian Water-race.—Estimated to cost £5,185, of which the Government agreed to contribute £2,000, and completed previous to May, 1875, as stated in annual report for the year. Capacity, 10 statute heads. Length, 5 miles 51 chains. No interest has been paid on the Government advances since 19th June, 1876. This race also suffered severely from floods of November last, and has not since been restored, so that no mining is at present being carried on by its aid.

Hohonu Water-race.—Constructed to carry 50 statute heads. Length, 5 miles 41 chains; with a feeder from reservoir, 1 mile 9 chains in length, constructed to carry 30 statute heads; a catch water-race, 2 miles 8 chains in length, from Mosquito Creek; and a reservoir, in extent about 5 acres. The whole of these works were completed previous to May, 1875, as stated in annual report for that year. The total cost of this undertaking has been about £12,500, of which £2,500 was obtained from the Government as subsidy towards some of the later works undertaken. As stated in annual report for last year, this race was then in a bad state of repair, and it has never since been restored. Practically, no use has therefore been made of it for mining during the year now ended.

Waimea Water-race.—Kawhaka Creek to Ballarat Hill, with Branch B near Goldsborough, and headworks at Kawhaka Creek. The length of main race is 15 miles 75 chains, having a carrying capacity of 40 statute heads; and the length of Branch B is 59 chains, having a capacity of 30 statute heads.

As stated in annual report of last year, the main race above alluded to was completed in July, 1876, but Branch B was only undertaken in September, 1877. Of it, 2 chains of ditching, 43 chains of tunnelling, and 2 chains of fluming have been completed during the year just ended, leaving 9 chains of ditching and 3 chains of tunnelling still to be completed. These are in hand, and will be finished in a month.

The headworks at present contemplated at Kawhaka Creek, as described in annual report of last year, are designed for the purpose of admitting of all the water available in the creek being sold during the eight hours of daylight, from 8 a.m. to 4 p.m., as the nature of the workings at Waimea precludes the use of water at night to any great extent, and the night water in the creek is thereby at present lost. For these headworks a contract was entered into on 13th of April, 1878, to be completed 9th January, 1879.

Since the date of last annual report the sales of water on this race have increased, having averaged £124 per month for the five months ending May, 1878, as against £86 per month for the five months ending May, 1877, and it is probable that they will still further increase materially on completion of headworks and Branch B. continued.

Waimea Water-race (continued): Extension to Kumara.—This undertaking as at present contemplated consists of 4 miles 60 chains of main race, known as the "Kawhaka Supply-race," having a capacity of 30 statute heads, and extending from Kawhaka Creek to Kapitea Creek, with headworks at Kawhaka about 100 chains below the site of the Waimea Race headworks, together with a main race from Kapitea Creek to Kumara, having a length of 3 miles, and a capacity of 50 statute heads, with headworks on Kapitea Creek, and branch races at Kumara to the extent of 3 miles 76 chains; also a sludge-channel at Kumara and a reservoir at Kapitea Valley, above the Loop-line Road. Of these works, the main race from Kapitea Creek to Kumara, together with the water-right of Kapitea Valley, was purchased by Government from the Kumara Water-race Company; and the remainder of the works above described, with the exception of the reservoir near Loop-line Road, and the sludge-channel at Kumara, have been constructed during the year just ended, the expenditure upon them during the year having been a little over £11,000. The said reservoirs and sludge-channel have not yet been taken in hand, but it is desirable that they should be, and the probable cost of each is included in estimates for 1878-79 lately forwarded.

The number of miners who have been enabled to work at Kumara by means of the water supplied by this race has been very considerable, having averaged 742 men throughout the year, while the revenue for water sold has increased from £122 for May, 1877, to £223 for May, 1878. It is probable that the sales would be further and considerably increased by the construction of the loop-line dam and Kumara sludge-channel.

Kanieri Lake Water-race.—Length, 12 miles 21 chains; constructed to carry 60 heads of water. Total cost, about £23,800, of which the Government has contributed £10,000. This work was completed previous to May, 1875, as stated in the report of that year. This, like the New River and Hibernian races, is now in a bad state of repair, and practically no use has been made of it for gold-mining purposes during the last twelve months.

Mikonui Water-race.—Length contemplated, 15 miles; capacity contemplated, 40 statute heads. An appropriation of £15,650 was taken last session for the construction of the works known as the "long tunnel" on this race—namely, 155 chains of continuous tunnelling through the hill intervening between Totara and Donnelly's Creek Valleys; and the Appropriation Act also of last session enacted that the Government could pay 3 per cent. on the cost of the remainder of the work, provided that the local bodies would guarantee a similar amount, and that a company could be got to undertake the project on those terms. No company has however as yet been formed for the undertaking, and, although several projects for its completion have been mooted, it is doubtful if any of them will prove practicable. If, however, the Government were to offer £30,000 on condition of a company being got up with a capital of like amount, it is possible that a company could be formed on that basis, and that by very careful management the work might be carried out for the £60,000 thus provided, although the estimate is £81,000; and it would be rather in favour of the Government, too, to have the work done in this way, as they would thus be providing only £30,000, at a cost to them, say, of £1,350 per annum, as against the arrangement contemplated in the Appropriation Act, which, if carried out, would probably involve the paying of interest on £65,000 at 3 per cent., or £1,950 per annum.

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The Engineer in Charge, Middle Island.

C. Y. O'CONNOR,
District Engineer.