

closed down some time ago. This mine was latterly worked by an incline shaft, and the stone in the low levels did not yield returns satisfactory to the owners. It has, however, been sold to a private party, and work has been recommenced on a different footing to that which obtained under the previous ownership. It is contended that a considerable extent of ground was left unworked above a level accessible by adit, and it is to win this area that the new proprietary has undertaken the present operations. The venture will be watched with much interest, and there is no doubt that the discovery of a good body of stone, which will afford remunerative returns, will be the means of reviving this once active, but now practically deserted, locality. The Premier-Sunrise Mine has not been quite so successful as usual during the year owing to the patchy nature of the stone worked; still, it has paid its way after providing for development and some new plant, &c., and, in addition, a surplus has been remitted to the London office. A very full report by the mine-manager is incorporated with the report of Mr. Green, Inspector of Mines. The old Tipperary Mine, Mace-town, last worked by the Westralia and New Zealand Gold Explorers (Limited), has been taken over by the Indian Glenrock (Wynaad) Company (Limited), and operations have been commenced with the object of reopening the mine.

Near Cromwell there has been a little desultory work done on the Carrick Ranges and at Bendigo, but nothing of importance. If the reef-system at Bendigo is to be properly explored below the old workings, a low-level crosscut tunnel will have to be driven from the level of the river-flat so as to obviate the necessity for heavy pumping. It is well known that more than one reef exists in this locality, and that in the early days of quartz-mining in Otago very profitable returns were obtained from the working of these quartz reefs. I have in previous reports pointed out that down to a certain level the quartz is oxidized, and yields its gold very freely, but at greater depth the ore becomes more refractory. As the cyanide process had not been introduced into the colony when quartz-mining in this part of Otago was at its height, the ore at levels below that at which oxidization ceased was considered worthless as it would not yield its gold under amalgamation. The alluvial goldfields of Otago offered more inducements for the expenditure of capital, and thus quartz-mining gradually declined. Considering quartz reefs are known to exist at various points along a line drawn from near the head of Lake Wakatipu to near Oamaru—viz., at the Invincible Mine, Glenorchy; Bullendale, Macetown (Premier Mine), Bendigo, and Balruddery—other places on and adjacent to the line referred to may be well worth prospecting.

Two mines on the side of the Old Man Range, near Bald Hill Flat, and a number of properties in the locality of Macrae's, are worked by private parties. At some of the mines at Macrae's, scheelite is associated with the quartz, one party (Messrs. W. and G. Donaldson) having concentrating plant for the separation of the scheelite from the sands. This is shipped to Europe. The Barewood Mine has been worked with good results, 2,083 tons of quartz yielding gold to the value of £6,535 18s. 1d., and concentrates value £391 6s. 5d., or a total of £6,927 4s. 6d., which gives an average value of £3 6s. 6½d. per ton. The O.P.Q. Mine, at Waipori, is still standing idle. Very little work has been done during the year at Preservation Inlet. Some prospecting has been done at Newton's Beach, Stewart Island. It is reported that a reef varying from 6 in. to 2 ft. in thickness has been discovered which yields a very high assay value. Further developments will be awaited with interest.

#### HYDRAULIC AND ALLUVIAL MINING.

Generally speaking, there is not very much change to note as regards this branch of the mining industry since last report. Most of the claims at work have been in operation for some years past. Here and there a few claims have been exhausted, others continue to work in a steady manner, making such extensions as the nature of the undertakings demand, and in a few instances new work for the purpose of opening up claims has been undertaken. This latter feature is in evidence at Charleston Beach (West Coast District), where a plant for working a beach-terrace deposit on the north side of Messrs. Powell's claim by hydraulic sluicing and elevating has been under construction. Presumably the ground will be similar to that worked by Messrs. Powell, which consists of sand carrying fine gold. The method of treatment is by distributing the sand and water as evenly as possible over a series of tables covered with silvered plates, the gold being amalgamated in the same manner as at a battery. New work is also in hand south of Ross, in the locality of Fox and Cook's Rivers, Okarito, at Oamaru, and at the Waiho River for working alluvial deposits.

Among other propositions likely to come to the front is that of bringing in water to work the alluvial deposits at Back Creek and Seddon's Terrace. The ground is reported to be of a good payable character (see report of Mr. Warden Day), and it is confidently anticipated that with a good supply of water for sluicing purposes a prosperous future would be insured.

In respect to the yield of gold from the ground worked by water from the Government (Waimea-Kumara) water-races, this shows an increase as compared with the previous year, with a somewhat fewer number of men, as will be seen from the following schedule:—

Financial year	Average Number of Men.	Ounces of Gold		Value.		
		won.	...	£	s.	d.
1902-3	82.41	6,717		26,196	6	0
" 1903-4	77.00	7,112		27,736	16	0
Increase ...	...	...	395	1,540	10	0
Decrease ...	...	5.41	...	...	...	...

Full details of this work appear in the report of Mr. Alex. Aitken, manager of the Waimea-Kumara Water-races.