

NAPIER TO GISBORNE.

On this line three miles have been diverted to the Waipaoa Bridge to facilitate repairs. Permanent 30-foot and 35-foot poles have been erected in the Town of Napier; bad joints have been removed. A portion of the line has been removed off the road in the course of formation near Wairoa, and the line generally overhauled and put into an efficient state.

AUCKLAND LINES.

AUCKLAND TO WAIKATO AND GRAHAMSTOWN.

These sections have received attention. During the year a few decayed poles have been removed, and several alterations made at the different offices along the line on account of the extra wires that have been run; but the lines generally have required nothing beyond the usual repairs necessary for ordinary maintenance.

AUCKLAND TO KAWAKAWA AND MONGONUI.

This line, which includes the branches to Russell and Hokianga, has given little trouble during the year. A few poles were burnt owing to bush fires, and the kauri poles between Auckland and Riverhead when rotten have been replaced with heart-of-totara. In a few years totara poles will have to be erected in lieu of the kauri, which experience has proved are not durable for many years in the ground.

COOK STRAIT CABLES.

No. 1 Cable.—The fault referred to in last report as having appeared on No. 3 wire in the month of April, further developed itself, and in the following June the wire became entirely interrupted. On the 5th October the No. 1 wire in the same cable became interrupted. The cable steamer "Agnes" was ordered down from Sydney to effect the necessary repairs, and on the 20th October started out to commence the work. On the 12th November communication was again restored on all three wires. During these repairs 18 miles of cable were picked up, overhauled, and relaid, and the old cable is now in almost as good electrical condition as a new cable. During these repairs, the old manufacturers' fault in the No. 2 wire was cut out, and that conductor is now equal to either of the others.

No. 2 Cable.—This cable continues to work in a highly satisfactory manner, and its electrical condition, as will be seen on reference to the record of tests shown in Table G, maintains its usual standard.

No. 3 Cable.—This cable was laid on the 11th of February last, and its official tests, after laying, afforded every satisfaction, giving 2,117 megohms per knot, which, reduced to a temperature of 75° Fahr., equals 703 megohms per knot, or four times the standard insulation per knot specified in the contract. The tests for March give 2,532 megohms per knot as compared with 2,117 obtained during the official tests. This apparent increase in insulation is due to the percha in the cable becoming denser, through pressure and lower temperature of the water.

Charts showing the route over which the cable has been laid have been made in duplicate, one of which has been lodged for safe custody with the Chief Surveyor, Wellington. The other is in the charge of the department.

SCHEDULE OF TABLES.

TABLE A.	—Cash Revenue and Expenditure, Signals Department.
"	B.—Number of Telegrams sent for every 100 Letters.
"	C.—Comparative Quarterly Return, Years ending June, 1878-79, 1879-80.
"	D.—Annual Comparative Progress of the Department.
"	E.—Cost of Maintenance of Lines.
"	F.—Insulation Tests, No. 1 Cook Strait Cable.
"	G.—Insulation Tests, No. 2 Cook Strait Cable.
"	H.—Total Cost of Lines.
"	I.—Number of Telegraph Money Orders issued.
"	K.—Value of Government Messages.
"	L.—Debtor and Creditor Statement.

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