

is to have still further development and extension in the working of the newly-discovered deposits of cement, and in the re-working of the accumulated tailings from the original ground-sluing of the Blue Spur, and in the re-working of ground hurriedly passed over in the early workings of the famous Gabriel's Gully. Experience has shown that, where the auriferous earth is compacted together in a conglomerate or cement, as in the Blue Spur, the crushing by stampers is greatly superior to the system of ground-sluing as a means of freeing and saving the gold. Country that was too poor or not in position to be sluiced can be worked profitably by the stampers, a very few pennyweights to the ton paying well.

MAINTENANCE OF WATER-RACES UNDER THE CONTROL OF THE GOLD FIELDS DEPARTMENT.

Since last year's report the Mount Ida Water-race has, by the operation of "The Mount Ida Water-race Trust Act, 1878," become vested in the Trust, and a report of their proceedings will be found in the Appendix. In the month of November last Mr. Wakefield visited Grahams-town, and, according to instructions, arranged the necessary conditions, subject to the approval of the Government, for the transfer of the Thames Water-race, in compliance with previous engagements, to the County Council, from the 1st of December, 1878, and it is intended that the transfer shall be formally proclaimed as soon as the survey has been completed, and the plans showing the defined limits are ready. Annual reports by the managers of the Nelson Creek and Waimea-Kumara Water-races are contained in the Appendix; and a statement of the revenue and expenditure on account of these races for the year ending 30th June, 1879, will be found in Return No. 20. Although the balance of accounts shows but a small sum towards the payment of interest on the cost of these works, it is so far satisfactory to note that the Waimea-Kumara Race enables 723 men to prosecute an industry yielding about £120 a year per man, and the Nelson Creek Race enables sixty-seven men, after paying for water, to make the very high average of £239 per man.

GOVERNMENT AIDS TO PROSPECTING, ETC.

Several new applications for aid have been received, but the Government subsidy has only been granted in two instances since the date of the last report, one being to a prospecting party at Poverty Bay, and the other to the Hauraki Prospecting Association. The latter appears to have been one of the best organized with which the Government has had to deal, the proposal being to prospect the country extending from Cape Colville to the Thames; but although, from the reports received, much labour appears to have been directed in a systematic way to the search, no really successful results are shown to have been attained. The same remark as to results applies to all the associations referred to in last year's report as subsidized by Government; and, looking at these facts, it is not recommended that prospecting should continue to be encouraged by a direct Government subsidy to associations.

Various prospectors have been at work in the Wellington Provincial District, without asking for Government assistance; and quartz showing gold in the proportion of 12 dwts. to the ton has been found, and some of the prospectors are sanguine of further success. But, recognizing the necessity of promoting the search for fresh discoveries, a better plan would be to aid in the construction of roads and tracks through difficult or unfrequented country, leaving the actual prospecting to the unfettered action of the enterprising digger. The ardour and enthusiasm and personal resource which characterize the successful gold-discoverer are not to be bound down by regulation, or the restrictions of Government audit. Those who have made all the important discoveries in the colony did not previously make known their intention to prospect; and they would have disdained coming under any obligation as to reporting their intentions or proceedings. If the country is made accessible to the pack-horse, and the gold is there, private effort will do the rest.

Another class of prospecting relates, not to the discovery of new country, but to the further development of country already occupied, such as the proposal referred to in last year's report of driving a tunnel two miles long through the country immediately behind the principal mines at the Thames, with the view of cutting across the known auriferous lodes, should they extend so far inland. And there is the somewhat similar proposal of driving a tunnel at Reefton, with the object of testing the continuance of the lodes at greater depths. These works and others of a similar general comprehensive nature deserve encouragement, either by concessions secured by legislative enactment, or by subsidy. There are also cases, such as the Alpine Company, at Lyell, and the Welcome Company, at Boatman's, near Reefton, where, either on account of unusual difficulties in opening out the mine, or of the necessity of working back country through long drives, a larger area than the usual 16½ acres has to be allowed, so as to warrant the employment of the necessary capital.

On the older gold fields, the surface deposits having been pretty well worked out, it requires well-directed efforts, assisted by extensive plant and machinery, to follow up the deposits in the deeper ground. Accordingly, mining is becoming more and more a business in which skill and capital must combine, and the inevitable tendency is towards larger areas being required by the companies which undertake those enterprises.