

varies considerably, being from 4ft. to 55ft. deep, having different layers, containing gold from the roots of the grass downwards; but the richest portion of the wash-dirt is about 4ft. thick next the bottom. Craig and party, who have one of the claims in the deep ground, were taking levels at the time of my visit with the view of bringing in a second water-supply from the Luggate Creek; but I have not learnt the result—whether a sufficient quantity of water could be got at the level required to work the ground. On the opposite side of the Luggate Creek from Mount Criffel, and about a mile and a half nearer the Clutha River, further discoveries of alluvial deposits have been made, and thirty miners are engaged at work. This place is termed the Mid Run, and is about 1,200ft. lower than Mount Criffel, which will enable the claims to be worked during the whole of the year. There are likewise about twenty miners engaged in prospecting on the Luggate Flat; but at the time of my visit only one shaft had been bottomed, from which 13dwt. of gold was obtained.

*Black's.*—There is only a very limited mining population here, no new finds having been got for many years. The old ground is getting pretty well worked out; but some of the miners who have been on this field since it was opened are confident that there is a lead of gold in the deep ground which hitherto has not been able to be worked owing to the large amount of water there is to contend with. In order to enable the deep ground to be tested a tail-race is in course of construction from the Manuherikia River to near the old workings, about a mile higher up the Manuherikia than the Township of Ophir. This tail-race is now so far constructed that some parties have commenced to work the ground adjoining the side of the tail-race; but very little is yet known whether the ground is payable or not.

*W. Green's Reef.*—This is a new discovery made at Ophir, or what is known as Black's Diggings, where gold has been found in a description of thinly-laminated decomposed schist rock, hitherto deemed stuff where gold was not likely to be found. This reef is situated about thirty chains from the Township of Ophir, at the head of Specimen Gully, where a deal of prospecting was carried on some years ago to find what was termed the Captain's Reef. Small leaders and lodes of quartz containing gold have been found in the locality, and many of the miners in the district always believed that a payable quartz reef would be discovered here. Mr. Green, in prospecting, by chance washed a dishful of this decomposed-schist lode, which is very friable, and was astonished to find gold thickly distributed in the quartz-grit that the schist contained after being puddled. This lode is enclosed by a well-defined foot-wall, and is apparently from 20ft. to 30ft. in width; but the hanging wall is not very clearly defined. However, at a little distance from this lode, on the side adjoining the place where the hanging wall ought to be, is a description of hard chlorite schist. The lode itself is formed in very thin laminations horizontally, having seams running in almost every direction, from horizontal to vertical. These seams are very minute; yet when the schist is broken down they are found to be composed of quartz-grit, and contain free gold as well as small quartz specimens having gold richly disseminated through them, the vertical seams being generally the richest. The bearing of this lode is similar to the generality of quartz reefs in Otago, being nearly east and west, having an underlie to the north. Several holes and trenches have been made along the line of lode for a distance of about eight chains, and gold obtained in nearly all of them. Indeed, there is one shaft about 30ft. in depth, which was sunk several years ago in prospecting for a quartz reef; but the schist being of such a soft, friable nature no one expected to find gold in it, and consequently it never was tested. Mr. Green is taking out the lode in a face, and was, previous to my visit, washing it in an ordinary small cradle, such as was used in the early days of the gold-fields, and with this appliance he was able to wash out 1oz. of gold per day. He was constructing a long-tom to wash the stuff; but neither a cradle nor long-tom is a suitable appliance for this class of material. It requires too much puddling to get the whole of the free gold, and when sufficiently puddled the quartz-grit requires to be crushed. The character of the gold obtained is of a very spongy nature where found in conjunction with quartz; but where found in the soft schist it is very fine. Judging from the honeycombed and spongy nature of the gold, the matrix originally containing it, which was probably iron pyrites, has been decomposed and left the gold in a free state. Since this discovery was made several parties have been prospecting for similar lodes in the district, but, so far, have not proved successful in finding any containing gold. Similar decomposed schist occurs in quartz lodes. The quartz is suddenly cut out, and mullocky schist takes its place between the same walls where the quartz occurs. This change takes place in the quartz reefs at Skipper's; but there the schist is much more compact. G. H. F. Ulrich, F.G.S., Professor of Mineralogy at the Otago University, Dunedin, reports to the Hon. the Minister of Mines on this discovery as follows:—

“This is at present exposed and prospected for a distance of 8 to 9 chains, and in one place for a width of near 30ft., running at a strike of E. 10° N., W. 10° S., between two gullies, across the intervening ridge, which is about 60ft. in height. Near the top of this ridge, on the eastern side, are several old shafts sunk by former prospectors, and it is here where Mr. Green first found richly-auriferous quartz specimens, discovered the auriferous character of the stuff presently to be described, and has, so far, carried on most work. The stuff composing the deposit consists of a thinly-laminated, decomposed, soft and friable metamorphic schist—probably originally chloritic mica-schist—showing nearly horizontal bedding, and being more or less abundantly traversed in all directions, from horizontal to vertical, by broken quartz-veins, ranging from a thin thread up to an inch in size. A soft, white mineral occurring frequently in irregular small patches and veinlets