SESS. II.—1879.
NEW ZEALAND.

PROPOSED RAILWAYS FROM THE TAIERI RIVER TO KAITANGATA, AND OUTRAM TO CLARENDON

(REPORT OF THE GOVERNMENT ENGINEER RELATIVE TO THE).

Laid upon the Table, by permission of the House, by the Hon. Mr. Oliver.

Mr. E. R. USSHER to the ENGINEER IN CHARGE, Middle Island.

SIR,— Public Works Office, Dunedin, 24th October, 1879.

In accordance with instructions contained in your telegram of 5th August, 1879, to make reconnaissance survey of lines of railway from the Taieri River at Hull to Kaitangata, and Outram to Clarendon, I have the honor to report that I have now completed the work, and beg to enclose tracings showing the respective route of each line, with the following report:—

1.—*Taieri River at Hull to Kaitangata.*

This is a continuation of the proposed line to the Taieri River *viâ* Brighton and Kuri Bush, reported on by me on the 31st May, 1878.

From the Township of Hull an ascending grade of 1 in 100 could be obtained until the first saddle is reached, a distance of about 2¼ miles from the river. A descending grade of about 1 in 63 can be got from the first saddle to Akatore Creek, a distance of 1¼ miles. From the Akatore Creek, where a high bridge will be necessary, to saddle number two, an ascending grade of 1 in 50 will have to be run for a distance of 3¾ miles, in order to get through the saddle with a cutting of 20 or 30 feet. A descending grade of 1 in 170 for a distance of about 2½ miles, till the third saddle is reached. From here to the fourth saddle, a distance of 1¾ miles, it will be necessary to run a descending grade of 1 in 70, and thence to the flat at the Tokomairiro River, a distance of about 2 miles, a grade of 1 in 50.

As the country from here to Kaitangata is an easy undulating one, with a long distance of flat land along the coast distance, I did not think it necessary to continue the grades through it. They will be very easy throughout, with the exception of a short distance about the forty-third mile, where a 1 in 50 will be necessary in order to get down off the terrace land along the coast to the flat below Kaitangata.

The line throughout, from an engineering point of view, is much better than I anticipated. No works of any great magnitude will be met with except the bridging of the Taieri and Tokomairiro Rivers, and one or two other small streams that cross the line of route. I have marked on tracing the height of saddles A and B, near Trig. Station Q, just above the Township of Kaitangata, and I examined the country adjacent to these saddles with a view of bringing the line direct to Kaitangata by way of the Washpool Creek or the gully under Trig. Station R, on account of the short distance I had to rise from the Kaitangata side. I found in each case a long tunnel would be necessary, and therefore abandoned the idea of taking the line in this direction. I found the only practicable route to be that shown on tracing. Even if it were practicable to take the line up the valley of the Washpool Creek, it would cut off a large portion of the coast district, which, in my opinion, it would not be advisable to do, as a fine seam of coal is found at Coal Point, and a very considerable quantity of grain is grown in this portion of the district.

Should the Government wish at any time to construct a line from the mouth of the Tokomairiro River to Milton, it can be done at a comparatively small cost, as the country presents no difficulties.

The following is an approximate estimate for forming 14½ miles of the line between the Taieri and Tokomairiro Rivers:—

Fencing	£3,500
Formation and bridging	59,500
Ballasting and permanent way	21,500
Land and engineering	6,500
Stations and rolling-stock	12,000
Contingencies	10,000
	£113,000