

ago some one did better than usual, and the consequence was a rush. The ground is now supposed to be completely worked out. These two gullies derived their gold from the coarse breccia conglomerate that lies at the base of the coal-bearing series, and which lies on the saddle at the head of these creeks, and forms in part the spur between the two gullies referred to.

*Trotter's Creek.*—From the crest of the Horse Range north to the mouth of the gorge of Trotter's Creek, breccias and breccia conglomerate, that are not easily distinguished from those of the lower part of Blue Spur, are developed as the lower beds of the Cretaceo-tertiary coal-bearing series. Upwards, these beds pass into quartz grits and limonitic sandstones to be seen in the lower part of Trotter's Creek Gorge. Trotter's Creek has been worked for gold nearly as far as the breccia conglomerates extend, and there cannot be a doubt that the gold found in the bed and banks of the creek has been derived from the quartz drifts and breccia conglomerates of the Horse Range and the north side of the gorge.

*Kartigi Beach.*—The gold found at the mouth of Trotter's Creek and on the sea-beach to the north and south has clearly been derived from the quartz grits and breccia conglomerates towards the source of the creek.

*Moeraki Beach.*—The source of the gold found on Moeraki and Onekakara Beaches is similar to that found at, and north and south of the mouth of Trotter's Creek. Between South Peak and the gorge of the Otepopo River the front hills and eastern slopes of the Kakanui Mountains show the older rocks in the deep ravines and gullies overlain by limonitic sandstones and shales of the coal-bearing series, and at places by moderately coarse well-rounded quartz drifts. These latter are seen on the higher part of North Peak, and again under the coal in the higher part of Government Hill, between the Rookery River and the main branch of the Waianakarua or Otepopo River.

*Kauroo Creek to the Gorge of the Kakanui.*—Between the Otepopo River and Island Stream the quartz grits at the base of the coal-bearing series are confined to a narrow belt on the slopes of the front hills, a few stray patches of grit or volcanic rocks being found farther inland. The southern base of Kauroo Hill is formed of Palæozoic rock, and the higher part of volcanic rock covering up the thin edge of the denuded quartz drifts, which make rapidly to the north-west, north, and north-east, and cover a considerable extent of country between the Kauroo Creek and the gorge of the Kakanui River. The quartz drifts over this part (Balruddy Run) are known to be auriferous, but the owner objects to mining. On the neighbouring runs, where permission to prospect has been given, it seems that the gold was not sufficient to pay, though the miners still believe that rich ground exists. There is, in fact, a considerable area of ground, including parts of several runs on the north-east slopes of the Kakanui Mountains, respecting which there is thus some doubt, the miners asserting that they are debarred from prospecting, while, on the other hand, it is said that prospecting has not been a success. These grounds are at a considerable elevation above any permanent source of water-supply, unless this be brought from higher parts towards the source of the principal creeks, and the value of the field will not be determined till a sluicing-test on a moderately large scale has been made. With a good supply of water, there is little doubt that parts of this area would pay to work.

*Windsor, Ngapara, and Upper Part of Waireka Creek.*—In this part of the district there is a considerable development of the quartz drifts, and at some places payable gold is said to be found, but, as the land is freehold and under cultivation, no workings are being carried on. In some of the cuttings along the Oamaru-Livingstone railway-line the quartz grits show largely. To the westward of the railway, on the heights north of the Kakanui Gorge, the quartz drifts are found over the high land to a distance of four or five miles south-west of Livingstone.

*Livingstone.*—Gold was discovered here about the time of the rush from Naseby through Dansie's Pass to the Waitaki. The gold was first found in the creek-wash of Golden Gully, which proved comparatively rich in the precious metal. The bed of the upper part of Awamoko Creek was also auriferous, and some gold was got on the banks of the Maraewhenua River. Soon, however, prospecting led to the discovery of gold in the white quartz drift that, resting on the slate rock, passes under the terraces and table-lands to the east and south, or lay as scattered patches of coarser grit on the high lands to the west and south. To the eastward the quartz drifts are overlain by a thin stratum of greensand with fossil shells and sharks' teeth. These beds also proved auriferous, and this, with the first foot or so of the quartz drift, is the horizon that is, for the most part, being worked at the present time. Brown sands, sometimes containing hard bands full of fossil shells, overlies the greensands, and following these is a sheet of basalt, followed by other sands, grey or green, till the sequence is finally closed by the Maraewhenua limestone, which, on the south side of the river, is the highest member of the Cretaceo-tertiary series.

*North Side of the Maraewhenua Valley, opposite Livingstone.*—The rocks here are practically the same as at Livingstone, on the south side of the river, excepting that there is on this side a greater development of high-level river-gravels, which in places are worked for gold. Most of the claims on this side of the river are working the greensand stratum and the first few feet of the quartz drift. The quartz drifts extend north-west on to the slope of the range between the Otekaike and the Maraewhenua, and in the gullies cut through this into the sub-schistose bed-rock coarse pieces of gold are often found. There are about thirteen parties of miners at work on this side of the field, and a somewhat greater number on the Livingstone side. Their average earnings do not exceed £2 a week per man, and this estimate applies only to the times when work is in progress, scarcity of water causing frequent interruptions, especially during the summer months.

*Otekaike Valley.*—From the northern bank of the Maraewhenua River the belt of auriferous quartz drifts strikes north and north-east into the Otekaike Valley, and then bends more to the east, and is continued along the valley of the Waikura to the main road up the Waitaki Valley. There are no gold-workings north of Sheepwash Creek, although gold supposed to be payable is known to exist over a considerable area in this direction.

*Otiake River to Kurow.*—The line of quartz drifts should appear along the eastern lower slopes of Little Domett and Big Ben Mountains, as the limestone and higher members of the formation are exposed near the Otekaike Station; but immediately higher up the Waitaki Valley heavy terraces of sandstone gravels are present, and are specially developed between the Otiake and Kurow Rivers.