

the No. 5 channel, and it is only by using very large quantities of water and sluicing on a big scale that anything like payable returns can be obtained. If the ground proves payable, both parties have still a fairly large area to work.

There are still two parties sluicing into the No. 5 channel, and each of them has a considerable extent of ground yet to work; but the returns for the past year have not been encouraging, and it is probable that some of the ground will yet be abandoned. As there are only two parties sluicing into each of these channels, the dues for extension and keeping the floor in good order are very heavy, without spending anything on retimbering or other repairs; in addition to this, each party has a long private tail-race to maintain. When a channel is first constructed it is an invariable rule that the largest number of parties sluice into it during the first four or five years, and as the timber is new the maintenance is comparatively small, and a reserve fund should then be set aside by the trustees for retimbering at a future date.

McGrath and Co.'s was the only private tail-race supplied with water from this race during the year.

The Corbit Bros. erected a flax-mill in February last on the tailings near the old No. 2 channel. The plant is run by water-power, and works most satisfactorily. The water is supplied from the Government race at Dillmanstown.

The usual quantity of flushing-water authorised by the Department was supplied to each of the main tail-races—viz., No. 4 channel, ten sluice-heads; No. 5 channel, twenty sluice-heads.

Water was supplied for fire-brigade purposes to the Borough of Kumara, and for washing-up purposes to all claims using water from the race free of charge.

Prospecting.

Prospecting operations were carried out by the Mines Department in the flat between Kumara and the railway-line for the first three months of the year. A line of shafts was sunk from the Kumara Beach Road to the foot of the ridge at Sandy's Hill. Owing to heavy water being met with at a depth of about 70 ft., none of the shafts reached the reef or main bottom, but they were all sunk below the false bottom, or the level of the Kumara workings, which was generally found between the depths of 26 ft. and 34 ft., and, with the exception of the No. 1 shaft, none of them showed the slightest indication of gold below that level. The general opinion was that the ground would improve the nearer we got to the ridge at Sandy's Hill, but my experience proved quite the opposite—the further we went back from the Teremakau River the poorer the ground became. The average yield from the last four shafts from the surface to the level of the false bottom was $\frac{1}{4}$ gr. to the cubic yard, which would not give payable results if worked under the most favourable conditions. A fairly large area of country was also prospected in the neighbourhood of the Serpentine Creek, where seven shafts, varying in depth from 20 ft. to 40 ft., were sunk, and a tunnel about 200 ft. in length was driven; but with the exception of two shallow shafts in the bed of the Serpentine Creek, near Berdinner's old camp, the results obtained were most unsatisfactory. In October last the Department granted a subsidy of £100, at the rate of 4s. a foot, to sink shafts on the north side of the Teremakau River, but owing to the very heavy nature of the ground I could not get a party to undertake the work at the price. Eventually, Mrs. Dixon, the proprietress of the Erin-go-Bragh Water-race, which commands a considerable portion of the ground, agreed to give an additional 2s. a foot up to £50. This brought the total subsidy up to £150, at the rate of 6s. a foot, and a party was formed, and sinking operations were started last week. There is a very extensive area of ground in this locality, and also at the head of Larrikin's Flat, in the Kapitea Valley, practically unprospected, and the formation of the surrounding country points to the conclusion that the Kumara gold crossed the country in a westerly direction from Maori Point, or came down the Kapitea Valley from the Arahura River.

Kumara Deep-level Drainage-tunnel.

This work was resumed in May last by constructing a shoot for sending down timber from the Dillman's Road, and erecting an incline tramway and haulage-gear for lifting the dirt out of the water-way at the mouth of the tunnel. When the work of repairing was taken in hand the tunnel was found to be in a very bad state. Most of the timber was in a very decayed condition, and had to be renewed before men could work under it. Owing to the collapse of the old shaft and the breaks in the tunnel there was no ventilation, and it was found impossible to keep a light burning 300 ft. from the mouth of the tunnel, so water was laid on from the Government race at Dillmanstown. Ventilating-gear was erected, and the air conveyed up the tunnel in 4 in. pipes. The tunnel was down and filled to the roof in seven different places; the water was backed up behind each of these breaks, and running over the roof-laths, which made the work of repairing not only slow but extremely dangerous. After the tunnel was picked up and repaired from the mouth to the old face, a distance of about 1,300 ft., it was driven in the blue reef, and fully timbered for a further distance of 87 ft. A haulage-shaft (10 ft. by 4 ft.) was started in January, but, unfortunately, at a depth of 50 ft. a large cavity was met with, which was caused by a run from the old No. 1 channel or some tail-race leading into it, whose position could not be located, as they have been down for years. The difference in level showed that the ground must have run for 50 ft., so it was considered too expensive and dangerous to continue sinking, and the shaft was abandoned, and a new one started, which is now down to a depth of 104 ft.

The following is a summary of the revenue and expenditure in regard to this race during the financial year ended 31st March, 1907:—

	£	s.	d.
Sales of water	502	2	2
Cash received	532	6	10
Expenditure	740	12	8
Value of gold obtained	3,900	0	0

Average number of persons ordinarily employed, 16.