

investment. The ground is not rich; but the systematic method of working enables him to put a large quantity of stuff away, and thereby make very poor ground pay. The miners here combine together to construct large tail-races in order to get sufficient fall to work their ground. There are large deposits of quartz-drift in the neighbourhood of St. Bathans which contain a little gold all through it, and some of the layers are very rich. This drift is of an old formation. At the time it was deposited it must have been in horizontal beds; but now it is found lying at all angles from vertical to horizontal, but always corresponding with the angle of the Silurian rocks which it lies against, showing that after it had been deposited the whole country had, by some freak of nature, been tilted up. The quartz-gravel is all rounded, as though at one time it had been greatly washed and tossed about with water. In some places there are beds of leaves 5ft. in thickness, and so perfectly are they preserved that the leaves of the *Weinmannia racemosa*, which is common to all parts of New Zealand, can be easily distinguished. There is no regular run or lead of this quartz-drift, but it is found here and there all over the district. The difficulty is to understand where it had originally come from, as none of the present mountains in the vicinity outside a certain limit contain this formation. It appears to follow round the valley from the foot of the Dunstan Range at the Devonshire Lead, near Tinker's, going through Cambrian, Vinegar Hill, St. Bathans; thence following round the foot of the mountains to Naseby; and again it is found on Mount Burster, about 4,000ft. above sea-level, where rich deposits of gold have been obtained; thence through the valley of the Maerewhenua. It is to work these deposits that the sludge-channels at St. Bathans and Muddy Creek are being constructed.

Mount Ida.—This is a field that in former years was known as the Hogburn Diggings. Some of the gullies were very rich in auriferous deposits; but after these were worked out in the ordinary claims mining was chiefly, and is now, confined to the terraces, which contain auriferous wash, although generally of a poor quality. Recently the Mount Ida Water-race, which was constructed by the Government some eight years ago, has been extended to Spec and Home Gullies and the adjoining terraces, which are taken up in mining-claims and promise to give fair returns. There is a large area of ground in the Mount Ida district which this water-race commands that has never been prospected, and which may yet be found to be profitable for working.

SOUTHLAND.

Waiau River.—Gold has recently been discovered on the sea-beach at the mouth of the Waiau River, and some very rich patches have been found. It was discovered in August last by Arthur Young, a resident at Orepuki; and up to the 29th November, the date of my visit, nine men had obtained gold worth about £1,000. One man—Mr. Devonshire, a hotelkeeper at Orepuki—got from a patch of ground not more than 25ft. square £250 worth of the precious metal, besides a quantity of platinum, which he did not consider of sufficient value to save. The Waiau River when it first comes to the sea-beach is divided into two branches, one branch going westerly and the other branch easterly. These branches run parallel with the ocean-beach, having a bank of shingle between them and the ocean. The eastern branch follows the side of the terrace for nearly three miles. About twelve months ago the river cut through this bank of shingle, and left about forty chains of its old bed, which now forms a shallow lagoon, rising and falling with the ebb and flow of the tide. It was on the land-side of this lagoon gold was first discovered, and where the gold-workings are now situated. Several miners have from time to time found gold in the wash-drift up the Waiau River, but never in sufficient quantities to pay for working; but the gold now found on the beaches is of the same quality, and totally different from that obtained on the beaches at Orepuki, which is only seven miles distant. The gold found at Orepuki being worth £3 16s. per ounce, while that found on the Waiau Beach is only worth £3 8s. per ounce. This proves that the gold must have come from the interior, and has been washed down the Waiau River; and will probably lead to further discoveries being made. The wash-dirt is about a foot in thickness, and has from 2ft. to 5ft. of shingle on top of it; but, as the workings are only as yet confined to the edge of the lagoon, gold may be traced into the terraces. There is a large quantity of ruby sand in the wash-dirt, resembling that found on the ocean-beach between the mouth of the Rakaia River and the mouth of Lake Ellesmere, in Canterbury. The gold is of a fine scaly character, and shows that it has been ground up to a great extent by boulders travelling in the bed of the river. There were at the time of my visit twenty-five miners on the ground, all of whom had claims that were paying them good wages; but, unless gold is found in the terraces or traced further up the river, the whole of the present known extent of ground that can be easily worked is already taken up. The mode of washing the dirt is with small quicksilver-cradles lined with copper plates, so that a man can only wash a very limited quantity of stuff per day. At ebb-tides gold can be taken up with a shovel from the bottom of the lagoon; but, there being no means of draining, the only way of testing it properly would be by dredging. I feel confident that dredges will yet be employed on this river on the same principle as those at work on the Clutha; but this will take time, as further prospecting will require to be done.

Orepuki.—There are still a number of miners engaged at work in this locality, and the ground is paying those who have water very good wages. All mining operations here are confined to hydraulic sluicing.