

## HYDRAULIC AND ALLUVIAL MINING.

This class of mining continues to give employment to a large number of persons in various parts of the Middle Island, the Nelson, West Coast, Otago, and Southland Districts being the principal centres of operations. During the year work has been vigorously carried on at the majority of the claims; but the long and severe winter caused serious damage to water-races in parts of Otago, the length of the working season being considerably curtailed in consequence. As already pointed out, this had the effect of reducing the output of gold from the district.

The older forms of alluvial mining are rapidly passing away, owing to the exhaustion of the rich shallow ground. Deep, heavy, and wet ground, which could not be worked by the methods in vogue in the early days of colonial mining, is now successfully worked by means of hydraulic sluicing and elevating, and, owing to the large quantity of material which can be dealt with by the more modern methods, ground which was too poor to work under the old order of things is made to yield handsome returns on the capital invested. Many of these hydraulic plants are operating on extensive areas of auriferous alluvial ground, and this class of mining, as a whole, is in every way likely to largely contribute to the output of gold for several years to come.

## DREDGE-MINING.

That this branch of the gold-mining industry may be safely regarded as steady is evidenced by the fact that the number of working dredges returned for the year 1903 is identical with that of the previous year—viz., 201. Both the West Coast and Central Otago show a decrease in the number of dredges at work; but in Southland the number of working dredges has increased in exactly the same ratio as the combined decrease of each of the two other centres.

During the early period of dredge-mining on the alluvial flats of Southland, fears were freely expressed to the effect that the work of the dredges would inevitably result in the total destruction of the land. This does not appear to be the case to the extent predicted, as on some of the swamp lands which have been dredged vegetation is springing up, and is preferred by cattle to that growing on adjoining flats which have not been turned over. The planting of forest-trees on land which has been dredged has also been undertaken, and present appearances are in favour of the experiment being eminently satisfactory.

Notwithstanding the drawbacks of a very severe winter in Otago, the dredging industry has generally been successful, and this branch of mining may be regarded as a factor of no small importance in the production of gold.

## PROSPECTING.

The sum of £1,088 17s. 3d. was expended in subsidies, for the year ending the 31st March, 1904, to prospecting associations and parties of miners actually engaged in prospecting.

## THE CYANIDE PROCESS OF GOLD-EXTRACTION.

The royalty obtained by Government in respect to the purchase of the patent rights of this invention for New Zealand amounts to £7,565, or rather more than three-fourths of the amount originally paid. When the royalties now imposed on users of the patented process have reimbursed the Government all charges in this connection will cease so far as this colony is concerned.

## WATERCOURSES FOR TAILINGS, ETC.

The sum of £5,176 17s. 7d. was paid during the year as compensation to landowners in respect to rivers and streams which have been proclaimed as water-courses into which tailings and mining *débris* may be discharged.

## SCHOOLS OF MINES.

These institutions continue to prove of benefit to persons employed in and about mines and batteries, and the instruction given is such as to enable students to attain the knowledge necessary to qualify them to hold the responsible positions connected with their profession.