

wages for working with a good supply of water, but the quantity of water available on this field is very limited; this, together with the ground being poor, necessitates the claims being worked continuously throughout the year, except when the ground is frozen in the middle of winter, to give fair returns. All the ground in the vicinity of Pipeclay Gully is being worked out by means of the main tailings-channel, which was constructed several years ago with subsidy from the Government; had this channel not been constructed the ground could not have been worked, as there is not sufficient water on this field to use the hydraulic-elevating system.

Another tailings-channel has been constructed higher up the valley of the Kawarau than the outlet of the Pipeclay channel, into which the claims in the locality are being worked. There is still a large area of ground in this valley containing a little gold, which no doubt will yet be worked, but to do this profitably a larger supply of water is required, and to get this to command the ground would be a very expensive undertaking, as all the available streams from which water can be easily brought on to the ground is already taken up.

Cardrona.

There are a considerable number of miners employed on this field, some of whom are doing very well. As year by year passes by one sees less canvas-hose used for hydraulic sluicing and more iron pipes, although in some instances on this field even yet the full head of water is not used on the nozzles, notwithstanding that it is required for breaking up the material. At the time of my visit to this field there was a good supply of water, and all the claims were being worked. Although none of the owners told me the actual quantity of gold they were obtaining, they all had good hopes that the washing-up this season would in general be very satisfactory. Robertson Brothers' claim, that was formerly very rich, is now held by Craig and party, and the best of the ground is worked out. Mr. Craig informed me that they are tracing the run of gold, which is going up the range, and the higher up they go the particles of gold are getting larger, thus giving an indication that it came down from a higher level. If this should prove to be the case, there is some hope that payable ledges will be found higher up the range. During last year about 2,000oz. of gold were obtained from Cardrona, and about seventy miners were employed on the field, which would give the average earnings of the miners about £110 a man per annum.

Hydraulic Sluicing Company.—A number of the miners and residents in the locality have taken up some of the old worked ground near the upper township, and have formed themselves into a syndicate or company, consisting of thirteen persons, to work the ground on the hydraulic-elevating system. This ground was only partially worked in the early days, and, as it is about 40ft. in depth, and had all to be driven out, in some instances the water became too heavy to contend with. The syndicate purchased the hydraulic plant formerly belonging to Messrs. Scoles and Company, at Arrowtown, who had it at work in the bed of the Arrow River, about two miles above the township; but, as the ground there had been very carefully worked in the early days, the venture proved a failure, and subsequently the plant was sold to the present proprietors.

At the time of my visit, in January last, the company had constructed a water-race from the Cardrona Creek, along the side of the range to opposite the place where the ground is taken up, being at its terminating point about 360ft. higher than the level of their claim. The line of pipes—7in. and 9in. in diameter—was laid down, and a commencement made to sink the first paddock with the hydraulic elevator, the latter being only about 9in. in diameter, the elevating nozzle being 2½in. in diameter, which would be capable of discharging about five sluice-heads of water, under a head of 360ft., if a sufficiently large main was used, but with the main being only 7in. in diameter five sluice-heads of water would not come through it, and therefore the nozzle is out of proportion to the size of the main. They complained to me at the time that the pipe was not large enough to bring water for the breaking-down nozzle, and stated they intended to cut another water-race at a lower level to use for the sluicing-nozzle. The paddock was sunk to a depth of about 15ft., and they then expected to get the bottom at about 32ft. The ground is very stony, and consequently the whole of the stones had to be lifted out of the first paddock. This was done by trucks on an inclined tramway, the winding being done by a water-wheel. There appeared to be a little gold through the material in sinking, as sometimes fair prospects were got in a tin-dishful of stuff; but until the first paddock is bottomed and a fair trial afterwards made, it will not be known whether the venture will be payable or not.

With regard to this plant, it will prospect the ground and prove the quantity of gold it contains to the cubic yard of material. This will be reliable information for the company to form an opinion as to the best method of carrying on future operations. In any case they will find that the plant is far too small to work this character of ground economically, and instead of cutting a fresh water-race at a lower level, they will find it more advantageous to increase the carrying capacity of their present water-race, lay down a main supply-pipe of about 15in. in diameter with larger pipes on the upper end, and take the water for sluicing and breaking-down purposes from the same main which supplies the water for the elevating-nozzle, and also have the elevating-pipe either 14in. or 15in. in diameter. They will find such a plant will make their venture a highly-remunerative one if the ground will average 4gr. of gold to the cubic yard; but with their present plant the ground would have to be very rich to pay for working. A good deal of the top stuff can be sluiced off in the ordinary manner; and when this can be done it ought not to be put through the elevator. Even if only 4ft. of top-stripping can be sluiced off it is far more economical to use the water for this purpose than to use it for lifting the same material in the elevating-pipe. It is very gratifying, however, to see this system of working introduced on this field, as it will probably be the means of other parties taking up ground lower down the flat, and adopting a similar way of working it.

Since writing the above, information has recently come to hand that the syndicate have bottomed their paddock and got about 15oz. of gold. This may be a little disappointing to the shareholders, but they must recollect that the amount of work done is very little, and that with a