

are then lifted to a height of 70ft. by bucket-elevators, run away in a flume, and stacked in the creek-bed.

The elevators are worked by a Pelton water-wheel, which is erected on the surface of the ground. The water, after passing through the Pelton, is used for sluicing into the paddock. The value of the gold obtained by this company in six months prior to my visit in May last was about £900, and the expenditure for the same period was £530, thus leaving a net profit on the workings of about £370. This method of working is not equal to hydraulic elevating, but there is no available water-supply that could be got to work the ground on this principle.

At Orwell Creek a new discovery has been made in a large terrace at the head of Carriboo Creek. One tunnel has been put in, and the ground is said to pay about 10s. a day per man for working it. Other tunnels are being constructed, and it is probable a good lead of gold-bearing wash-drift may be discovered. In years gone by, rich auriferous gravel was found to go down the flat from Orwell Creek Township, and many miners are of opinion that a good lead of gold-bearing wash-drift will yet be found crossing the head of the Ahaura Plains at the lower end of Orwell Creek. This view is favoured, inasmuch that it is on the line of the ancient river-bed that has passed through Granville, River View, Callaghan's, Nelson Creek, Red Jack's, No Town, and Maori Gully. A large special claim of 200 acres in extent is held at the head of the Ahaura Plains, and it was mooted, during my last visit to the district, that steps are being taken to construct a tail-race through this flat, which will not only be a drainage-race, but at the same time prospect the ground.

At Moonlight and Blackball there are a considerable number of miners at work, and from what could be ascertained the most of them are making fair wages. During the last year there has been some new ground opened at Garden Gully, Moonlight, giving payable returns for working. It is thought to be the continuation of the same character of ground as that found at Steward's Hill, where a rush took place some time ago, but, unfortunately, the tunnel driven into the hill was not sufficiently low enough to bottom the ground. Recently, a party of miners went into one of these old tunnels and sank a shaft, and obtained about 9dw. of gold off the bottom.

There are also some very fair claims at Callaghan's and Nelson Creek; at the latter place Larkins and party, Law and party, and Donnellan and party are said to be doing very well. The collapse of the flumes on the Government race has been a great blow to the district, as that was the only water of any consequence that commands the ground on the east side of Nelson Creek, and it was on this side where the principal mining operations were carried on. A company has taken up a tail-race from below Pott's Hotel to the ground underneath the valley of Nelson Creek, opposite Hatter Terrace Township, but up to the time of my visit to the place nothing payable had been struck in this direction. There is, however, some good ground near Pott's Hotel which the company intend to work.

At Bell Hill a company, formed principally of Christchurch gentlemen, have taken up a special claim of 50 acres at a place known as the Devil's Hole, and are constructing a water-race to get water to work it by hydraulic sluicing. The capital of the company is £3,000, which is considered sufficient to put the claim in working order. This ground has been a favourite spot for miners for a number of years, who worked the ground by means of tunnelling. There is little doubt when once the water is in, that this will prove a payable venture. The water-race is said to be very short and cheaply constructed, and will have a good supply for the most of the year.

There is an auriferous belt of country between Nelson Creek and Maori Gully which includes Red Jacks and No Town Diggings, but, except it is near one of these places, there has scarcely any prospecting been done. Gold was found in the same belt in some of the cuttings of the Midland Railway going up the west side of the Arnold River, and this same run of ground passed on to Dunganville. There is a good field for prospecting in the belt, and there is no reason why as rich patches should not be got as have already been worked at the old diggings. The most of the gullies and creeks which flow into the Grey River on the south side derived the gold found in their beds by cutting through this auriferous belt and concentrating the material, allowing the light particles to be carried on by the stream into the Grey River, while heavier gravels and gold were left in the beds of these streams.

#### *Kumara.*

Mining on this field has during the past year given results not greatly different to the yield of the previous year. One or two claims have been worked out, but the same parties or others have taken up an equal area of ground on other parts of the field.

During the latter part of the season a number of claims have been pegged out on a line nearly parallel with the south-west edge of the Larrikin's and Kumara Flat, and at a distance of from 20 to 30 chains from the rising ground bounding the Flat. The depth of sinking on the new ground in some cases is as much as 30ft. to reach the false bottom on which the more superficial gold-bearing deposit rests. The nature of the material is similar in character, if not so coarse, as the wash immediately west of the morainic hills of Dillmanstown, and is therefore due to the same causes—namely, the action of a considerable river prior to and during the advance of the Teremakau and Arahura Glaciers to the neighbourhood of Kumara, and, on the disappearance of the ice, to the sluicing and assorting action of a large volume of water which made its way over or between different parts of the morainic hills.

It has already been shown\* that a large stream, the Teremakau, undoubtedly, crossed the morainic hills at the head of Larrikin's Flat, and found its way to the sea along the south-west side of the Flat. At that time the present channel of the Teremakau had not been formed, and the Greenstone must have had its course across the Flat formed by the pre-glacier rivers, and by the Teremakau when occupying a yet older channel than the first of those across the morainic hills of Dillmanstown. Gradually, or by successive stages, the river worked its way to the northward, forming and abandoning a series of channels through the morainic hills, till finally it settled into

\* Goldfields Reports, 1893, p. 162.