

formed can still be traced at the upper end of Dillmanstown, where it forms the saddle by which the road leads into the upper part of Larrikin's Flat. The right bank, in the lower part of the saddle, is destroyed, but the left bank of the ancient stream is clearly traceable a little further to the south-east.

These morainic hills, and the coarse river-gravels that have been derived from or underlie them, are the chief repositories of gold worked on the Kumara goldfield. This is principally effected by the operation of hydraulic sluicing, and by this process the morainic hills are being gradually washed away: it is merely a matter of time and they will have wholly disappeared, and with them the key to one of the most interesting problems which the physical geography of the Teremakau Valley presents. The Township of Dillmanstown is built, much of it, in an old channel of the Teremakau which runs along the east side of these morainic hills.

From the Greenstone Bridge to the tailings-site of the many sludge-channels, passing under the morainic hills of Dillmanstown to drain the claims on their western side, the channel of the Teremakau is comparatively narrow, and lies between high banks on each side.

Opposite Dillmanstown the accumulation of tailings has so encroached on the channel of the river that the stream is now directed against the northern bank, and the channel is contracted to an inconsiderable width, causing speculations as to the effect of this obstruction on the low lands along the banks of the river higher up the stream. There is, I think, no need for anxiety as to this matter, since the scour of the river, especially in times of flood, is or should be sufficient to keep its channel clear, and there thus can be from this cause no danger to the flat lands of the river valley that lie a quarter of a mile above the threatened obstruction. From Dillmanstown, and the head of Larrikin's Flat, a long line of morainic hills limits and extends east along the south side of the valley at a distance of from a mile to a mile and a half from the river-channel. This line of morainic hills reaches to the western base of Turiwhate, the massive granite mountain that, opposed to Mount Smart on the northern side of the valley, forms the entrance to the second or middle part of the Teremakau Valley. The northern sides of these morainic hills are composed of materials brought down the valley by the Taipo-Teremakau glacier, and deposited as a lateral moraine; the southern slopes in the same ridge of hills being of like manner formed by the northern lateral moraine of the combined Kawhaka-Arahura glacier. Near the junction of the Loop-line Road with the Christchurch-Hokitika Road, the medial line between the two lateral moraines is easy to be distinguished. This is at a height of from 650ft. to 700ft. above the sea.

From the point where the Christchurch-Hokitika Road begins to ascend this morainic ridge, east to Rocky Point, four miles above the Taipo Junction, the low grounds of the Teremakau Valley are of much the same extent and character to what they are between the point mentioned and Dillmanstown, but the character of the surroundings are very different. The river traverses a wide bed in many streams, both its banks beyond ordinary flood-mark being clothed with heavy forest-timber; but now on the northern side rises the granite mountains of which Mount Smart forms the western peak. These, though very abrupt on the slopes facing the river-valley, are, nevertheless, clothed with heavy bush to the level of the winter snow-line. The total area of this granite region, including Mount Smart, Mount French, Hohonu Peak, and a number of nameless heights between the Teremakau Valley and Lake Brunner, is about forty-five square miles. Opposite the Taipo Junction and from Rocky Point, viewed from the river-valley, they present many scenes of unrivalled beauty and grandeur, and contribute not a little to the charm of the journey from Christchurch to the West Coast. Opposed to these northern mountains, on the south side of the valley, rises the granite mass of Turiwhate, which, as a single mountain, attaining an elevation of 4,482ft., rests on an area of fully twelve square miles. Viewed from all points, Turiwhate is an exceedingly grand mountain; its higher part exposing bare crags of granite rock; its middle slopes thickly timbered, as are its equally precipitous lower slopes, that, on the Teremakau side, spring from the level grounds of the alluvial plain. The Waimea Stream drains the western slopes of Turiwhate, and part of the eastern end of the morainic ridge already described. It makes junction with the Teremakau a little below where it is crossed by the Christchurch Road. Its mountain waters are augmented by streams of spring-water filtering from the Teremakau through the shingle-bed of the alluvial plain above its junction. In its lower course the stream and its banks present a number of charming views characteristic of West Coast scenery.

The Big Wainihinihini is the first tributary of the Teremakau that takes its rise amongst the mountains to the east of the granite belt. The more direct source of this stream lies on the saddle between Turiwhate and the Mica-schist Range. This saddle is very low, and viewed from higher up the river valley in the neighbourhood of the Taipo, it seems as though it were a mere matter of election whether the Teremakau might take this course in its journey, or that which it does actually follow to the sea by way of Dillmanstown and Kumara. Many tributaries from the ranges on each side of its valley join the Big Wainihinihini before it enters on the low grounds of the Teremakau Valley. Where crossed by the Christchurch-Hokitika Road, its volume is not great in fine weather, but during wet weather it is far otherwise, and then it frequently is, for a time, uncrossable.

The Mica-schist Range—so-called for lack of a better name—stretches along the southern side of the Teremakau Valley from the source of the Big Wainihinihini to the gorge of the Taipo River. The only other stream of any consequence draining from this part of the Mica Schist Range is the Little or Smooth Wainihinihini. Smooth and gentle under ordinary circumstances it may be, where it enters the Teremakau, or where it was formerly crossed by the road to the West Coast. Where it is now so crossed it has no longer a claim to the qualifying epithet. A short distance above the road-crossing, this stream emerges from a gorge so narrow and profound that, from a little distance off, it appears as though no stream of consequence could escape from the mountains in this part, the thick forest growth adding to the difficulty of tracing the course of the stream. In fact, the map of this part of the County of Westland, which did service with