

namely, £12,900—it proves that these dredges can be made profitable machines in connection with gold-mining.

The figures in connection with the results of working were kindly supplied me by Mr. T. Callender, the secretary of the company, and will no doubt interest those who are carrying on dredging operations.

Sandhills Company.—This company's dredging operations are in the Shotover River, about a mile and a half above the Sandhills. The nominal capital of the company is £12,500, and the actual capital paid up in cash is £7,142 4s. The nominal value of the shares is 10s., and 4,000 of these were given to shareholders, for which no cash was paid. This dredge is worked by an electric motor, the electricity being generated by Brush dynamos on the shore, which are driven by a Pelton water-wheel. The water-race which is brought in to drive the Pelton wheel is at a high elevation, and for a couple of months in winter the frost stops the supply of water; consequently, operations have to be suspended for a portion of the year. The ground is said to give fair returns where this dredge is working, but the working and office expenses seem to absorb the most of the profits, as only two small dividends have yet been paid to the shareholders, amounting in the aggregate to £849 18s. 10d.

Ophir.—A dredge was placed on the Manuhirikia River below the bridge at Ophir by Messrs. Gallagher and Harrington, but it was constructed on the Welman principle, and proved a failure. The wash-drift in the bed of the river at this place was found to be too tightly cemented together to be disintegrated by suction. The ground has therefore not been tested; but the owners of this dredge are so confident that there is gold here to pay for working that they are going to place a bucket-dredge on the ground.

Waipori.—There are two bucket-dredges at work at Waipori, but these have lately had to suspend operations, the proprietors having been served with an injunction from the Supreme Court at the instigation of some of the settlers in the vicinity of Berwick to stop working, on account of the large quantity of silt that was coming down the Waipori River, which was said to be due to dredging operations; but, in all probability, the sluicing operations had as much to do with sending silt into the river as the dredges. In the early days the gold-workings had very little effect in making the water of the river muddy; but, the most of the shallow and rich ground being worked, the poorer ground requires to be operated on by a different method to make it remunerative. The days of paddocking have gone by, when only the wash-drift on the bottom was washed in a small sluice-box at intervals. Now, the ground has to be continuously worked with a good stream of water, and sent away in a wholesale manner, before the miners can earn wages. The accumulation of silt in the bed of the river has therefore been far more of late years than formerly.

The Waipori Gold-dredging Company has two dredges, but during the past year only one of them was at work—namely, the largest dredge—and at the time of my visit the operations were being carried on successfully. The dredge was working the banks at the side of the river, and getting a fair quantity of gold. The dredge is capable of lifting about 75 cubic yards of material per hour. This company has found that to work ground of this description it requires large dredges. The hulls or barges on which the dredging machinery is placed, along with the washing and gold-saving appliances, require to be much larger than they generally are made, in order to give room for ample gold-saving appliances to be placed, and also to give them sufficient stability when carrying on dredging operations.

The Jutland Flat Company has a dredge on the flat above the township, which has been working successfully for the last three years. Indeed, this may be said to be the best dredge yet constructed in the colony, and has been getting good returns ever since it has been at work; but, unfortunately, the operations have had to be suspended, owing to the injunction from the Supreme Court. It is to be hoped that the difficulty between the miners and the farmers in this locality will soon be settled, so as to allow dredging operations to be carried on. The ground in this flat can never be remuneratively worked by any other system, and there is a large area of land in the Waipori district which is not suitable for any other purpose but mining, except for the pasturage of a few sheep; and, now that dredging as applied to mining has been perfected to such an extent as to make it a profitable venture, and give employment to a number of men, every encouragement should be given to those who will embark their capital in such an undertaking, and so develop the gold-mining industry.

There are now a large number of dredges working in the Otago district on the goldfields, some of which have not been successful; but this is to be expected in many ventures of every description. But if sufficient care be taken in prospecting the ground by bore-holes previously to placing dredges on the ground, the most of the ventures could be brought to a successful issue. Some ground may be so full of large boulders that dredging would not be a suitable method of working it, even were there sufficient gold to pay for working. Neither can dredging operations be carried on with payable results if the wash-drift be hard-cemented together. In such ground the buckets only slide up against the wash without being able to disintegrate it. On the other hand, on some of the ocean-beaches the gold is of such an extremely fine, scaly character that the gold-saving appliances are not suitable for recovering it. Different methods have to be adopted for saving the gold, according to the character of the precious metal in the material to be treated.

WEST COAST.

Of the dredges on the West Coast, the most of them have proved failures. A number have been placed on the ocean-beaches, which contain sufficient gold, if it could be recovered; but, until very large tables are used, covered with cocoanut-matting or blanketing, on the same principle as adopted by the miners working on the beaches, there is little hope of success attending the dredging operations. This seems to be the greatest difficulty to contend with, as the hulls or barges which carry the dredging machinery are not sufficiently large to admit of a large area of tables being