

1903.
NEW ZEALAND.

ENGINE-TRIALS BETWEEN INVERCARGILL AND GORE (DETAILS OF).

Presented to both Houses of the General Assembly by Command of His Excellency.

MEMORANDUM for the Hon. the MINISTER for RAILWAYS.

Railway Department, Head Office,
Wellington, 1st October, 1902.

Trial of Locomotives.

I HAVE the honour to submit herewith report on trials of various classes of locomotives which have recently been made between Invercargill and Gore.

T. RONAYNE, General Manager.

The CHIEF MECHANICAL ENGINEER, to the GENERAL MANAGER, New Zealand Railways.

Chief Mechanical Engineer's Office,
Wellington, 30th September, 1902.

SIR,—

Engine-trials.

I have the honour to furnish for your information details of engine-trials recently made between Invercargill and Gore.

The tests would have been more exhaustive if made on a continuous ascending gradient where the engines would have been working at nearly their maximum tractive-power. Such a length of line not being available, the trials had to be run over a comparatively easy road, with, during a considerable portion of the time, the reversing-lever notched up close to centre, and steam wire-drawn by a nearly closed regulator.

The Glasgow and New Zealand built locomotives, having Walschaert valve-gear, giving an earlier cut-off, required for this very light work less wire-drawing of the steam than was necessary with the American locomotives having Stephenson link-motion, giving a later cut-off. But if all the engines had been exerting their maximum effort, the conditions would have been practically identical, and the comparisons more conclusive.

Of the larger locomotives, Class "Q," with large fire-grate area, gave the most efficient results.

I attach, for your consideration, tabulated statement showing details of trials.

Two series of tests were made—one with Brunner coal and the other with Nightcaps lignite. The tests were conducted under similar conditions, and every endeavour made to insure absolute impartiality. Weather was fairly uniform throughout, and, as the results of tests are based on the averages of six separate trials of the different types of locomotives, three with Brunner coal and three with Nightcaps lignite, the slightly varying weather was comparatively unimportant.

One notable feature was the very small quantity of ashes drawn through the tubes into the smoke-box of the Class "Q" locomotive, the tendency to throw sparks being, therefore, most materially reduced.

I have, &c.,

A. L. BEATTIE,
Chief Mechanical Engineer.

The General Manager, New Zealand Railways.