

APPENDIX.

REPORTS ON MAIN TRUNK LINE, AUCKLAND TO WELLINGTON.

CENTRAL ROUTE.

No. 1.

Mr. J. ROCHFORD to the ENGINEER-IN-CHARGE, North Island, Wellington.

SIR,—

Nelson, 5th February, 1884.

Having completed the exploration for a line of railway between Marton and Te Awamutu, I have the honour to report as follows:—

Starting from Marton the country over which the line runs is principally open, and presents no difficulty, the Pourewa being reached by a side-cutting from the terrace of the Rangitikei almost on a level. The line then follows up the Pourewa Valley to about three miles beyond Hunterville, and thence crosses to the Rangitikei. The Pourewa is all flat bush of good sawing quality, and the land is good; the river is about 20ft. wide, and, winding much about the flat, will have to be bridged several times in order to run the line straight; ballast can be got near.

The Rangitikei Valley lies about 150ft. below the level of the Pourewa where the most favourable place for leaving the latter occurs. The Rangitikei River is generally confined between marl (*papa*) cliffs 150ft. to 200ft. high, but there are occasionally lower terraces, a large one occurring at Otairi, where there is a Native settlement. It is free from side gullies of any importance, and the hills which bound the terraces are generally of very easy slopes. The Makohine, at 30 miles, a detail of which is shown on the section, forms a break in the line of considerable difficulty, owing to its great depth below the terrace levels; but, as the creek itself is only 30ft. wide, and the opening V-shaped, the deep part of the viaduct would be confined to a short distance, pier foundations easily obtained, and any work done built on dry land. On careful survey considerable modifications might be effected. Near the confluence of the Hautapu (44 miles) the bluffs are rather higher, and several spurs run down to the bluffs: through one a tunnel of perhaps two chains will be necessary, and the grading will then run nearly level into the Hautapu. About three miles of the Rangitikei is open grass and fern, the remainder bush of good mill timber—pines, rimu, totara, tawa, and maire-totara. The soil is very good, as the soil usually is overlying marl formations.

The Hautapu Valley as far as 66 miles is similar in character, with high marl cliffs and terraces above, occasionally a spur coming down and ending in a higher bluff on the river, which will cause side-cutting; at 53 miles there is a limestone outcrop. These spurs almost invariably widen out into a terrace more or less long near the river, with high bluffs, but narrow into a razor-back ridge behind, often actually of a lower level. The timber and soil are both excellent. There is one old Native clearing, overgrown with scrub, of about twenty acres at the lower end of the river. There are no side gullies of importance, and no large creeks; as at the Rangitikei, culverts will generally carry the drainage. The north-east side of the Hautapu appears to be very considerably rougher. Ballast can be got in creeks near the Hautapu confluence, but I did not see any between there and the 66 miles.

From 66 miles to 79 miles will be side-cuttings and flats about half open; the side-slopes are easy, and the land very good. I believe that, on survey, the grades will work out much flatter, as it is a matter of impossibility to judge distances accurately, and to the eye the river appears much flatter than the section shows. All the country towards Ruanui and Raketapauma, lying west and north-west of this, is very good up to the edge of the Murimotu Plain. Turangarere and the highest point of the Waihora will both be places of importance, the former as the nearest point to Patea, the latter as the probable connection with Tokaano and Taupo; and a few miles lower the Murimotu Plains will connect with Wanganui.

From 79 miles to 84 miles the river has open grass and fern flats nearly all along, and limestone outcrops occur along the hill-sides about 50ft. above the valley. Above, on the hill-tops, which are generally table-lands, there are considerable totara forests. Near this point (84th mile) the line follows a small branch of the Hautapu called Waiouru, which penetrates clear through the hills on to the Murimotu Plains. The Waiouru takes its rise near 86 miles in an extensive swamp of several thousand acres, which is good land. The land may also be considered good three or four miles below this point. The Makiokio and Waitangi have limestone outcrops on the flats. From 88 miles down past Karioi to the beginning of the forest the land is very poor, made so from the large admixture of pumice-sand. It is found that one burning of tussock grass completely takes the life from the soil by destroying the little organic matter there is in it.

In two miles from the entrance to the bush, 98 miles, the timber is birch, and the soil, although richer than the open land, is poor; but after that the timber is large and fit for sawing, and the land flat and good for about eighteen or twenty miles. The flat is five to ten miles wide, and all country lying between it and the Wanganui River (some twenty miles in breadth) is formed of low marl hills, the land good, the timber principally tawa. On the side of the flat next the