



KAKAHI BRIDGE. THE SAWMILL ON THE LEFT IS WORKED BY THE PUBLIC WORKS DEPARTMENT.

At the Raurimu hill the Line passes under itself by means of a short tunnel, the difference in elevation at the crossing point being about 70 feet.

For another five miles the Line continues through heavy forest till it emerges suddenly on the open tussock plains in full view of Tongariro, Ngauruhoe and Ruapehu—the latter, as is well known, being the highest mountain in the North Island, attaining an elevation of 9,175 feet. For about eight miles the Line continues on the plain, and at Waimarino, near the stream of the same name, it attains the first summit at an elevation of about 2,600 feet above sea level. The plains are spoilt for grass growing by the heavy deposit of pumice with which they are covered, and on account of their high elevation are hardly a congenial place in winter, but the ponderous mass of the three great mountains, with the ever-steaming crater of Ngauruhoe and the steam-cloud which hangs over Ruapehu, make an awe-inspiring picture to the traveller who looks upon them for the first time. This should be a popular place to linger for the tourist who is not pressed for time, and who finds any pleasure in the contemplation at close quarters of the mighty works of Nature.

Continuing southwards the Line soon leaves the plain and again enters forest country of much the same nature as that on the northern side of the open country. In the comparatively short distance of eleven miles three ravines have to be crossed on huge steel viaducts, namely at Makatote, Manganui-o-te-ao and Mangaturuturu. These ravines have been formed by comparatively small rivers, having their sources on the mountain sides cutting down channels in the plateau. At the crossing place the Makatote gorge is about 300 feet deep, with sides almost perpendicular in places, covered with a luxuriant growth of evergreen vegetation, which presents a glorious spectacle from the road bridge which crosses it, at a lower elevation, less than a mile below the railway crossing. The Makatote viaduct will be the highest and longest in New Zealand, but being simpler in design and easier of construction, is hardly such an engineering achievement as the similar structure at Makohine in the Rangitikei valley, at the southern end of the Line. It is to be 265 feet high, 891 feet long, built of steel in ten spans, on five piers each 36 feet wide. It is being erected by Messrs. Anderson, of Christchurch, and will cost nearly £60,000. The Manganui-o-te-ao gorge is 120 feet deep, but not very wide. Lower down this stream was a favourite retreat of the Wanganu Maoris in the troublous early times, and traces of their cultivations can yet be found. A peculiar stream is the Mangaturu-

turu which is crossed by a viaduct about 50 feet high. Its waters contain a strong mixture of sulphur, alum and other disagreeable elements picked up on its course down the side of Ruapehu, and at different times present various shades of yellow and blue colour, alternating with a delusive clearness which gives an unpleasant surprise to the unwary traveller who helps himself to a drink from it. The same effect is noticed to an even greater extent in the Wangaeahu river lower down, which also has its source in the same mountain.

After leaving Waimarino the level of the railway falls to the crossing of the Makatote, and then rises a little to the Manganui-o-te-ao, where it commences to fall by steep grades down to the crossing of the Mangawhero river. Here a station is being located for the benefit of the old settlement of Ohakune, some miles off the track of the Line. On this section there are two viaducts—one at

Toanui, and a long one at Hapuawhenua, but the latter cannot compare for height or difficulty of construction with either Makohine or Makatote, though it is still nearly 150 feet above the bed of the stream. The Toanui structure is short and of moderate height; both are to be built of steel. The formation works are again heavy, the Line having left the lofty plateau, and making a descent on the steep country at its edge. Heavy timber on the slopes of Ruapehu still continues, but a fair amount of settlement has taken place on the lower lands. Dairying is carried on to some extent, there being a dairy factory at Raetihi and a creamery at Ohakune, both of which townships are on the overland tourist road from Pipiriki to Tokaanu, but are several miles distant from the railway. Sawmilling is also carried on to a limited extent, but may be expected to increase when an outlet by rail is available.

From Ohakune to the crossing of the Waitake near Karori the Line passes over comparatively easy country on moderate grades, but at Nimia, on the Wangaeahu river, a gradual rise to its second summit at Waiouru is commenced. For six miles the route is over the cheerless Murumutu plains—poor tussock land, incapable of growing much—where, however, the work of making the Line is easy, but heavy cuttings and fillings are again encountered on the last four miles before Waiouru is reached. This is the point of termination of the first day's journey of the present Tokaanu-Taihape and Tokaanu-Pipiriki coach service, and after the opening of the railway will be the changing place for passengers desirous of proceeding to either Tokaanu or Pipiriki. It is rather a dreary locality, however, with hardly any timber or other vegetation, except tussock, in sight. The level of the Line at this summit is almost the same as at the highest point on the Waimarino, forty miles away, but between these two points the Line has dipped down to a level about 600 feet below the summit elevation.

From Waiouru the Line commences to descend by easy grades over ten miles of rolling country, little removed from desert as regards fertility, and entirely devoid of timber or any growth but tussock, till forest is again encountered at Turangarere, and a decided improvement in the quality of the land is immediately noticeable. Turangarere was at one time an important pah belonging to the Manapoto tribe, and many natives still have their homes there. The sawmilling industry is also in full swing, and from this point southwards to Marton, there is an abundance



INTERIOR OF KAKAHI SAWMILL.