

Constant repairs are also carried out, which leaves no opening for any deterioration.

We were not able to see the whole of the stock, but we attach a list on which our observations are given of all we succeeded in seeing, which amount to—of locomotives seventy-seven per cent. of the whole, and of carriages and trucks eighty-two per cent. of the whole.

STORES.

The stores at Auckland have been noticed above. The principal stores are kept at Wellington, from which centre smaller stores are supplied at Wanganui, Picton, Nelson, Westport, and Grey-mouth

The total value of stores at Wellington amounted to £24,476, which included £630 for coal, shop timber, £1,221, bridge timber £1,007; sleepers, £675, rails, £265, stationery £4,183, the remainder being general stores of every description. The stock of stationery appears large, but Wellington supplies the whole of the railways, north and south.

At Wanganui there are stores to the value of £9,530, which includes coal £1,688 shop timber, £64; bridge timber, £1,768, sleepers, £2,456, the remainder being general stores.

The total value of stores issued at Wellington for use on railways for the year was £34,265, and at Wanganui, £23,763. As observed in the case of stores at Auckland, these figures show that much more is used in one year than is kept in stock, consequently the stocks are small, and we consider that this state of things is as it should be, for waste and loss is inevitable if very large stocks are kept in store. We looked over the stores themselves, and the lists of them, and could see nothing that was superfluous.

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DETAILED REPORT ON CONDITION OF SOUTH ISLAND RAILWAYS.

The objects on the railways which come under inspection are classed in the following order:—

1. Formation Includes condition of cuttings, embankments, slopes, drains.
2. Permanent-way Includes rails, ballast-sleepers, with condition and description of them.
3. Structures Include bridges, culverts, tunnels, over and under bridges.
4. Fencing Includes fences, cattle-stops, gates, signboards.
5. Stations Include buildings, platforms, signals, urinals, turntables, cattle-pens, loading-banks, water-supply
6. Mile-posts and grade-boards.
7. Rolling-stock.
8. Stores Include materials for bridges and permanent-way as well as ordinary stores.

SOUTH ISLAND RAILWAYS.

LYTTELTON TO CHRISTCHURCH (7 Miles)

1. The formation is in excellent condition, neatly kept, and well drained.

2. The rails are a mixed lot, some 53lb. steel, some 64lb. iron, but the right-hand road is mostly 75lb., on chairs. These have been turned, and are generally in very good condition. Some are much worn, but are good for several years yet. Sleepers and ballast are in excellent condition. On the whole Canterbury system, 45,000 sleepers, or 5 per cent. of the total, are renewed every year

3. The bridges are in very good condition, having had some renewals and repairs. The under-bridge at Lyttelton water-works has the timber floor considerably decayed, and must be renewed soon. Over-bridges at Christchurch and Lyttelton are in good order, a few decayed parts having been repaired. There is a double bridge over the Heathcote, at Opawa. These stand on iron-bark and totara piles, which, though very old, are quite sound. Caps, ironbark and totara, very good. The left-hand bridge is a truss, which has been repaired, and is in good condition. The right-hand bridge is of iron girders. Culverts in good condition.

The Lyttelton Tunnel has 25 chains of brick lining out of a total length of 129 chains. At the Christchurch end there are several chains of brick lining, and several chains at the Lyttelton end, and in six or seven other places are pieces of lining from 20ft. to 3 or more chains long. At the two ends the bricks are crumbling away in single bricks, some bricks being gone for half their thickness. There is nothing urgent in this decay of the bricks, but a great number must be replaced before long. The interior pieces of lining are in better preservation, but there are rotten bricks here also. The unlined parts consist either of basalt rock or tuffa—that is, hardened volcanic ashes with fragments of stone of all sizes in it, and there are parts where there is a layer of soft white deposit running through the tuffa. It is this layer which has made it necessary to line various detached parts, and wall up the sides at other places where this layer is still exposed it slowly crumbles out, and will cause other parts to require lining sooner or later. The profile of the tunnel where unlined is very high and peaked through the tuffa, which is a strong profile for weak ground. The tuffa rock is not liable to much change. It drops down very slowly, and the inspectors go over it every week tapping unsound places with hammers, in this way it will last many years without anything requiring to be done. Where the tunnel passes through basalt rock the outline of the tunnel is very irregular in some places the roof is low and flat, in others sloping