Addison's Flat.

There is a large extent of auriferous ground on Addison's Flat, and the most of the claims which have been opened out here are giving good returns. The number of claims that can be profitably worked is limited entirely by the supply of water, and all the available water in the locality is utilised. During my visit to the district in December last, in accordance with previous instructions received from the Hon. the Minister of Mines to inquire as to the extent of gold-bearing drifts in this locality, and facilities for working the same, my attention was specially given to the source from whence a supply of water could be brought; and Mr. A. McKay, the Mining Geologist, being in this locality, it was an opportune time to examine the field in conjunction with him as to the extent of the auriferous gravels in that neighbourhood. At my suggestion Mr. McKay instructed his assistant, Mr. Linck, to take barometer levels up the Ohika-nui River with the view of determining whether water could be brought on to this field from that stream.

The result of the explorations in regard to a supply of water from the Ohika-nui was as follows: Addison's Flat being about 200ft. above the level of the sea, my instructions to Mr. Linck were to go up the bed of the Ohika-nui until the barometer showed an elevation of 500ft., and to carefully estimate the distance he travelled along the bed of the river. He found this elevation at about eight miles up the river from the Westport–Reefton Road, where there was a wide valley, and about half a mile above this point the river branches, at an elevation of 550ft. The country along the face of the range facing the Ohika-nui River on the seaward side, where a water-race would have to be constructed, is very broken, and a good deal of granite rock on the sidelings. Any water-race from this source would have to come down the sideling of the broken spurs to near the mouth of the river before it could be taken along the face of the range facing the Buller to get towards Addison's. The whole of the race would have to come through a very broken country, cut up with deep gullies, and along the face of the range, which is in many places liable to slips. Its total length would not be less than about thirty miles.

The Ohika-nui River, at the point where the water would have to be lifted, carries about fifty sluice-heads of water in dry weather, therefore a good supply could be got; and, indeed, this is the only stream from which water could be taken to be of any great service in working this field, but the expense of construction would be very great. It would be useless to give even an approximate estimate of this work, as before this could be done the line of race would have to be gone over; but from my experience of the construction of other large water-races it would not be less than £80,000, and it is very doubtful if this amount would be sufficient. And revenue derived from any supply which would absorb such a sum for providing water to work Addison's Flat would not be recouped by the sales of water, as it is not a place where hydraulic-sluicing operations can be carried on with dump for tailings. All the large stones and shingle would have to be separated from the fine sand before even a tunnel tail-race could be constructed on a grade to carry away the latter material, and the head of water from such a supply would not be sufficient to work the richest of the ground on the hydraulic-elevating principle.

It is not to be supposed that the whole of the ground in this flat would pay to work even if a large supply of water were brought in. There are several leads through the flat running almost parallel with the ocean-beach; but there is a large extent in width between these leads which would not be likely to prove remunerative for working even were there sufficient dump for tailings, and the gold is of that character which could not be saved in the ordinary sluice-boxes.

With respect to the value of some of the claims, it is very seldom that any shares are sold. On making inquiries in regard to this, one of the shareholders in Carmody and party's claim kindly informed me that a share in Douglass and party's claim was sold about three years ago for £450, and that £500 had been offered for a share in Carmody and party's claim, but none of the eight shareholders in this claim would sell for this sum. In what is termed Addison's, which is the lead nearest the foot of the range, there are seven claims being worked—namely, Carmody and party of eight men, Douglass and party of six men, O'Toole and party of seven men, Milligan and party of five men, Moran and party of six men, Scanlon and party of six men, Shamrock Company of eighteen; and on Wilson's lead, which is about a mile nearer the ocean-beach, there are two claims being worked—namely, Gerald and party of four men, and Sullivan and party of five men. The latter party is now working what was formerly known as Mace and Bassett's Claim.

All the claims on Addison's with the exception of the Shamrock Company are worked on the same principle, and a description of one will be sufficient.

Carmody's Claim.—This claim has been worked by the same party for the last twenty-three years, and during that time they have had to construct three long tunnel tail-races. They have recently constructed one of these 2,200ft. in length on a gradient of 1 in 99, or 8in. to the chain, and boxed throughout, the boxes being 2ft. in width. The depth of the ground they are working is about 55ft., and the auriferous wash-drift varies in depth from 12ft. to 18ft. There are sluice-boxes laid in the open cutting on a gradient of about 1 in 30, and these sluices are about 300ft. in length. The large stones are thrown out, but all stones of ordinary size are allowed to go down the upper sluices, at the end of which there is a box with perforated plates. The fine sand passes through the perforations, while the coarse shingle and stones fall over the end of the perforated plate into a box or square tank, underneath which there is room for a truck to pass. When this box or tank is full of stone there are folding-doors in the bottom which are opened by means of a lever, and the stones fall into the truck. The doors are closed again, and the truck full of stones is hauled up an inclined tramway by means of a water-balance, while the water and fine sand passes down a box and is distributed over a system of wide tables covered with cocoanut-matting, and the water and material then passes down the tunnel tail-race already described.

This system of working is very complete, and extremely suitable for claims where a large quantity of material has not to be sent through the sluices. It requires two men at the end of the first sluices to rake the shingle and stones into the box with folding-doors in the bottom, and empty