

higher levels, at the Castles and on the Quartz Ranges, shows the presence of auriferous drifts underlying. At the Castles the drifts under the limestone have been worked for gold. On the Quartz Ranges the limestone becomes much mixed with quartz in the lower beds, but nothing has been done to prove the presence of free drifts underlying. It, however, need not be doubted but that to some extent such drifts are present, and that they are more or less gold-bearing.

The Quartz Ranges auriferous deposits are for the most part in place, as originally deposited, and, at levels varying from 950ft. to 1,530ft., extend south-west and north-east from the brink of the chasm of Salisbury Creek to the fall into the lower valley of Clark's River. The gravels are all locally derived, and towards the south-west contain large boulders of quartz and quartzite or highly-siliceous schist. The whole is deposited in a valley depression declining from the south-west to the north-east, within the northern and middle parts of which the chief bodies of wash lie on the south-east side of the valley. South-west of Maori Creek the filled-in depression has been cut across by the lesser modern creeks of the range; and, consequently on the spurs between these auriferous drifts, deep ground extends from spur to spur along the line, but does not show in the beds of the intervening creeks. The average width of the auriferous gravels is between 7 and 8 chains, and the thickness of the deposit varies from 4ft. or 5ft. to 50ft. The deposit is generally auriferous, but towards the south-west, and where the wash is coarse, the gold lies chiefly on and near the bottom. Towards the north-east the wash is finer, and the gold, apparently, more mixed throughout the wash. Outside this valley there is little wash of any kind, and no payable gold down the slope till the terraces immediately overlooking the Aorere are reached.

NOTE.—I shall now describe the different special localities, as indicated at the commencement of this letter, but not in the sequence stated, because I may not be able to go over the whole before the mail closes for Nelson. Should it so happen, that which cannot be got through with will be posted the following mail.

LOCALITY No. 1B.

Appo's Flat, north-east part, comprising lease of 50 acres held by West, Adams, and Fell. This property lies wholly to the north-east of Appo's Creek, in that part where it passes through Appo's Flat, and lying to the south-east of the road-line, stretches north-east to near the upper end of the basin, and south-east to the lower slopes of the ridge of hills separating Appo's Flat from Glengyle Gully. The ground to the south-west is supposed to be deep alluvial, or quartz-drift ground, a continuation north-east of that within West's freehold, which has been proved to be at least 130ft. deep before reaching the slate rock. There are indications of quartz-drifts at and near the surface in the south-west and middle part of the lease, but towards the north coarse boulder-wash from the adjoining hills forms the surface of the flat and prevents the white quartz-wash being traced in that direction. Probably this upper stratum is not of great thickness, and where present the quartz-wash should be reached without serious difficulty. Slate shows along the south-east boundary, and also in the north-east corner of the lease. Isolated patches of white gravel lie outside the lease to the north-east, and in this direction also lies the out-crop of white quartz-drift that passes under the limestone. The ground has not been prospected, it having been considered deep ground presenting difficulties greater than miners single-handed or in small parties could successfully contend with.

It is moderately certain that part of the area is deep quartz-drift country, and, to enable this to be worked, it is suggested that a tail-race should be brought in from the Parapara watershed, the length of which, Mr. West informs me, would be about 70 chains to reach the south-west part of the ground; but, of course, considerably less to reach the north-east corner of the lease. The elevation of the flat at Mr. West's house is 240ft. above the sea, while the northern part of the flat is higher by some 20ft. to 30ft. After allowing for "dump" into the Parapara river-bed at near sea-level, and a sufficient fall in the tail-race, the flat could be worked to a depth greater than by any other means usually practised in alluvial mining. The tail-race would, if taken in the shortest and most direct line, have to be driven through schist-rock; but, if the slate dips as rapidly north of the saddle as it does at the junction of the quartz-drifts in the line of Appo's Creek, by a slightly longer tunnel part of the driving in slate might be avoided.

The prospects relied on are these: About five thousand pounds' worth of gold has been taken from about an acre of ground in the upper part of Appo's Flat. The quartz-drifts are known to be auriferous, and said to be payable for hydraulic sluicing, yielding gold as far as sunk upon. These drifts have not been bottomed, and it is hoped the lower-beds are richer than the middle and higher, and there is every reason to expect their extension to the north and north-east, through a considerable part of this holding. Though, as regards this particular lease, these anticipations have not been actually proved, the enterprise must be regarded as legitimate, and, as far as the lower south-west part of the lease, hopeful. The water-supply, it is intended, shall be brought from Slate River, this being part of the scheme for bringing in water to command most of the old diggings between Golden Gully and Appo's Flat.

The tail-race and the bringing of the requisite water on to the ground will entail considerable expense, while from the evidence above given, it will appear that there is not more than a probability of the final success of the undertaking. Some attempt should be made to prospect the ground in its shallower parts, and, if anything like a fair prospect were obtained, it might reasonably be concluded that there is warrant for the carrying out of the works necessary to effectually work the ground held within this lease.

GOLDEN GULLY.

The leases held or proposed to be acquired by West, Adams, and Fell, include nearly the whole of the auriferous quartz-drift area, estimated at some two hundred acres—this is probably an over-