

of difficulty to distinguish between the two in vertical section. The distinction was only made clear when it was seen that on the western edge of the morainic hills the glacier material wedged in between the two gravel deposits.

The same deposits should be present under the morainic heaps of Hayes Terrace; and in the Greenstone Valley they appear to be present at Maori Point. Elsewhere, in the Greenstone Valley, and over the district south of the Arnold, these gravels have not been noticed.

(b.) *Marine Gravels containing Black-sand Leads.*—Like the littoral deposits already described, these beds are developed parallel, or approximately parallel, to the coast-line. They are not clearly indicated as present in the district south-west of the Hokitika River. They are first distinctly met with at the eastern edge of the Big Paddock in the Houhou Lead, at the bottom of the series of gravels forming the terrace-flat to the westward.

The Houhou Lead yielded a very great amount of gold, but was lost at the southern edge of the Blue Spur Flat, being, in fact, cut away by the action of the Three-mile Creek, as has already been indicated.

On the opposite side of the valley it was traced in Scottie's Terrace, but not by the miners recognised as a continuation of the Houhou Lead, from the fact that the original deposit was much disturbed, or destroyed altogether; and the gold in and under a thin deposit of gravel was left clinging to the steep slope of Tertiary clays that form Blue Spur. A little further west, where the blue-reef bottom dips rapidly to the seaward, the line of lead remains intact; and in Simpson's claim, opposite the Blue Spur Township, the nature of the material forming the wash can be studied to advantage, there being here heavy beds of black sand mixed with flat beach-stones, and overlain by gravels evidently of marine origin. In Simpson's claim the golden bands were not remarkably rich; and, for this cause again, it was not generally supposed that this was a continuation of the Houhou Lead, which, nevertheless, undoubtedly it is. The lead was therefore, despite these evidences, considered to stop short on the southern side of the Blue Spur Flat; but within the past few years it has been traced to the Arahura slope of the Blue Spur, and recent developments in that quarter show that it is here very rich in gold, probably richer than at any other point of the line to the southward.

The history of what has been done, leading up to and ending in the discoveries recently made, and which have lately been the cause of not a little excitement in mining circles on the West Coast, is as follows:—

On the north-east side of the Humphrey's Gully Range, south-east of the road from the Arahura crossing to Blue Spur, rich diggings were found on the lower slope of the range, which, east and west of the road-line, were traced into and under the level terrace-lands at the foot of the range. In the extreme west of this line the slope of the ridge does not appear to have been as rich as to the east of the road, and in explanation of this it has been noted that the Houhou Lead was comparatively poor on the point of the Blue Spur in Simpson's claim. Be this as it may, the gold was found rich along the edge of the terrace flat, up to what is now known as Dwyer's freehold, but the auriferous wash dipped rapidly into deep and wet ground, and it was found impossible to follow it further than a vertical depth of 30ft. from the surface of the flat. For a number of years the ground was abandoned, and no mining was carried on on the north-east side of the Blue Spur, or along the south-west extremity of the Humphrey's Gully Range. East of the road-line some areas of freehold were acquired between the Blue Spur and what is known as the "Black Bridge," and latterly Mr Dwyer acquired a residence area of one acre at the extreme western end of the gold workings on the flat, and subsequently negotiated with the Midland Railway Company for the purchase of forty acres adjoining, on the west and north-west sides of his residence area. In the meantime Mr. Boys, of Blue Spur, from a conviction that rich deposits of gold were still to be found on the terrace flat, commenced putting in an adit from the foot of the lower terrace, near the level of the Arahura, and one mile distant from the ground he intended to prove. Through successive years this work was continued, and in 1892 the face of the drive was still fully 300ft. from the point where it was hoped to catch the lead, that could not be followed into the flat on account of water. This adit, which for the greater part of the distance driven was through river gravels, it was hoped would strike gold, other than that to reach which it was started; but throughout 4,000ft. of driving the gravels were barren of gold, and at one time it seemed that the work must be abandoned. However, in 1893 the Mines Department granted Mr. Boys a subsidy, which enabled him to continue the work.

The same year the writer, who examined the district with reference to its geology, and more particularly with regard to the distribution of the different alluvial gold deposits, expressed the opinion that the ground sought to be proved by Mr. Boys would turn out to be the northern continuation of the Houhou Lead. Meanwhile, throughout the time of its being driven, the adit put in by Mr. Boys gradually drained the ground, and, shortly after the time the tunnel was driven into the lease held by Mr. Boys, shafts could be sunk over the flat to a much greater depth than formerly, and in some cases bottomed, without meeting with water.

Mr. William Harcourt, when living at the Arahura Crossing, at times prospected in the small creek crossing the Christchurch-Hokitika Road at Black Bridge, and obtained a fine sample of gold, corresponding with that from the lead on the north-east side of the Blue Spur. This clearly had been washed out of an eastern continuation of the lead, probably by the cutting action of the creek at or near the foot of the hill. As soon, therefore, as Mr. Boys cut in his tunnel through the ridge of Tertiary clay, and reached the auriferous gravels to the south-east of that, the Harcourt Brothers applied for, and were granted, extended claims, and at a distance of about 10 chains to the east of Boys's shaft sank and bottomed on gold. A rush then took place, and several shafts were put down, and, due to the water being drained away by Boys's tunnel, the ground was now comparatively dry. Most of the trial shafts, however, did not find gold to pay, and, for a time, things again became quiet. Finally, Boys struck very rich gold-bearing wash, and R. A. Harcourt negotiated for the privilege of mining under Dwyer's residence area, which right he acquired, and sank a shaft