

*Waiotira Section* (15 m. to junction at Waiotira with the North Auckland Main Trunk Railway at 19 m. 75 ch.; length, 4 miles 75 chains).—With the exception of one cutting at 16 m. 60 ch. and six culverts, the formation of this section has been completed. A temporary line has been laid around this cutting which will be taken out later with a steam-shovel. A large number of slips occurred on this section, and 36,000 cubic yards were cleared up till February last. Traffic can be maintained to Waiotira, but a large quantity of earth remains to be shifted in order to make the cuttings safe. The subsidence of the banks, particularly at 17 m. 10 ch., caused a great deal of trouble. Temporary lines were laid round five bad slips in cuttings, but with the exception of one at 19 m. 75 ch. these lines are not now required. Rails are laid to Waiotira Junction, but 50 ch. of this length is only 40-lb. track. The bottom lift of ballast has been laid except for 30 ch., while the second lift is complete to 16 m. 55 ch., and in bad places extra ballast has been laid. Goods traffic is being run to Waiotira Junction. The piers on the Waiotira Bridge at 17 m. 74 ch. have been completed and temporary stringers erected. There remains to be done  $1\frac{1}{2}$  miles of fencing.

#### WAIPU BRANCH RAILWAY.

*Ruakaka Section* (0 m. to 9 m. 20 ch.; length, 9 miles 20 chains).—Formation on this section is well forward. On the first two miles, consisting of banks across mud-flats, practically no work was done, as it will be more economical to work this length from borrow-pits when a steam-navvy and locomotive are available. From 2 m. 5 ch. to 8 m. 40 ch. formation is nearing completion, and  $4\frac{3}{4}$  miles of this distance has, with the exception of culverting, been fully completed. Seventeen plough and scooping teams, supplied by local settlers, were working on this section during the summer, and good work was done. Thirty-one earthenware-pipe culverts were laid, as also one concrete-pipe culvert. A  $1\frac{1}{4}$ -mile deviation (from 3 m. 20 ch. to 4 m. 40 ch.) of the Main North Road was carried out.

*Waipu Section* (9 m. 20 ch. to 16 m., approximately).—No work was done on this section during the financial year.

#### NORTH AUCKLAND MAIN TRUNK RAILWAY.

*Maungaturoto Section* (83 m. 75 ch. to 88 m. 21 ch.; length, 4 miles 26 chains).—This section was completed and handed over to the Working Railways Department since the 31st March, 1920. The telephone-line was improved, general maintenance carried out, and a considerable amount of reballasting and cleaning-up work done preparatory to handing over to the Working Railways Department.

*Paparoa Section* (88 m. 21 ch. to 92 m. 6 ch.; length, 3 miles 65 chains).—A private overbridge at 89 m. 61 ch. was erected, and a considerable amount of cleaning-up of water-tables, culvert inlets and outlets, &c., was carried out, as also the usual ballasting for topping up. Constant repairs to the bank at 89 m. 72 ch. owing to slices sliding out from the upper side were required. The cattle-stops at Huarau station-yard (north end) were completed in addition to the stock-paddock and race leading thereto. Portion of this section to 90 m. 30 ch. was handed over to the Working Railways Department since the end of the financial year. The embankment at 91 m. 30 ch., which shows no sign of stability; the Huarau Tunnel, which still requires 1.9 chains concreting to link up the ends; and Paparoa station-yard, where considerable excavation will be necessary before the yard can be deemed ready for structures, are still incomplete. The spreading and sinking of the bank at 91 m. 30 ch. renders it unsafe to carry a locomotive, and little in the way of permanent improvement can be done until completion of the Huarau Tunnel. At the south end of the Huarau Tunnel fair progress was made between June and September, at which latter time the prevailing treacherous swelling material gave place to a belt of rock requiring blasting, thus enabling the invert to be dispensed with. At both ends, however, soft country generally prevailed, and the progress of finished work seldom exceeded 20 ft. per month at either end. At the north end progress rarely averaged more than 10 ft. per month, the ordinary difficulties due to bad ground being accentuated by coal and cement shortages, and also the strike of workmen, which continued for about one month. The incomplete portion between the two ends of complete work is 1.9 chains.

*Paparoa Station-yard*.—Heavy excavation in this yard is complete save for further requirements for additional trucks, but a considerable amount of trimming, &c., remains to be done. Three plate-layers' cottages have been erected and are practically complete.

*Mareretu Section* (92 m. 6 ch. to 96 m. 45 ch.; length, 4 miles 39 chains).—Although considerable work has been done on this section, progress has been hampered by the heavy slips from 93 m. onwards. Owing to the somewhat disagreeable nature of the work great difficulty has been experienced in retaining workmen. The largest cutting completed is at 92 m. 22 ch., though at this point, as elsewhere, a very considerable amount of extra material had to be shifted. With the cutting at 92 m. 48 ch. and embankment at 92 m. 57 ch. fair progress is recorded, but much extra work is being caused at the 92 m. 32 ch. and 72 ch. cuttings. Between 93 m. and the end of the section three stream-diverts have been excavated. From 94 m. 36 ch. to 95 m. 30 ch. fencing on both sides of the line has been erected.

*Waikiekie Section* (96 m. 45 ch. to 107 m. 28 ch.; length, 9 miles 55 chains).—During this year work has extended from the south end of the Mareretu Tunnel, at 102 m. 25 ch., to Waiotira Junction Station, at 107 m. 28 ch., but owing to the serious shortage of labour the length has been only half-manned. Formation between 102 m. 40 ch. and 105 m. 20 ch. is about half-completed. From 105 m. 30 ch. to 107 m. 20 ch. formation is practically completed except for two banks which have been trestled. A steam-shovel has been utilized on formation-work between tunnels and on cuttings. One large cutting at 103 m. will be taken out with the steam-shovel. The two tunnels are the most important works on the section, and both of them were in hand for about four months, but, as a result of insufficient skilled labour, work on the Mareretu Tunnel had to be discontinued. The ground in