

Rats, especially about the old whaling settlements, are numerous and destructive. They do not appear to have gone inland as far as the lakes. The lower part of Chalky is a land of coves, so that a boating party overtaken by the stress of weather can run in for it, and find available camping-ground. Still the navigation of these sounds is ticklish, and unless a man is accustomed to boating he should content himself with the oars, and not trust to canvas."

The above is a digest of Mr. Carrick's description of the south-western portion of the Middle Island. Whether the vivid picture he has drawn will be realised is a question which time alone can tell. So far, no one has ever been in this part of the colony; thus there is no information to the contrary of what Mr. Carrick has told us. It is possible that he may have taken rather a sanguine view of things, so far as the payable auriferous character of the whole of the country through which he passed is concerned, but there is little doubt but some of it will prove remunerative for working. There is proof positive that there is gold, and, from what some of the proprietors of the St. George Quartz Claim at Cuttle Cove informed me, there is a prospect of very rich stone being got in some of the quartz lodes in this locality. The place is said to be a network of quartz lodes, leaders, and veins, and nearly the whole of them carrying gold. The stone is of a blueish-white appearance, carrying blue streaks; it has everything to commend it as far as appearances go. On the opposite side of the inlet, on the main land at Long-beach, the Morning Star Company is said to have got some very good stone, a ton of which was sent to Invercargill and crushed, which yielded about 9oz. of gold. The company is constructing an adit-level at about 150ft. lower down the hill to test the stone. An adit was put in, and the reef cut at 31ft. below the outcrop where the rich stone was first got, and the lode was cut at 41ft. It was found to be nearly 3ft. in width, and carrying gold equal to the stone on the outcrop.

Annexed is a sketch-map of the country, with the track followed by Mr. Carrick, and showing where gold was obtained.

DREDGING.

The number of dredges employed in alluvial mining is increasing every year, and it may be said, generally, that the majority of the dredges now employed are proving to be paying ventures. Large fortunes are not to be made by the employment of these machines any more than by other appliances used for working the alluvial drifts. Still many of the mining claims by this system of working make the ground yield sufficient gold to pay good interest on the capital invested; they are opening up a new era in mining, as the large river-beds which formerly could not be worked are now, by the use of dredging-machines, made to yield up a portion of the treasure which has been the accumulation of ages. Not only is there a large quantity of concentrated material in the beds of the large rivers, but considerable valleys and flats have been formed by the action of the rivers changing their courses from time to time. Deposits of auriferous drifts are found on terraces along the sidelings of some of the ranges facing the rivers, which, in some instances, are now 700ft. above their present water-level, showing the immense time that has transpired since the water flowed at this level. As for instance, the Shotover River-bed is now cut down in the solid rock some hundreds of feet below the level at which it had at one time been. The rivers have also been the means of forming large valleys, and immense areas of comparatively flat land, as for instance, the Canterbury Plains, which have been wholly formed by the denudation of the mountains, and the different rivers and streams continually shifting their course, carrying always a certain quantity of solid material along with the stream, and depositing it upon the low-lying ground.

The Clutha River bed is now for many miles taken up in dredging claims, and a large number of these machines are at present carrying on dredging operations. Since the first dredges were used for working these river-beds, considerable improvements have been made in them, and improved methods for saving the gold introduced. These appliances, however, are by no means anything like perfect yet, and there is a great difficulty in contriving any really good gold-saving appliances for use on board these dredges; this has yet to be overcome. The pontoons or barges which carry the dredging machinery are not sufficiently steady for fine-gold-saving tables to be used. The vibration caused by the working of the machinery, together with the oscillation in the stream, does not permit of the dredged material, after it has been separated from the stones and gravel, running uniformly and evenly distributed over the whole surface of the gold-saving tables, which is one of the most essential elements in connection with gold-saving.

A great deal of the gold in the river-beds, and more especially on the ocean-beaches, is in a very minutely divided state, being rolled about by the action of the current, and, ground into fine dust and minute flakes, it requires the greatest care, and tables nicely adjusted, with a uniform supply of water and material, before one can expect to save anything like a fair percentage of this class of gold. The hulls of the barges, on which the gold-saving appliances are placed, require to have considerably more beam than they usually possess, so that their oscillating movement may be minimised. The tendency of dredging operations is for the materials to come up much faster at one time than another—that is, sometimes there is a large quantity of sand on the tables, while at others there is scarcely any. The tables therefore do not work so clean and steadily as they do when used for dealing with the fine material from hydraulic sluicing operations; by this is meant that the sand passes through perforated plates in the bottom of the sluices where it is distributed over a very wide surface of tables. The dredges lift about 50 cubic yards of material per hour, or about the same quantity as the Shamrock Company, at Addison's, send up through the hydraulic elevator; and the width of table used by that company is 100ft., whereas on a dredge the greatest width used is only about 25ft. The fine gold has not, therefore, the same chance of being saved as it would be on stationary tables of a sufficient width.

Although the dredge has proved a useful machine in working the river-beds none of them have yet proved a success in working the auriferous sand on the sea-beaches, simply because the quantity of material they are capable of lifting cannot be treated in a proper manner by the washing