

The completion of the siphons in connection with the Mountain Hut Water-race in North Otago has given a decided impetus to alluvial mining in the neighbourhood of Maerewhenua, which had for some years past been in a languishing condition in consequence of the scarcity of water. There is auriferous ground in this locality which will take many years to exhaust, as the facilities for working available areas are limited by the volume of water which can be brought on to the field.

Owing to the severity of the winter, hydraulic mining in Central Otago received a decided setback. In the localities of St. Bathans and Matakau especially (where the snowfall was actually 3 ft. 6 in. deep in one night) the races were snow-filled before the water could, in some cases, be turned off, and the great depth of snow cut off all access to the races for some time. Severe frosts followed, and when the subsequent thaw set in several landslips occurred and carried away lengths of the races. In other instances the sides of the races were burst out in consequence of the thaw. The cost of the necessary repairs which had to be effected is set down at upwards of £1,150 over and above that which has to be ordinarily expended at the close of each winter, and, taking the average, the loss of time consequent upon these breakages to water-races would reduce the length of the sluicing season by fully 25 per cent. The natural effect has been to reduce the amount and increase the cost of the gold won. Although the greatest damage appears to have been sustained in the localities referred to, the industry in other centres suffered more or less in consequence of the long and severe winter, and in this manner the shortage of gold from Otago (referred to in the early part of this report) is to be accounted for.

Detailed particulars of the operations at the various properties in the Middle Island worked as sluicing and hydraulic claims will be found in the reports of Mr. Tennent, Inspector of Mines for the West Coast District, Mr. Green, Inspector of Mines for the Southern District, and the several Wardens for the various sub-districts of the Middle Island.

A new invention for gold-saving purposes, which appears to be applicable as an adjunct to the ordinary tables as used at hydraulic claims, is described under the head of "Dredge-mining."

Dredge-mining.

Owing, in a great measure, to the unpayable character of the ground on which dredges had been placed as a result of the "boom" in dredge-mining of some three years ago, and also in some instances to the unsuitability of the dredges themselves to successfully work auriferous ground which might be worked to advantage by hydraulic mining, or even by more powerfully built dredges, quite a number of dredges have ceased operations during the year. Many of these have been sold and removed to other dredging centres, some have even been exported to Australia for service there. Notwithstanding this, it is somewhat significant that the number of working dredges returned at the end of the year was identical with that of the previous year—viz., 201, and this speaks for itself as to the steadiness of the industry at the present time. In accounting for the coincidence in the face of the facts above mentioned, it may be remarked that the reduction in the number of working dredges in the West Coast District (four) and the Otago portion of the Southern District (ten) is exactly balanced by the increase (fourteen) in the number of dredges at work in the Southland division of the Southern District.

The following summary shows the number of dredges in each district at the end of the year 1903.

District.	Working.	Standing.	Building.	Under Re- moval or Rebuilding.	Dismantled.	Wrecked or Stranded.	Total.
Marlborough, Nelson, and West Coast.	46	16	..	1	4	5	72
Southern	155	12	7	18	8	...	200
Totals	201	28	7	19	12	5	272

It is worthy of note that the alluvial flats in the valleys of the Waikaka and Waikaia Rivers in Southland have attained to positions of prominence as dredging centres. The earlier attempts at dredging on the Waikaia River proved failures, but it is now found that the best ground for dredging is not in the river itself so much as on the adjacent flats and tributary valleys. A dredge on the valley of the Argyle Stream just above Waikaia Township has demonstrated the value of that tributary as a dredging-area; and a portion of the ground higher up, held by the Argyle Sluicing Company, and hitherto worked by hydraulic sluicing and elevating, is to be worked by a dredge, the motive power being water, applied in similar manner to that adopted at Waipori and Cardrona under Mr. W. O'Brien's patent rights.

On the Clutha River and its principal tributaries dredging operations were seriously impeded by severe frosts and subsequent floods. The winter is, as a rule, the most profitable portion of the year owing to the low state of the rivers which enables dredges to "bottom;" but the last winter, as well as that of four years ago, will be long remembered as being of exceptional severity. Many dredges had to stop work, and when the thaw set in the rivers became flooded to such an extent that dredging was necessarily suspended, hence the aggregate returns won were considerably less than would have been the case under average conditions. Some very good and even phenomenal returns were, however, obtained by several dredges in the localities of Alexandra and Cromwell, whilst the condition of the rivers was favourable for dredging. Interesting particulars of the work in this part of Otago will be found in the report of Mr. Warden Burgess.