

thence extend south into the upper part of Shag Valley. The same beds, overlain by volcanic rocks, extend south-west along the ridge of Little Puketapu Hill, and to the west in the Hound Burn they again descend to the level of the Taieri River, and show as sands and fine grit on the left bank one mile below Ryan's Hotel. In the Hound-Burn Valley prospecting has been carried on for a very long time. The locality is always spoken of as being a very promising one, and yet no mining population has ever been attracted to it. One or two parties may be found within the Hound-Burn Valley or its neighbourhood, or for a time the place may be abandoned. Apparently, from what could be learned, prospecting is confined to the shallow rubbly wash of the creek-bed, and but little attention is paid to the quartz drifts, which undoubtedly afford the gold found in the more recent deposits of the creek.

*Hyde.*—Gold was first discovered at Hyde in the coarse mountain-wash brought down by the creek from the Rock and Pillar Range, but it was soon ascertained that the gold extended up the creek but a short distance above the outcrop of the quartz drifts. The quartz drifts, at their junction with the slates in the bed of the creek, were very rich in gold; and, the line of outcrop crossing the creek at nearly right-angles, the gold was followed along the outcrop into the next creek to the south. Since the place was opened, early in 1864, a great amount of white quartz drifts has been removed, and but for the scarcity of water there would have been much more.

*Fullerton's and Mare Burn.*—Fullerton's, like Hyde, has its gold chiefly confined to the quartz drifts, any gold got in the rubbly wash of the creek being clearly derived from the adjoining drifts. In the Upper Mare Burn this was also the case, although the workings along the creek were chiefly in coarse gravels; but between the Upper Mare Burn and the road from Hyde to Macrae's there are quartz drifts, the drainage from which is by way of the Mare Burn.

*Station Hill.*—This is to the north of the road, and on the top of the Taieri Ridge, overlooking Horse Flat and Deep Dell. Here the only wash is quartz grits, which have been worked by cradling or with a water-supply totally insufficient to prove the ground. It is evident from what has been done at this place that with a good supply of water the quartz drifts could be made to pay handsomely.

*Horse Flat.*—The claims being worked towards the eastern end of the flat are wholly in coarse creek or terrace-wash. In the middle part, close under the slopes of Taieri Ridge, the workings show coarse rubbly wash, mixed with cement boulders from the quartz drifts, while towards the southern end of the flat, and near Deep Dell Station, the quartz drifts are at present under the terrace-wash.

*Macrae's.*—By far the greater area of ground worked at Macrae's shows coarse, shingly wash, derived from the neighbouring slopes on each side of, and towards the head of, the valley. On the north-west side of the flat, however, quartz drifts are present, and towards the eastern end of the township these have been worked, and gave good returns. West of the township the same beds can be traced along the margin of the flat, and they also near the margin of the flat form an isolated hill covered with cement blocks. At this place the grits have been prospected and proved gold-bearing, but, owing to the presence of water and the loose nature of the wash, they have not hitherto been worked. At Macrae's there are said to be two varieties of gold—one rough and raggedy, evidently derived from the slates of the neighbourhood; the other a smooth, plump, or scaly gold, as clearly derived from the quartz drifts developed along the north-west side of the flat.

*Nenthorn.*—Quartz drifts occur in the lower part of Nenthorn Creek, and in an isolated ridge of hills lying about five miles south-east of the township. In the latter locality some gold-working has been carried on in the valley south-east of these hills, which has led to the conclusion that the gold came from the neighbouring quartz drifts. This led to their being prospected, but this was done in an insufficient manner, and without success.

*Green Valley and Waihemo, Shag Valley.*—Quartz grits are seen at two or three places on the road from Waihemo Hotel to Green Valley, and on the northern side of Waihemo Hill. Judging from appearances, these may contain gold.

*Dunback to Taieri Peak.*—From Dunback to the upper part of Pleasant River, near Taieri Peak, the slopes bounding Shag Valley are at many places covered with cement boulders, but the quartz drifts have generally been removed.

*Pleasant River.*—From Taieri Peak to Mount Watkins, and thence east to the main road and railway-line from Palmerston to Dunedin, there is a great development of quartz drifts underlying brown quartz sands and rusty greensands. Gold is found in small quantities over this area, but not so plentifully as to lead to the inference that the grits themselves would pay to work. On the east bank of Pleasant River, at the base of Smyler's Peak, the quartz wash is of an unusually coarse description.

*Macgregor's Creek, Road from Palmerston to Foot of the Horse Range.*—Between the foot of the Horse Range and Macgregor's farm the road-cuttings show a narrow ridge of slate and sandstone of probably Devonian age. On both sides of it, and in the hills to the south-east, mantling over this older rock, are beds of schistose breccia, breccia conglomerate, and quartz grits. These are auriferous, and are probably so to an extent that renders them payable to work, but, besides being on freehold land, there is no water that, short of very great cost, could be brought on to the ground. In a blind gully south-east of the road-line, where the older rock shows, the gradual breaking-down of the cements and the removal of the lighter and finer parts has resulted in the concentration of the gold along the creek-banks and in the semicircular basin at the upper end of the gully. This concentrated material proved so rich in gold that one man, with but a cradle and such water as he could retain on the ground, got for one week's work gold to the value of £60. This rich ground was necessarily limited, and at the time of my visit small wages only were being made. This gold was thus unquestionably derived from the grits and breccia conglomerates at the base of the coal-bearing series of Shag Point and the Horse Range.

*South-west Slopes of the Horse Range.*—There are two gullies on the north-west side of the road crossing the Horse Range from Shag Valley. These have been long known as being auriferous, and have been worked intermittently from the early days of the Otago goldfields. A few years