

to supply any other claim-holders with water, as they consider it will be more advantageous to use the whole of it themselves. There is likewise no passable road to get timber and supplies brought upon the ground—at present, packhorses manage to get up on the top of the range with provisions but the track is a very bad one.

*Mount Ida District.*—There have been no new discoveries in this district during the past year, and from the primitive appliances that are still used in many places yet for extracting the gold, it is not likely to progress very fast. There are indications of large auriferous deposits, in what is termed, the “white drift” formation, which extends over a large area; this formation is found at Tinker’s, and extends up the valley of the Manuherikia River, following up the side of the range to St. Bathans, and thence across to Naseby, Mount Burster and Livingstone, the quartz portion of which is yet untried. Very rich patches of gold have been obtained from this drift, which consists of quartz sand and pebbles, and appears to be of a very old formation, it is certainly older than the lignite seams, which almost invariably rest upon it. These drifts, as far as yet found, rest on the schist rock, but has suffered very considerable disturbance since it was deposited, its strata being at all angles from horizontal to perpendicular, but always corresponding to the angle of the rock that it is lying against, and in almost every instance found to be auriferous although, generally, very poor; it requires a good supply of water to work it in order to run away a large quantity of stuff, to make it pay. To do this entails a large expenditure in extension tail and head-races; encouragement should be given to those who are willing to work this drift on an extensive and systematic scale, in giving them large areas of ground so as to remunerate them for their labour. The shallow alluvial deposits are getting gradually worked out, so that the individual miner, unless a man with a large capital, cannot undertake so extensive operations as this white drift requires, to make it a remunerative investment, capital will have to be combined with labour, and every encouragement given to ensure the successful development of this large auriferous deposit; this will probably be best accomplished by giving large areas of ground and making stipulations for a proper method of working it on an extensive scale.

The Mount Ida Water-race that was constructed by the Government, and now managed by a Trust, commands a large area of country, when this quartz drift is found, and if payable gold were found in the deep ground it would be the means of employing a large population and utilize the water from this race.

*St. Bathans.*—This is a locality where hydraulic sluicing is carried on in an extensive scale. A large tail-race is being constructed from the Dunstan Creek to work the auriferous quartz-drift in the basin, below the Township of St. Bathans. It is 12 feet wide in the bottom and lined with stones on the sides from 3 to 4 feet high, and thence a capping of sod and scrub. When completed it will be about one mile sixty chains in length, and will enable the ground to be worked to a depth of 80 feet below the level of the present workings. The several claim holders having claims in this basin joined together and formed a company to construct this channel, each taking a number of shares in proportion to the quantity of ground held by them. They started with a capital of £2,700, but the greater portion of this is expended, and the channel is not more than about half completed. The fall or inclination of this channel is 1 in 100 up to a point where a large flushing race has been constructed from Dunstan Creek. Above this flushing race it will have several grades in proportion to the quantity of water that can be brought into it for flushing. At Cambrian’s, about four miles from St. Bathans, a considerable number of men were for many years profitably employed; but this place is now almost deserted, the miners having shifted up to Vinegar Hill, where very extensive sluicing operations are carried on. One of the most enterprising miners in Otago lives at this place, Mr John Ewing. He has spent several thousand pounds in opening out claims and constructing works in the vicinity of St. Bathans, and the systematic manner in which he carries on his operations, generally make them of a remunerative character. He is carrying on at the present time large hydraulic sluicing operations at Vinegar Hill, but the return from this place is not so large or so regular as in former years. The shallow ground is becoming exhausted, and the great difficulty that claim holders have to contend with in constructing long tail-races require large returns to pay them for their outlay, as the areas of ground that each hold are comparatively small.

*Rough Ridge.*—There has been several attempts made to revive the quartz-mining industry in this locality, but hitherto they have not been successful. A joint stock company known by the Otago Central, is now driving a tunnel to try and cut the quartz-lodes at a lower level, and have been so far successful in cutting a lode from 12 to 20 inches in thickness, showing gold distributed through the stone. It is to be hoped that this stone will prove on crushing to be of a payable nature, so as to give an impetus to quartz-mining in this locality.

*Serpentine.*—The quartz reefs in this locality, from which so much was expected, are being developed very slowly. In some of the mines good payable stone has been found, but it does not appear to carry gold sufficient to pay for any great depth. The deeper the lode gets, the more heavily it is charged with other minerals, which prevents the gold from being absorbed in the quicksilver. The pyrites, which contain a large percentage of sulphur and arsenic, would tend to produce this effect. A new line of reef, known as “Turnbulls” has been opened during the year, the crushings from which have averaged four ounces from the ton. On account of the high elevation of this reef, very little work can be done during the winter months.

*Kyeburn.*—A considerable number of miners still find profitable employment in this locality, and some are said to be doing very well. On the Kyeburn Peninsula and along the foot of Mount Burster, between the Kyeburn River and the Little Kyeburn, and on towards Mount Ida, there is said to be a large area of payable auriferous ground if water were available, but the quantity of water is limited and in few hands. At Mount Burster, where the workings are situated nearly 4,000 feet above sea level, the claims that are at work continue to yield a sufficient quantity of gold to give handsome returns to the shareholders; but the quantity of water here is very limited. It is chiefly obtained from the melting snow on the surrounding peaks, and it is only about seven months in the year that mining operations can be carried on.

*Hamilton’s.*—Several parties of miners at Shepperd’s Flats have gone to considerable expense in constructing tunnels, long distances through rock, to provide sluicing outlets from their claims, and likewise in tunnelling into the hill behind the old Hamilton workings, and I was informed they were getting fairly paid for their outlay.