

The following is a statement regarding the most productive dredges the property of registered companies during the year, the dividends declared by privately owned dredges being unobtainable:—

Name of Dredge.	Production during 1907.	Dividends paid	
		During 1907.	To 31st December, 1907.
West Coast District—	£	£	£
Pactolus (2 dredges)	17,337	10,312	48,125
No Town Creek	7,897	3,600	20,400
Southern District—			
Electric	9,797	4,550	122,850
Golden Treasure	7,099	2,301	20,995
Manuherikia	4,852	1,800	28,550
Masterton	8,639	4,500	19,500
Mystery Flat	9,071	5,236	13,504
Otago	7,788	1,250	14,750
Rise and Shine	14,075	6,000	9,900
Waikaka Syndicate	10,344	4,900	11,900
Waikaka United	12,908	7,560	26,600
Argyle	4,713	Unknown	6,492
Other working dredges (both districts) ...	305,114	37,698	271,482
Totals	419,634	89,707	615,048

In the Southern Inspection District the Waikaia field has proved most consistent during the year, the Mystery Flat, Waikaia, and Koputai dredges obtaining some excellent returns. Since its opening at the beginning of 1905 this field has progressed wonderfully; seven dredges, the property of registered companies, have produced gold to the value of £124,222, of which £47,973 has been returned as dividends, in addition to which there is one privately owned dredge, the Duke of Gordon, from which the returns are not available.

The Molyneux River has throughout its course furnished its usual quota to the year's yield, but there has been nothing remarkable about the operations of individual dredges, very few of those in Otago exceeding 100 oz. for any week.

On the West Coast dredge-mining operations gradually continue to decline. On this field the most profitable work was carried out by the Pactolus No. 2 dredge, operating at Nelson Creek, where a rich run of gold was encountered, from which during the first week in December a return of 350 oz. of gold was obtained, which constitutes a record for West Coast dredges. The Pactolus Company declared during the year £10,312 in dividends, the highest of any dredging company in the Dominion.

(3.) ALLUVIAL MINING.

The prolonged droughts on the goldfields of the South Island during 1906 and 1907 have proved disastrous to the alluvial gold-mining industry, and the annual value of the gold-production from this source, which formerly was recorded in millions of pounds sterling, during 1907 only amounted to £63,284, independent of the gold-dredging returns.

At the well-known Blue-spur Mine hydraulic sluicing and elevating operations were retarded during the year, owing to the shortage of water, no less than 2,500 hours when compared with the time worked during 1905, and a similar state of affairs existed at most of the other sluicing claims.

The dividend-paying mines included the Arrow Falls Sluicing Company, £1,505; the Paterson's Freehold Company, £2,400; the Waitahuna, £1,075; and the Roxburgh Amalgamated, £2,915; the latter company having been enabled, owing to their extensive water-rights from the Teviot River and storage-dam at Lake Onslow, to supply all their requirements.

A method of obtaining water for hydraulic sluicing by other means than the construction of lengthy races at high elevations is now extensively employed in the Western States of America and in British Columbia, where the later installations of hydraulic plants use turbines and centrifugal pumps of several steps to raise the water from creek or river against considerable heads, and deliver the same at the sluicing-face at high pressure for operating giant nozzles. The power by which these pumps are operated may be either electrical, steam, producer-gas, or hydraulic. In this Dominion there has for some time been installed one plant of this character at the claim of the Tamaiti Gold-mining Company (Limited), on the Tuapeka River, Otago. This plant has now been in operation long enough to pronounce definitely as to its efficiency and economy from actual working tests, and it has been found that beyond a trifling expenditure in lubricating-oil, amounting to about 1s. per day, and the wear-and-tear of the belting, the capital and working expenditure do not exceed those of the ordinary hydraulic sluicing and elevating systems, no extra labour being necessary; but, on the other hand, a considerable economy is effected in the cost of the construction of lengthy conduits, and their maintenance.

The Tamaiti Company, for the purpose of working the alluvial terrace banks of the Tuapeka River, where the water necessary for hydraulic sluicing and elevating may not be conducted by races in the ordinary manner owing to the unfavourable configuration of the country, installed a plant in design somewhat similar to that in successful operation at Rogue River, Oregon, U.S.A. The Tuapeka River, situated at a level considerably below the area to be worked, is utilised