

ERRATA.—F.-8, 1881.

ON page 2, seventh paragraph, second line, *read* “ £1,355 4s. 3d.” *for* “ £455 4s. 3d.”

TABLE A, Oamaru, amount paid for salaries, *read* “ £1,009 10s. 3d.” *for* “ £109 10s. 3d.”

For total cost of maintenance of station, *read* “ £1,151 17s. 4d.” *for* “ £251 17s. 4d.”

For total amount paid for salaries, *read* “ £67,207 19s. 1d.” *for* “ £66,307 19s. 1d.”

For total cost of maintenance of station, *read* “ £78,224 1s. 8d.” *for* “ £77,324 1s. 8d.”

TABLE L, for total cost of maintenance of stations, *read* “ £78,224 1s. 8d.” *for* “ £77,324 1s. 8d.”

Balance, *read* “ £1,355 4s. 3d.” *for* “ £455 4s. 3d.”

Totals, *read* “ £101,378 9s. 11d.” *for* “ £100,478 9s. 11d.”

1881.
NEW ZEALAND.

TELEGRAPH DEPARTMENT

(SEVENTEENTH ANNUAL REPORT).

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

Office of the Postmaster-General and Commissioner of Telegraphs,
Wellington, 16th July, 1881
SIR,— I have the honor to submit to your Excellency a report on the operations of the
Telegraph Department of New Zealand for the twelve months ending the 31st March, 1881
I have, &c.,
WALTER W JOHNSTON,
Postmaster-General and Commissioner of Telegraphs.
His Excellency the Hon. Sir A. H. Gordon,
G.C.M.G.

REPORT

THE cash revenue for the year was estimated at £80,000. It has fallen short of that amount by £6,997 18s.

The value of the Government telegrams for the year amounts to £27,021 3s. 8d., which, added to the value of the private telegrams (£69,634 12s. 7d.) and incidental receipts (£3,367 9s. 5d.), shows the gross earnings of the department to amount to £100,023 5s. 8d. Deducting the June quarter telegrams and receipts from the year's collections, as shown in Table C, and comparing the remaining three quarters ending 31st March, 1881, with the corresponding quarters ending March, 1880, there is a falling-off in telegrams to the extent of 37,788, and in cash to the amount of £2,053 3s. 9d.

There are evidences, however, that the department is slowly recovering from the depression that has existed during the past year; for it will be found, on examination of Table C, that the differences between the corresponding quarters for the years ending March, 1880 and 1881, have gradually diminished—viz., the September quarter, 1880, showed a decrease of £919 13s. 4d., as compared with September, 1879; December, 1880, £626 0s. 7d., as compared with December, 1879; and March, 1881, £507 9s. 10d., as compared with the quarter ending March, 1880.

The total number of messages of all codes transmitted during the year amounts to 1,058,342.

The number of telegrams transmitted during the twelve months, as compared with the number of letters posted during the same period, show that for every 100 letters posted 9.71 telegrams were sent. On perusal of Table B it will be apparent that a considerable falling-off in percentage of telegrams for the year ending March, 1881, has been experienced when compared with any of the previous years. The sudden drop in percentage in 1881 is not, however, solely due to the decrease of telegrams in that particular year, but is in a measure to be accounted for by the very large increase in the number of letters posted in the nine months ending March, 1881, and which exceeded those in 1880, for the same period, by 1,106,482. Doubtless this large increase may be set down to a certain extent to the prevailing monetary depression at the time, but there must have been other causes at work to create such a large increase besides the depression alluded to, and the effect of which must be patent to any close observer—viz., that with the falling-off of trade the users of the telegraph confined their communications by telegraph to strictly their necessities, and made use of the Post Office to a much larger extent than they would have done in more prosperous times. The only other causes, therefore, that could operate in this direction must be due to the increased facilities placed at the disposal of the Post Office by improved steam communication, but more especially by the railway, which has brought points which were far apart comparatively nearer to one another. And this conclusion is, to a certain extent, borne out by fact, for if Table B is examined closely it will be found that, whilst places

like Taranaki still maintain their percentage of telegrams for every 100 letters posted, Canterbury and similar districts, with the increased facilities placed at their disposal by rail and steam, have availed themselves to a greater extent of that mode of communication. There can be no doubt that as business improves the telegraph will recover a portion of this traffic.

The Telegraph Department, however, must, in order to maintain itself, open up new channels of communication at present inaccessible to its more successful rivals. The recent introduction of the telephone will, in a measure, largely enable the department to attain this end. The increase of business and consequent swelling of the receipts by this means of communication will not be liable to such heavy deductions for skilled labour as in the past when opening new lines and offices; for there are doubtless hundreds of places in New Zealand in which, by the ordinary telegraphic means of communication, it would be out of the question for the department to entertain the idea of granting them telegraphic facilities on account of the expense attendant thereon; but which, by means of the telephone, beyond the expense of erection of line, can be readily granted the boon at a very small additional outlay and annual expenditure. All such lines will act as feeders to the main trunk lines without trenching on their receipts, for it is intended, in opening such stations, to conduct them on the principle of no work no pay; in fact, to limit the remuneration for the work done to a percentage on the receipts up to a certain point; when the percentage reaches a certain annual amount the department will then step in and, as by previous agreement, make fresh terms. With a view of making such extensions, supplies of telephones have been ordered and will shortly arrive. It is fully anticipated that this means of intercommunication will be largely made use of in the future.

The business done in money-order telegrams during the past year amounts to £58,334 11s. 11d., causing 14,497 telegrams to be transmitted at the expense to the senders of £1,696 19s. 8d., of which amount £724 17s. represents fees collected by the Post Office on behalf of the department, the balance being the commission charged for the money-orders.

At the close of the year there were 3,758 miles of line carrying 9,587 miles of wire of the above; during the year 120 miles of line and 254 miles of wire were erected.

The number of stations open to the public at the end of the year was 227, showing an increase of 13 over the previous year. The most of these were opened in conjunction with railway-stations.

The number of miles of line maintained during the year was 3,556, at an average cost per mile of £6 6s. 7d.

The number of miles of wire now duplexed amounts to 2,820, and as this is really equal to 5,640 miles of single line, the actual wire accommodation at the disposal of the department is 12,407 miles.

The expenditure last year exceeded the receipts by £5,582 5s. 9d. This year the debit balance against the department, after taking credit for Government telegrams, amounts to £455 4s. 3d., clearly showing the financial position of the department is slowly mending.

The number of "urgent" telegrams sent during the year amounts to 33,390, representing a cash value of £5,002 13s. 4d., being within a fraction of 3s. per telegram. The number of "delayed" telegrams for the same period amounts to 88,881; for the nine months ending 31st March, 1880, the number transmitted was 65,684, which, after making allowance for the deficient quarter, only shows an increase of some 1,303 telegrams. When this class of telegrams was first introduced, it was thought that many of the users of the telegraph would resort to this cheaper mode of communication and abandon the more expensive, and that the department would consequently lose revenue. This anticipation has not been realised, for, on examining the telegrams of this class, it is evident that the introduction of the system has brought to the department in most cases quite a new class of business, and even where it has been made to take the place of the shilling telegram, it has either been the means of introducing a fresh customer to the department, or has caused to be sent a telegram which under the shilling system would never have been received. It must be remembered also that this class of correspondence is only placed on the wires when the other business is slack, an event which happens in every telegraph system at certain periods of the day, so that really the public who pay the higher rates suffer no inconvenience from this class of correspondence; and the department, by being able to hold back these telegrams, can make use of its unoccupied wire and staff to better advantage. One thing must not be lost sight of, and it is this, that the cheapening of the system has not in any way injured the Post Office; for every telegram carries postage fee with it, which is collected from the sender. In addition to the fee for the telegram the Post Office in the past year netted, by this class of correspondence, taking all the postages at a penny, some £370. This amount is, however, under the actual sum received, for it does not take into account that many of the telegrams had to be franked with twopenny stamps, being outside of the town delivery, and consequently liable to the increased postage.

On the 1st of January, 1881, the Head Office was amalgamated with the General Post Office, and the office of Secretary and Accountant abolished, the duties belonging to the respective offices being allotted to the Secretary and Accountant of the General Post Office. Up to the date of this report the amalgamation has worked satisfactorily, and has every appearance of continuing to do so. The Chief Postmasters in the towns where amalgamation has been effected, and who have assumed the appointments of Officers-in-Charge, although not technical officers, had, in some cases, claims superior to those they have supplanted. In all future appointments,

however, to such stations, it will be requisite, if this branch of the public service is to be served efficiently, to demand that all officers who aspire for such promotion should qualify themselves for it by possessing a fair amount of technical knowledge, so as not to place them as it were at a disadvantage by having under them officers of superior attainments and whose duties are performed in a subordinate capacity. The gradual fusion and interchange of duties in the different offices where such amalgamations have taken place will be carried out as far as practicable; but this fact must not be lost sight of, that, in order to work the wires to the fullest capacity, the duties of the telegraphist in the larger offices must still be kept distinct and quite apart from any other duty; for telegraphy, like piano-playing, requires constant practice in order to acquire and maintain a certain degree of expertness in the manipulation of the Morse key. Prior to the final amalgamation above alluded to it has been the custom of the Telegraph Department to appoint to the small stations, where the duties of postmaster and telegraphist could be performed by one officer, an officer specially trained by the telegraph. This custom in the future will still be adhered to, as it has worked well and cannot be improved upon. Telegraphic appointments to such stations are of the greatest importance, for, where officers are thrown upon their own resources and far away from assistance, it is an absolute necessity that they should possess a certain degree of expertness and technical knowledge to enable them to detect faults in their own offices, and to render such assistance as may be necessary to the central offices in the localization of faults and by alteration of the wires at their own test-boards, in order to keep open as many circuits as possible when the wires fall out of repair, through bad weather and other accidents to which telegraph lines are liable.

The works performed during the past year in the different sections into which the telegraph system is divided are as follows:—

FROM THE BLUFF TO WAITAKI RIVER.

All the lines and offices from Waitaki to Blueskin have been thoroughly examined. Between Oamaru and Palmerston, at all the railway-crossings, the wires have been placed on thirty-five-foot poles. Between Blueskin and Kilmog Hill the line has been reconstructed, and a loop wire for railway purposes has been led into Hampden and Herbert Railway Stations. The remainder of the lines in this section have had no special repairs made to them excepting such as the lineman in each district have been able to perform, but as many of them as possible during the next twelve months will have the usual examination made by the travelling lineman.

The offices at Hampden, Herbert, Waikouaiti, Mosgiel, and Outram have been closed, and the business transferred to the railway-stations at those places, and placed under the control of the station-masters. At Clinton the business has been removed to the railway-station, additional accommodation being previously provided. There has been no amalgamation of staff at this office, but the expense of a mail-carrier has been saved, and the railway officials relieved of the telegraph work performed by them, and the duplicate sets of instruments and batteries done away with. At Woodlands the instruments have been removed from the meat-preserving company's office to the railway station, but no amalgamation as yet has been effected, as the station-master is not yet sufficiently proficient to perform the duties of the telegraphist. The offices vacated at Hampden and Herbert have been leased as dwellinghouses, and those at Mosgiel and Outram have been transferred to the Railway and Police Departments. The old office at Clinton has been converted into additional quarters for the officers in charge. At Balclutha the department has removed into offices erected on a new site.

For the Railway Department.—Two new wires, one for Morse and the other for block purposes, have been erected between Port Chalmers and Seacliffe, along the railway line *viâ* Pura-kanui. The length of this line is 16 miles, 13 of which have been erected on poles made out of old iron rails. Morse instruments have been fitted up at Waitati and Seacliffe, and the block instruments are ready to be fitted up as soon as the necessary accommodation has been provided by the railway authorities. At Glendernmid an electrical signal-repeater and light-out-recording apparatus has been fitted up. A line is now in course of construction from Riverton to Otautau, on which offices at Thornbury Junction and Otautau will be opened and placed in charge of the railway station-masters, who will also perform the telegraph duties. The Invercargill Telegraph Office has been amalgamated with the Post Office, and placed under the charge of the Chief Postmaster. The Tokomairiro and Albany Street (Dunedin) Telegraph Offices have also been amalgamated, telegraphists, in each case, taking sole charge. The maintenance of all the railway wires and offices in this section have been placed under the charge of this department since the 1st June, 1880, the Railway Telegraph Department being abolished from that date.

The stations on the Catlin's River line—viz., Kaitangata, Nuggets, and Owake, have been turned into telephone-stations, and the Morse instruments done away with; by this alteration a saving of quite £150 per annum has been effected on this branch line.

FROM CHEVIOT TO WAITAKI (including Bealey Line as far as Arahura Junction)

From Cheviot to Christchurch no repairs of any consequence have been made, but from Christchurch to Waitaki extensive repairs and renewals are in progress, and have been completed as far as St. Andrews. The spans which were originally on this line, five chains, have been reduced to four, rendered necessary by the number of wires which the poles had to carry; at the Rakaia, Ashburton, Rangitata, Temuka, and Ophir Rivers the wires have been carried on the railway bridges, and at Selwyn, Orari, and Pareora the rivers are crossed by means of poles supported on iron tubes driven into the river-bed.

The line from Springfield to Bealey will during the year, require about one hundred and fifty new poles and a general overhaul. From Bealey to Arahura Junction, about six hundred new poles will be required in order to render the line safe, and the line diverted in places, rendered necessary by the encroachment of the rivers, in order to render this line comparatively safe during the winter months some slight expenditure has already been incurred.

The Oxford and Kaiapoi line during the summer months received a careful overhaul.

The Waiau line that portion of it north of the Waipara River where it leaves the main line, will require some repairs; these will be effected during the winter as opportunity offers.

The main line from Christchurch to Addington, about a mile in length, owing to the number of lines it has to carry, will require to be entirely reconstructed, and thirty-five feet poles erected in the place of the present twenty-five feet.

The supervision and management of the railway telegraphs in this section, consequent on the abolition of the Railway Telegraph Department has also been placed under the control of this department since the 1st of June, 1880. Additions to the railway-stations at Kirwee, Springfield, St. Andrews, Amberley, Southbridge, and Oxford have been made, and amalgamations with the railway at Southbridge and Oxford effected.

The office at Malvern has been closed and the business removed to the railway-station at Sheffield, and reopened under the charge of the lineman, who also acts as telegraphist.

The office at the Rakaia has been moved to the railway platform; of the above offices, Sheffield, Springfield, Kirwee, and St. Andrews have been opened to the public during the past year, and in the suburbs of Christchurch the new office built at Sydenham has been opened and is worked by telephone in connection with the Christchurch office.

The other portions of this section call for no special comment, the lines with the exception of those specially alluded in the foregoing being in fair condition.

FROM CHEVIOT TO COLLINGWOOD AND THE WEST COAST LINES (as far as Arahura Junction, including the Ross Line)

The line to Collingwood, which was commenced in February, 1880, was completed in February of this year. This extension commences at Motueka and passes through Takaka, *en route* to Collingwood; an office has been opened at Takaka, and a temporary one at Collingwood pending the erection of the new office. This line is worked by telephone from Motueka; the station at Takaka, for purposes of maintenance, has been placed in charge of a lineman. The line from Richmond to Motueka has been placed in thorough repair; these repairs were effected by the party in charge of the construction of the Collingwood line. Between Blenheim and Kaikoura the line sustained considerable damage during the month of August last; it is now in good repair. The line between Kaikoura and Cheviot is now undergoing a general overhaul; some of the totara poles erected in 1868, showing signs of decay, have been replaced by new ones, and additional poles have been inserted at the Amuri, where the line runs near the sea coast, with a view of improving the insulation by giving each wire a separate support, and thus in a measure avoiding weather contact. Between Reefton and the Lyell the sapling poles in places, cut from the mountain totara, on examination showed signs of decay, and it was decided to renew them with sawn totara poles. This work was commenced in April, 1880, and finished in January last. Considerable improvements have been effected, such as strengthening the angles and straightening the line. A deviation was made from the bridle-track to the dray-road recently formed at the Buller River crossing, which will render the line more secure and enable repairs to be more speedily effected. To render the line more secure from falling timber, the bush in places has been cleared further back. Between Greymouth and Ahaura during the next summer it is proposed to replace the totara saplings by sawn totara poles, and to further clear the tall bush through which the line passes. The rest of the lines on this section are in good repair, and, beyond the ordinary yearly examination, will not require much expended on them during the year.

AUCKLAND LINES (including the Waikato, and Lines north of Auckland, and as far south as Grahamstown *vid* the Thames)

The line from Auckland to Grahamstown, with the exception of a few miles, has undergone a thorough overhaul, and in several places, where it ran through private property, has been shifted on to the road to facilitate inspection and future maintenance; any kauri poles, showing signs of decay at the ground line, have been blocked with butts cut from the heart of totara, and bolted to the kauri pole for a length of three feet above the ground. The scrub and gorse in places has been cut down in order to render the line secure from fire. It is anticipated this line will not require much money expended on it during the next three years.

The line from Grahamstown to Coromandel has been repaired and strengthened throughout, and new totara poles have been inserted where rendered necessary by sundry deviations. The lineman's station at Hastings has been closed. During the year there has been very little done to the lines south of Mercer beyond laying gravel round the poles on the Ohaupo line as a safeguard against the peat-bog, which at times takes fire from sparks from the passing engine. The line to Alexandra during the next summer will be overhauled, and all defective kauri poles rendered secure by means of totara blocks. From a pole-to-pole examination of the Manukau Heads line it has been ascertained that a very heavy percentage of the kauri poles show signs of decay at the ground line, and will have to be supported by totara blocks to render the line secure.

On the lines north of Auckland a repairing-party has been engaged for several months, and have, as far as the Port Albert Junction, completed all necessary repairs; about 7 per cent. of the kauri poles on this line had to be blocked with either blocks cut from the heart of totara or from puriri, where it could be found adjacent to the line. These lines will have to be gone over by a repairing-party every two or three years, until the whole of the kauri poles have been blocked. It is a noticeable fact that it is only in the rich and moist soil that the kauri poles have suffered decay, those erected in clayey soil being as sound as ever.

A lineman's station has been opened at Te Koporu, on the Dargaville line; and at Kamo, on the Bay of Islands line, a station is in course of erection, and will be opened shortly.

The office at Grahamstown has been amalgamated with the Post Office, and the Chief Postmaster placed in charge in order to carry out this arrangement. The Post Office removed its business to the premises occupied by the Telegraph Department.

The railway wires and stations in the Auckland District are also under the charge of this department.

FROM GRAHAMSTOWN TO TENUI (including the Branch Lines Napier to Gisborne, Maketu to Opotoki, and Waipukurau to Kopua)

The principal works performed in this section during the year are as follow: At Port Ahuriri the telegraph wires have been diverted from the old crossing and placed on the bridge. This alteration has given increased facilities for inspection and repairs. At Petane half-a-mile of the line, which intersected plantations, has been removed to the road, and a short advantageous alteration has been made in the line near Te Horoto.

On the Ohinemutu loop, the wires on examination, were found to be very much corroded, caused by the sulphurous exhalations from the ground in places; as a temporary measure they have been secured by fixing bridles at the insulators. Sufficient wire has been, however, left at the station for renewal of the loop; at present the corrosion has not reached that stage of decay as to warrant immediate renewal.

On the Tauranga and Katikati, line the wires formerly crossing the indentations of the harbour and also across fenced lands, have now been removed to the main road. These alterations have effected a great saving of time in the examination of the line for faults. The aggregate length of line diverted is about twelve miles.

On the Gisborne line, frequent defective and imperfect working, through loss of insulation, was experienced during bad weather. The faulty insulation has been localized by tests to the 30 miles of line between Wairoa and the Mahenga. The line between these two points runs in close proximity to the sea. In order to remedy the defect as much as possible that portion of the line has been reinsulated, Siemen's white porcelain insulators being used for that purpose. This line throughout its length has been overhauled, and, in addition to the ordinary operations incumbent upon an overhauling-party, has had the following works executed—viz.: The tracks through the bush between Mahia and Muriwai has been repaired and the bush cleared where found overgrown; four miles of line near Gisborne has been shifted on account of the road formations, and, at Wairoa, the mast on the right bank of the river has been re-erected in a safer position, and some few poles in the township removed to make room for footpath formation.

The other lines overhauled and repaired are—Napier to Tauranga, Maketu to Opotiki, Napier to Porangahau, and the branch line to Kopua. The line between Katikati and Grahamstown is now undergoing an overhaul, and is about half completed. The track over the bush ranges, between Waihi and Hikutaia Valley, is in course of repair, and all defective kauri poles are being renewed. Holding in view, however, the probable diversion of the main line round by Ohinemuri, the repairs in this line are being confined to those rendered absolutely necessary for maintaining its stability.

The lines from Tenui to Porangahau is also undergoing an overhaul, and will be completed about the end of April.

The office at Gisborne has been amalgamated with the Post Office, and placed under the charge of the Chief Postmaster; and the office at Katikati has been closed, and one opened at Uretara in premises leased for that purpose.

WELLINGTON TO NEW PLYMOUTH *vid* WANGANUI (including the Branch Lines to Palmerston North, Woodville, and also the North Trunk Line from Wellington to Auckland as far as Tenui and Castlepoint)

From Tenui to Wellington the line during the summer months has been carefully overhauled, all the poles being examined, and reset where necessary. The line between Kaiwarra and Petone has been placed in the inland side of the railway, and thus removed further back from the edge of the harbour. This was to a certain extent rendered necessary by the faulty insulation, and partly to suit the railway requirements. By the removal in some places the line has been placed at a greater height above the sea level, and in a measure placed out of the reach of spray from the sea, which used to affect the wires in heavy southerly weather. Owing to the number of casualties caused by the snow on the Rimutaka ranges, all the long spans have been shortened, and in order to locate faults with greater exactitude, all the wires have been looped into the railway-station at Kaitoke. At the Upper Hutt Railway Station the wires have also been looped in, and the telegraph office on the main road closed, the business having been removed to the railway-station, and the duties of telegraphist and postmaster amalgamated with those of station-

master, who is in sole charge. Amalgamation with the Railway Department has also been carried out at Featherston. At the Lower Hutt, a new office with quarters, has been built during the year. During the erection of the new office the business was carried on at the railway-station, at which also instruments are provided for the sole use of the Railway Department. The line from New Plymouth to Stony River, 22½ miles in extent, erected in April, 1872, has been completely overhauled. All the poles on this line were in first-class condition. The gap between Stony River and Opunake, which, at the date of this last report, was in course of completion, has now been finished and offices opened in the Armed Constabulary Camps at Manaia, Rahotu, and Pungarehu, starting from Hawera, there are now two telegraphic routes to New Plymouth, which completely encircle Mount Egmont. At Cape Egmont a line to Pungarehu, about two miles in extent, has been erected. It is intended, as soon as the lighthouse at the first-mentioned place is completed, to establish telephonic communication between those places. The offices at the Armed Constabulary Camps at Pungarehu, Rahotu, Opunake, and Manaia, in addition to the ordinary Morse instruments, have also been fitted up with electric bells, which, after the close of the business hours, are switched into the relay local circuit. By this means any one station, by preconcerted signals, can rouse the attention of another.

The line between Opunake and Hawera is now undergoing an examination and repair; owing to the road line in some parts having been altered since this line was erected, the route on which it was formerly constructed has, in many places, become intersected with fences, the old road having been sold; this has necessitated the shifting of the line at those places on to the newly made road in order to facilitate inspection and future repairs.

The line branching from Hawera to New Plymouth *via* Inglewood has also been overhauled. A new office, under the control of the stationmaster, has been opened at Stratford, and a new office is now in course of erection at Normanby, on the railway platform. This office will also be placed in charge of the railway stationmaster, and the present office closed. It is intended, during the current year, to continue the third wire from Normanby to Inglewood. This will enable all the railway-stations on that route to be placed in telegraphic communication with one another. At present the railway telegraph system only extends as far as Inglewood from the New Plymouth side. The Armed Constabulary office at Waihi has been closed, and the loop line to that place will shortly be dismantled. The line between Hawera and Normanby, where it leaves the main road, will also be dismantled, and a new piece, about a mile in length, erected between that point and Normanby. This diversion will cut out over two miles of old line rendered useless by the closing of the Waihi office.

The rest of the lines on this section call for no special remarks, being in a good state of repair.

COOK STRAIT CABLES.

All three cables continue to work satisfactorily, and give no signs of deterioration so far as their electrical condition is concerned. The cable laid in February, 1880, from Wanganui to Waka-puaka, has increased very much in its insulation, and from the periodical tests taken gives evidence of its being electrically as near perfection as possible. Owing to the prevalence of lightning on the Wanganui side, and as the cable is in connection with a land line, some four miles in extent, from the cable hut to the office at Wanganui, precautions have been taken to ensure its safety by placing between the end of the cable and the land line a lightning guard of a peculiar construction, which always keeps the cable at that point to earth through a high resistance. This arrangement renders it almost impossible for the cable to sustain any damage from the effects of lightning. In addition to the above, Siemen's plate guards are also inserted, and by means of another wire the cable every night is put to earth from the Wanganui office. The insulation tests for the year will be found in Tables F and G; and, attached to the report, plans of the various sections referred to in the foregoing, and a map of both Islands, showing the general routes of the lines.

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 March, 1880, and 1881.
 „ D.—Annual Comparative Progress of the Department.
 „ E.—Cost of Maintenance of Lines.
 „ F.—Insulation Tests, No. 1 Cook Strait Cable, and No. 2 Cook Strait Cable.
 „ G.—Insulation Tests, Wanganui and Waka-puaka Cable.
 „ H.—Total Cost of Lines.
 „ I.—Number of Telegraph Money Orders issued.
 „ K.—Value of Government Messages.
 „ L.—Debtor and Creditor Statement.

C. LEMON,
Superintendent of New Zealand Telegraphs.

TABLE A.

CASH REVENUE derived from Private and Press Messages; Value of General Government Messages; Number of Messages transmitted by each Station; and the Working Expenses of each Station, for the Twelve Months ended 31st March, 1881.

Name of Station.	Total Cash Revenue derived from Private and Press Messages.			Value of General Government Messages.			Total Value of Messages of all Codes.			Total Number of Private and Press Messages.	Total Number of General Govt. Messages.	Total Number of Messages of all Codes.	Amount paid for Salaries.			Contingencies.			Total Cost of Maintenance of Station.		
	£	s.	d.	£	s.	d.	£	s.	d.				£	s.	d.	£	s.	d.	£	s.	d.
Head Office	3,636	0	0	377	12	9	4,013	12	9
Abbotsford	360	23	383	...	...	...	3	5	6	3	5	6
Addington	80	3	83	...	...	...	3	5	6	3	5	6
Ahaura	1,063	348	1,411	141	5	0	29	7	3	170	12	3
Akaroa	2,450	332	2,782	169	1	0	24	8	9	193	9	9
Alexandra	1,078	162	1,240	136	2	0	23	6	6	159	8	6
Amberley	2,564	302	2,866	138	4	8	42	10	3	180	14	11
Arrow	2,849	329	3,178	175	3	4	44	8	9	219	12	1
Ashburton	8,906	702	9,608	382	4	4	48	12	9	430	17	1
Auckland	94,699	17,197	111,896	3,917	9	7	332	5	5	4,249	15	0
Balclutha	2,555	637	3,192	173	15	10	15	10	3	189	6	1
Bealey	672	660	1,332	211	17	6	72	2	11	284	0	5
Blenheim	8,898	2,765	11,663	4,131	14	4	416	4	2	4,547	18	6
Bluff	7,301	2,548	9,849	499	10	0	68	10	10	568	0	10
Bulls	3,990	314	4,304	154	1	4	73	3	8	227	5	0
Burnham	15	15	10	...	...	...	3	5	6	3	5	6
Cambridge	917	11	10	290	3	11	37	14	4	327	18	3
Carterton	239	11	2	152	0	0	109	7	7	261	7	7
Castlepoint	162	8	10	122	8	4	10	17	6	133	5	10
Caversham	31	3	2	...	...	...	3	7	6	3	7	6
Charleston	99	7	6	111	15	8	74	5	10	186	1	6
Chertsey	36	0	2	...	...	...	3	9	0	3	9	0
Cheviot	122	13	11	94	3	4	39	7	3	133	10	7
Christchurch	81,666	10,527	92,193	4,874	18	4	496	14	7	5,371	12	11
Clinton*	113	11	7	202	10	0	10	9	0	212	19	0
Clyde	230	11	9	91	17	6	28	5	6	120	3	0
Coalgate	54	13	2	...	...	...	14	2	0	14	2	0
Collingwood	3	19	5	22	10	0	43	15	11	66	5	11
Coromandel	206	19	9	187	7	6	86	19	0	274	6	6
Cromwell	259	15	6	195	8	0	37	17	9	233	5	9
Cust	41	8	4	...	...	...	3	10	0	3	10	0
Darfield Junction	13	6	1	...	...	...	3	5	6	3	5	6
Driving Creek†	6	18	8	49	6	8	20	16	0	70	2	8
Dargaville	302	16	5	136	15	8	53	2	5	189	18	1
Drury	41	11	2	132	6	8	22	4	9	154	11	5
Dunedin	9,747	3	2	4,554	16	9	436	1	8	4,990	18	5
Dunedin North	115	18	1	39	12	8	4	5	6	43	18	2
Dunedin Railway	10	17	5	...	...	...	3	5	6	3	5	6
Dunsandel	34	19	10	21	13	4	3	11	9	25	5	1
Duntroon	129	7	7	109	5	0	23	1	7	132	6	7
Duvauchelle's Bay	43	18	7	120	0	10	13	3	9	133	4	7
Ealing	9	19	4	...	...	...	3	5	6	3	5	6
Edendale	37	10	6	...	...	...	3	8	5	3	8	5
Elbow	115	18	6	...	...	...	3	6	9	3	6	9
Farndon	52	7	2	23	19	2	8	2	7	32	1	9
Featherston	239	16	3	175	18	0	90	10	1	266	8	1
Feilding	290	13	8	165	2	2	32	11	8	197	13	10
Foxhill	28	16	11	91	10	0	7	5	6	98	15	6
Foxton	474	1	11	474	16	8	49	11	11	524	8	7
Geraldine*	127	15	5	195	18	0	20	5	6	136	1	6
Gisborne	1,389	16	5	440	9	0	121	2	0	561	11	0
Goodwood	13	8	10	...	...	...	3	5	6	3	5	6
Gore	270	1	5	155	12	6	13	0	6	168	13	0
Grahamstown	1,498	17	9	1,271	13	4	136	9	11	1,408	3	3
Greymouth	1,756	13	2	1,143	7	6	235	3	5	1,383	10	11
Greytown North	227	18	1	177	16	8	54	16	3	232	12	11
Greytown South	12	3	5	...	...	...	3	5	6	3	5	6
Halcombe	78	11	6	70	6	10	37	8	4	107	15	2
Hamilton	566	15	8	238	19	4	43	5	9	282	5	1
Hampden	56	15	2	116	7	10	23	9	9	139	17	7
Hastings	228	2	9	93	6	8	22	17	3	116	3	11
Hastings† Thames*	5	16	7	141	5	0	14	13	0	155	18	0
Havelock	196	3	5	89	8	4	21	14	11	111	3	3
Hawera	762	17	1	188	19	4	42	19	0	231	18	4
Helensville	139	13	10	131	16	8	16	11	3	148	7	11
Herbert	37	18	6	101	13	4	11	6	1	112	19	5
Hokitanga*	243	4	2	150	9	2	49	9	9	199	18	11
Hokitika	1,499	13	2	762	15	4	188	11	6	951	6	10
Hornby	11	14	4	...	...	...	3	5	6	3	5	6
Huntley	46	14	0	17	14	5	3	5	6	20	19	11
Hurunui	60	7	2	103	0	0	20	16	0	123	16	0
Hutt	78	16	0	160	1	8	11	6	6	171	8	2
Inglewood	70	8	3	71	16	8	10	6	4	82	3	0
Invercargill	2,152	3	0	1,209	19	4	200	14	5	1,410	13	9
Kaipoi	246	7	5	215	0	0	18	19	10	233	19	10
Kaikoura	263	1	1	105	5	10	29	6	6	134	12	4
Kaitangata	83	19	10	128	1	8	10	0	0	138	1	8

* Operator, also Lineman.

† Station now closed.

TABLE A—continued.
CASH REVENUE derived from Private and Press Messages, &c.—continued.

Name of Station.	Total Cash Revenue derived from Private and Press Messages.	Value of General Gov- ernment Messages.	Total Value of Messages of all Codes.	Total Number of Private and Press Messages.	Total Number of General Govt. Messages.	Total Number of Messages of all Codes.	Amount paid for Salaries.	Contingencies.	Total Cost of Maintenance of Station.
	£ s. d.	£ s. d.	£ s. d.				£ s. d.	£ s. d.	£ s. d.
Kaitoke ...	12 3 9	2 2 0	14 5 9	201	23	224	31 0 0	16 17 0	47 17 0
Kakanui ...	63 4 4	2 2 1	65 6 5	831	37	868	94 3 4	6 18 0	101 1 4
Katikatit† ...	7 12 7	0 3 8	7 16 3	103	1	104	110 16 8	64 13 11	175 10 7
Kawakawa ...	176 10 6	36 5 4	212 15 10	2,654	343	2,997	205 12 2	25 19 3	231 11 5
Kekerangu* ...	26 15 4	23 3 8	49 19 0	351	330	681	136 10 10	9 1 8	145 12 6
Kihikihi ...	50 15 0	23 19 1	74 14 1	791	168	959	100 16 8	18 15 0	119 11 8
Kingston ...	28 18 3	2 12 9	31 11 0	514	29	543	...	6 5 4	6 5 4
Kirwee ...	19 0 4	0 7 4	19 7 8	328	6	334	...	...	...
Kopua ...	54 6 4	67 17 10	122 4 2	916	452	1,368	138 8 4	6 19 6	145 7 10
Kopuru* ...	82 19 9	7 11 8	90 11 5	1,115	66	1,181	36 0 0	14 3 8	50 3 8
Kumara ...	228 7 9	68 11 10	296 19 7	3,455	602	4,057	286 14 0	96 11 5	383 5 5
Lawrence ...	231 15 3	84 19 2	316 14 5	3,871	795	4,666	151 8 0	34 15 6	186 3 6
Leeston ...	62 16 7	4 6 7	67 3 2	1,020	53	1,073	...	11 9 6	11 9 6
Leithfield† ...	6 11 6	0 2 0	6 13 6	109	2	111	49 7 6	23 0 8	72 8 2
Longford* ...	46 4 8	7 10 1	53 14 9	578	109	687	133 15 10	15 0 7	148 16 5
Lyell ...	175 16 5	30 14 0	206 10 5	2,255	410	2,665	169 10 0	45 1 5	214 11 5
Lytelton ...	894 10 9	457 13 4	1,352 4 1	14,572	6,142	20,714	565 3 6	96 19 2	662 2 8
Maheno ...	24 5 6	2 1 1	26 6 7	413	21	434	...	4 19 0	4 19 0
Maketu ...	81 13 2	62 9 4	144 2 6	1,074	416	1,490	156 0 0	40 5 9	196 5 9
Makikihi ...	25 13 11	1 1 4	26 15 3	464	8	472	...	38 17 11	38 17 11
Malvern† ...	20 12 6	11 5 9	31 18 3	318	95	413	79 6 8	9 9 6	88 16 2
Manaia ...	13 13 10	29 14 7	43 8 5	243	275	518	4 10 0	3 9 0	7 19 0
Manuherikia ...	86 11 4	13 18 7	100 9 11	1,162	159	1,321	94 3 4	16 14 6	110 17 10
Manuka Creek† ...	1 13 1	0 1 0	1 14 1	32	1	33	...	...	...
Manukau Heads* ...	46 7 11	74 6 8	120 14 7	652	1,392	2,044	141 5 0	13 3 0	154 8 0
Manutahi ...	49 4 6	2 17 8	52 2 2	700	36	736	94 3 4	14 6 3	108 9 7
Marton ...	321 7 7	79 19 9	401 7 4	4,637	679	5,316	172 5 10	64 10 0	236 15 10
Masterton ...	435 14 4	81 0 5	516 14 9	6,471	876	7,347	270 0 0	59 2 5	329 2 5
Mataura* ...	68 18 8	22 8 3	91 6 11	1,122	302	1,424	205 10 0	11 11 6	217 1 6
Mercer ...	47 16 5	23 5 5	71 1 10	668	250	9 8	156 9 2	20 0 4	176 9 6
Miranda* ...	10 16 10	0 10 2	11 7 0	143	6	149	152 12 6	10 16 6	163 9 0
Mohaka ...	58 10 2	3 15 3	62 5 5	734	59	793	141 5 0	12 2 0	153 7 0
Mongonui ...	60 10 8	49 7 4	109 18 0	828	722	1,550	119 5 0	22 9 0	141 14 0
Mosgiel ...	60 13 8	10 5 8	70 19 4	1,036	101	1,137	68 18 0	3 16 9	72 14 9
Motueka ...	99 4 9	13 5 4	112 10 1	1,493	173	1,666	153 14 0	19 5 3	172 19 3
Napier ...	2,064 16 0	483 16 2	2,548 12 2	26,597	4,290	30,887	2,918 13 2	371 6 7	3,289 19 9
Naseby ...	182 17 10	111 3 10	294 1 8	2,670	868	3,538	146 13 4	92 7 3	239 0 7
Nelson ...	1,937 0 2	738 11 0	2,675 11 2	28,963	8,049	37,012	1,524 0 4	230 1 2	1,754 1 6
Newmarket ...	77 19 10	21 0 4	99 0 2	1,255	174	1,429	80 19 8	23 12 6	104 12 2
New Plymouth ...	1,230 3 2	886 0 1	2,116 3 3	17,563	7,038	24,601	863 13 6	167 13 0	1,031 6 6
Newton ...	48 0 5	4 6 3	52 6 8	678	49	727	178 12 0	34 7 9	212 19 9
Ngaruawahia ...	113 4 5	46 10 10	159 15 3	1,819	638	2,457	169 10 6	35 17 6	205 8 0
Normanby ...	102 13 2	41 4 7	143 17 9	1,792	408	2,200	87 15 0	11 15 0	99 10 0
Oamaru ...	1,732 19 5	260 7 6	1,993 6 11	23,968	2,883	26,851	109 10 3	142 7 1	251 17 4
Oeo† ...	7 3 4	29 8 10	36 12 2	178	151	329	...	...	...
Ohacawai ...	76 7 10	23 7 3	99 15 1	959	194	1,153	106 3 4	29 7 5	135 10 9
Ohauapo ...	48 17 11	19 4 3	68 2 2	800	279	1,079	128 1 8	10 7 6	138 9 2
Ohinemutu* ...	231 2 3	77 19 3	309 1 6	3,302	567	3,869	174 15 10	17 2 6	191 18 4
Okato ...	22 9 2	24 7 4	46 16 6	349	312	661	...	13 5 6	13 5 6
Onehunga ...	190 18 4	173 15 1	364 13 5	3,156	2,527	5,683	237 5 8	25 11 11	262 17 7
Ophir* ...	77 17 1	6 8 2	84 5 3	1,165	92	1,257	131 16 8	12 12 0	144 8 8
Opotiki* ...	152 14 2	98 12 5	251 6 7	2,556	1,007	3,563	156 6 4	9 19 3	166 5 7
Opunake ...	117 11 11	195 18 2	313 10 1	2,001	1,556	3,557	67 6 5	36 10 6	103 16 11
Orari ...	21 3 11	1 18 5	23 2 4	365	20	3 5	...	3 5 6	3 5 6
Oreti ...	32 18 10	0 13 6	33 12 4	530	10	540	...	3 8 9	3 8 9
Otago Heads ...	23 7 3	49 18 8	73 5 11	418	888	1,306	47 1 8	8 18 6	56 0 2
Otauhu ...	47 10 3	5 6 9	52 17 0	655	75	730	134 0 10	37 18 7	171 19 5
Otaki ...	160 3 6	41 18 1	202 1 7	2,454	582	3,036	94 3 4	86 2 0	180 5 4
Outram ...	68 7 7	24 17 10	93 5 5	1,165	251	1,416	109 5 0	6 18 9	116 3 9
Otautau ...	2 9 6	0 4 8	2 14 2	43	3	46	...	...	...
Owake* ...	41 19 2	1 13 0	43 12 2	589	22	611	122 10 0	5 4 6	127 14 6
Oxford ...	65 4 9	8 8 9	73 13 6	1,048	106	1,154	167 13 0	27 14 3	195 7 3
Pahi ...	65 9 4	6 12 5	72 1 9	834	52	886	131 16 8	19 8 6	151 5 2
Palmerston South ...	283 11 5	119 17 10	403 9 3	4,385	941	5,326	223 19 2	29 4 3	253 3 5
Palmerston North ...	378 0 4	66 9 9	444 10 1	6,005	776	6,781	285 13 10	45 4 8	330 18 6
Papatoitoti ...	2 8 5	1 0 8	3 9 1	42	14	56	...	15 19 0	15 19 0
Patea ...	520 2 4	236 18 3	757 0 7	8,098	2,087	10,185	262 6 8	48 2 7	310 9 3
Penrose ...	8 12 9	0 12 8	9 5 5	137	7	144	8 1 9	3 5 6	11 7 2
Picton ...	292 0 10	132 15 7	424 16 5	4,754	1,822	6,576	185 10 0	23 8 9	208 18 9
Pipitea† ...	10 19 10	26 18 4	37 18 2	187	303	490	131 16 8	3 5 6	135 2 2
Pokeno ...	16 9 6	4 5 7	20 15 1	289	35	324	12 16 8	3 5 6	16 2 2
Porangahau* ...	76 19 4	8 8 10	85 8 2	1,073	108	1,181	132 15 10	13 13 6	146 9 4
Port Albert ...	43 9 3	6 6 6	49 15 9	597	64	661	131 16 8	29 2 9	160 19 5
Port Chalmers ...	425 18 1	234 7 0	710 5 1	7,355	4,559	11,914	399 17 8	91 5 6	491 3 2
Portobello ...	...	...	...	...	...	...	11 10 0	3 5 6	14 15 6
Pukehinahau† ...	32 16 6	53 9 7	86 6 1	630	327	957	...	...	...
Pukekohe ...	40 5 6	3 13 4	43 18 10	714	43	757	41 8 5	4 13 0	46 1 5
Pukeuri ...	4 4 7	0 17 6	5 2 1	71	12	83	...	...	...
Pungarehu ...	112 7 9	576 9 7	688 17 4	1,993	3,203	5,196	17 10 0	10 18 6	28 8 6
Queenstown ...	331 3 5	104 19 5	436 2 10	5,136	1,300	6,436	154 18 0	44 3 6	199 1 6
Rahotu ...	11 1 2	12 17 9	23 18 11	185	86	271	...	...	...

* Operator, also Lineman.

† Station now closed.

TABLE A—continued.
CASH REVENUE derived from Private and Press Messages, &c.—continued.

Name of Station.	Total Cash Revenue derived from Private and Press Messages.	Value of General Gov- ernment Messages.	Total Value of Messages of all Codes.	Total Number of Private and Press Messages.	Total Number of General Govt. Messages.	Total Number of Messages of all Codes.	Amount paid for Salaries.	Contingencies.	Total cost of Maintenance of Station.
	£ s. d.	£ s. d.	£ s. d.				£ s. d.	£ s. d.	£ s. d.
Rakaia ...	134 13 2	13 10 3	148 3 5	2,169	127	2,296	116 5 0	27 18 3	144 3 3
Rangiera ...	152 4 7	19 6 6	171 11 1	2,500	212	2,712	131 16 8	8 10 0	140 6 8
Rangitata South ...	18 17 6	2 6 1	21 3 7	323	16	339	...	3 5 6	3 5 6
Reefton ...	596 16 8	120 16 8	717 13 4	8,680	1,202	9,882	373 12 10	94 11 4	468 4 2
Richmond ...	42 7 4	7 6 8	49 14 0	626	93	719	118 13 0	7 6 6	125 19 6
Riverhead ...	21 3 5	2 15 8	23 19 1	286	33	319	71 6 8	31 11 3	102 17 11
Riverton ...	208 4 4	46 0 10	254 5 2	3,390	560	3,950	171 5 6	28 8 10	199 14 4
Rolleston (Railway) ...	19 18 0	1 19 9	21 17 9	328	23	351	41 13 4	36 16 9	78 10 1
Ross ...	84 18 6	16 7 11	101 6 5	1,062	185	1,247	110 11 0	86 0 6	196 11 6
Roxburgh* ...	93 11 8	35 19 2	129 10 10	1,459	536	1,995	168 10 6	44 9 3	212 19 9
Russell ...	238 0 3	150 18 2	388 18 5	4,855	2,085	6,940	198 13 2	38 16 3	237 9 5
Sanson ...	71 2 1	6 16 2	77 18 3	994	104	1,098	162 2 6	37 19 9	200 2 3
Sefton ...	23 1 6	0 7 0	23 8 6	396	5	401	...	3 5 6	3 5 6
Sheffield ...	20 7 8	12 16 1	33 3 9	341	188	529	52 10 0	5 7 6	57 17 6
Southbridge ...	120 10 6	24 2 11	144 13 5	1,939	308	2,247	148 4 2	35 0 5	183 4 7
Spit ...	415 11 2	111 7 4	526 18 6	6,434	1,560	7,994	281 9 8	58 7 3	339 16 11
Springfield ...	62 9 5	6 9 10	68 19 3	943	75	1,018	...	4 3 0	4 3 0
Springton ...	19 6 4	0 8 1	19 14 5	336	6	342	...	3 5 6	3 5 6
St. Andrew's ...	26 2 1	0 13 0	26 15 1	446	9	455	...	3 13 3	3 13 3
St. Bathans ...	65 18 11	14 10 2	80 9 1	879	130	1,009	84 15 0	18 19 0	103 14 0
Stirling ...	31 3 0	1 18 2	33 1 2	542	21	563	...	3 5 6	3 5 6
Stratford ...	73 18 6	19 15 11	93 14 5	1,108	182	1,290	35 4 2	3 14 6	38 18 8
Studholme ...	16 18 10	1 4 9	18 3 7	300	20	320	...	3 5 6	3 5 6
Sydenham ...	6 8 5	1 2 1	7 10 6	120	18	138	10 10 0	10 14 4	21 4 4
Takaka* ...	2 8 9	0 13 0	3 1 9	37	5	42	...	9 18 2	9 18 2
Takapau ...	38 4 2	3 14 9	41 18 11	482	42	524	141 5 0	10 15 0	152 0 0
Tapanui ...	158 17 6	31 13 4	190 10 10	2,809	328	3,137	132 11 8	20 18 3	153 9 11
Tarawera* ...	21 7 0	5 13 10	27 0 10	284	59	343	141 5 0	49 19 1	191 4 1
Taupo ...	177 14 6	85 18 4	263 12 10	1,971	842	2,813	141 5 0	42 0 9	183 5 9
Tauranga ...	626 1 10	344 2 1	970 3 11	8,878	3,086	11,964	295 12 6	50 18 10	346 11 4
Te Awamutu ...	73 15 2	20 5 11	94 1 1	1,196	215	1,411	122 8 4	7 17 9	130 6 1
Temuka ...	185 14 7	17 16 6	203 11 1	2,886	228	3,114	265 2 4	49 8 0	314 10 4
Timaru ...	1,834 15 9	322 6 8	2,157 2 5	25,216	3,531	28,747	1,220 14 2	200 17 11	1,421 12 1
Ti Nui ...	75 0 1	17 16 0	92 16 1	951	167	1,118	102 1 8	69 4 6	171 6 2
Thornbury ...	1 15 8	0 1 1	1 16 9	27	1	28	...	...	...
Tokomairiro ...	181 5 1	23 15 8	205 0 9	3,126	263	3,389	176 15 0	50 17 5	227 12 5
Tophouse* ...	12 6 8	26 7 5	38 14 1	171	417	588	131 16 8	17 2 4	148 19 0
Turakina ...	66 19 6	10 0 1	76 19 7	955	132	1,087	116 11 4	68 15 2	185 6 6
Upper Hutt ...	42 0 7	2 14 6	44 15 1	598	37	635	125 17 7	13 6 6	139 4 1
Uretara ...	20 14 2	4 3 2	24 17 4	252	19	271	21 0 0	4 6 0	25 6 0
Waiau ...	65 7 9	19 1 8	84 9 5	855	162	1,017	123 7 6	49 4 5	172 11 11
Waihi† ...	24 9 2	113 13 10	138 3 0	434	874	1,308	85 17 6	3 8 0	89 5 6
Waiholā ...	24 11 3	4 17 10	29 9 1	429	61	490	...	3 5 6	3 5 6
Waikaia ...	60 3 6	10 13 1	70 16 7	853	129	982	126 4 2	9 7 0	135 11 2
Waikari ...	69 8 11	15 1 0	84 9 11	1,112	175	1,287	128 15 0	57 18 5	186 13 5
Waikouaiti ...	71 19 3	18 1 10	90 1 1	1,214	173	1,387	82 2 3	32 1 9	114 4 0
Waimate ...	262 16 9	46 5 5	309 2 2	4,161	559	4,720	265 2 2	38 10 3	303 12 5
Wainui* ...	40 17 10	5 7 8	46 5 6	489	50	539	145 19 2	11 13 6	157 12 8
Waipahi ...	38 15 6	4 0 8	42 16 2	681	38	719	...	3 16 3	3 16 3
Waipawa ...	205 7 6	32 15 9	238 3 3	3,111	307	3,418	160 2 2	40 17 7	200 19 9
Waipu* ...	49 0 3	3 17 8	52 17 11	687	52	739	127 2 6	32 15 3	159 17 9
Waipukurau ...	101 1 9	11 19 9	113 1 6	1,664	125	1,789	118 13 4	22 2 9	140 16 1
Wairoa ...	194 14 8	47 2 3	241 16 11	3,032	460	3,492	107 1 8	32 13 9	139 15 5
Waitahuna ...	34 9 8	2 1 5	36 11 1	606	30	636	...	3 5 6	3 5 6
Waitaki ...	19 5 9	1 14 8	21 0 5	306	18	324	...	3 5 6	3 5 6
Waitara ...	223 11 10	63 19 9	287 11 7	3,758	943	4,701	161 19 8	44 7 6	206 7 2
Waitati ...	30 12 8	5 0 8	35 13 4	545	60	605	...	3 5 6	3 5 6
Waitotara ...	94 9 4	19 6 1	113 15 5	1,342	206	1,548	132 15 10	67 7 5	200 3 3
Waiuku ...	48 18 6	8 19 9	57 18 3	708	100	808	131 16 8	15 8 0	147 4 8
Waiwera ...	109 13 1	5 8 10	115 1 11	1,402	61	1,463	116 6 8	37 10 3	153 16 11
Wakapuaka ...	1,071 2 9	0 9 11	1,071 12 8	16,680	2	16,682	449 19 2	201 19 0	651 18 2
Wakefield ...	28 15 2	2 13 2	31 8 4	474	29	503	7 3 4	3 5 6	10 8 10
Wanganui ...	1,908 15 5	530 3 9	2,438 19 2	30,777	6,281	37,058	1,349 5 11	409 8 2	1,758 14 1
Warkworth ...	55 7 5	11 7 11	66 15 4	762	104	866	131 16 8	8 3 0	139 19 8
Washdyke ...	12 11 2	0 6 7	12 17 9	211	6	217	...	3 5 6	3 5 6
Waverley ...	134 8 4	13 14 10	148 3 2	2,216	198	2,414	160 2 2	23 16 9	183 18 11
Wellington ...	6,836 18 10	7,022 3 7	13,859 2 5	135,150	58,547	193,697	7,281 17 11	721 13 1	8,003 11 0
Wellington Pilot Stn. ...	...	...	...	...	...	...	60 15 10	7 8 8	68 4 6
Westport ...	553 2 3	399 18 7	953 0 10	7,949	3,684	11,633	280 19 2	120 4 0	401 3 2
Whangarei ...	225 9 2	82 17 2	308 6 4	3,563	1,111	4,674	156 17 6	61 8 3	218 5 9
Whangaroa* ...	74 11 9	21 3 7	95 15 4	1,166	347	1,513	122 8 4	12 10 6	134 18 10
Winchester ...	23 12 0	0 18 10	24 10 10	413	10	423	...	3 5 6	3 5 6
White's Bay* ...	...	...	...	...	...	...	...	19 2 6	19 2 6
Winslow ...	24 1 3	0 7 3	24 8 6	400	5	405	...	8 4 0	8 4 0
Winton* ...	89 11 8	19 18 10	109 10 6	1,475	268	1,743	124 6 8	10 7 6	134 14 2
Woodlands ...	46 9 10	10 17 1	57 6 11	665	129	794	109 5 0	11 3 4	120 8 4
Woodville ...	52 7 4	17 6 0	69 13 4	739	175	914	131 16 8	50 6 6	182 3 2
Wyndham ...	79 3 10	8 6 1	87 9 11	1,252	106	1,358	83 1 8	9 0 6	92 2 2
New Stations	...	...	...	...	...	...	613 19 9	137 13 1	751 12 10
	69,634 12 7	27,021 3 8	96,655 16 3	1,058,342	246,370	1,304,712	66,307 19 1	11,016 2 7	77,324 1 8

* Operator, also Lineman.

† Station now closed.

TABLE B:

NUMBER of Telegrams despatched in each Provincial District during the Year ended 31st March, 1881; and Proportion of Telegrams to every 100 Letters; together with a similar Return for Nine Months of the previous Year.

District.	1880-81.			1879-80.		
	Number of Letters.	Number of Telegrams.	Proportion of Telegrams sent to every 100 Letters.	Number of Letters.	Number of Telegrams.	Proportion of Telegrams sent to every 100 Letters.
Wellington	1,961,159	226,665	11'55	1,434,015	255,970	17'84
Marlborough	124,031	19,989	16'11	122,028	21,541	17'65
Nelson	362,164	73,128	20'19	222,423	71,117	31'97
Canterbury	2,850,260	164,929	5'78	1,531,032	150,184	9'8
Westland	311,191	37,802	12'14	250,530	36,820	14'69
Otago	2,393,759	197,222	8'23	1,388,214	180,120	12'97
Southland	523,034	45,494	8'69	348,456	35,954	10'31
Hawke's Bay	425,612	48,591	11'41	336,924	42,534	12'62
Taranaki	136,734	39,383	28'8	99,399	28,050	28'21
Auckland	1,808,054	205,139	11'34	1,332,489	186,119	13'96

Year.	Number of Letters.	Number of Telegrams.	Proportion of Telegrams sent to every 100 Letters.
1880-81	10,895,998	1,058,342	9'71
1879-80 (for nine months only)	7,065,510	1,008,409	14'27
1878-79	7,374,786	1,448,943	19'64
1877-78	6,078,384	1,260,324	20'71
1876-77	5,540,920	1,124,432	20'29
1875-76	4,731,873	1,051,086	22'21
1874-75	4,059,517	917,218	22'59
1873-74	3,209,837	752,899	23'45
1872-73	2,828,372	568,960	19'76
1871-72	2,418,021	411,677	17'02
1870-71	2,626,947	312,874	11'91
1869-70	2,374,060	185,423	7'81
1868-69	2,749,488	146,167	6'12
1867-68	1,938,578	106,104	5'47

TABLE C.

ORDINARY and PRESS TELEGRAMS despatched during the Three Quarters ended 31st March, 1880; also for each Quarter of the Year ended 31st March, 1881, and the REVENUE derived from each Class.

Telegrams.	June Quarter.		September Quarter.		December Quarter.		March Quarter.		Totals.	
	Number.	Revenue derived.	Number.	Revenue derived.	Number.	Revenue derived.	Number.	Revenue derived.	Number.	Revenue derived.
1879-80.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.
Ordinary ... ..	...	...	246,252	16,139 10 4	250,030	16,203 18 5	263,855	16,975 13 9	760,137	49,319 2 6
Press ... ..	...	...	22,614	1,566 18 0	22,115	1,607 5 8	19,868	1,421 7 3	64,597	4,595 10 11
Totals...	...	...	268,866	17,706 8 4	272,145	17,811 4 1	283,723	18,397 1 0	824,734	53,914 13 5
1880-81.										
Ordinary	254,778	16,334 1 0	225,928	14,985 14 2	247,906	16,011 2 9	255,090	16,521 0 5	983,702	63,851 18 4
Press	16,618	1,439 1 11	17,326	1,801 0 10	16,002	1,174 0 9	24,694	1,368 10 9	74,640	5,782 14 3
Totals...	271,396	17,773 2 11	243,254	16,786 15 0	263,908	17,185 3 6	279,784	17,889 11 2	1,058,342	69,634 12 7

TABLE D.

COMPARATIVE TABLE showing the Progress of the TELEGRAPH DEPARTMENT during the Financial Years ended 30th June, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, and to the 31st March, 1880 and 1881.

Year ended	Number of Miles of Line.	Number of Miles of Wire.	Number of Stations Open.	Number of Telegrams forwarded during the Year.			Revenue derived from Private and Press Messages, and incidental Receipts.	Value of Government Messages.	Total Value of Business done during the Year.	Cost of Maintenance of Stations.	Cost of Maintenance of Lines.	Total Expenditure.	Cost of Main-tenance of Lines per Mile.	Tariff in Operation.		
				Private, and Provincial Government.	General Government.	Total.										
30th June, 1866	699	1,390	13	24,761	2,476	27,237	£	s.	d.	£	s.	d.	£	s.	d.	Mileage tariff.
" 1867	757	1,498	21	55,621	15,331	70,952	"	"	"	"	"	"	"	"	"	
" 1868	1,110	2,223	31	72,241	26,244	98,485	"	"	"	"	"	"	"	"	"	
" 1869	1,329	2,495	45	106,070	50,097	156,167	"	"	"	"	"	"	"	"	"	Mileage tariff in operation up to 1st Sept., 1869; uniform as 6d. tariff from 1st Sept., 1869, to 31st March, 1870; and 1s. tariff from 1st April, 1870.
" 1870	1,661	2,897	56	122,545	62,878	185,423	"	"	"	"	"	"	"	"	"	
" 1871	* 1,976	3,247	72	253,582	59,292	312,874	"	"	"	"	"	"	"	"	"	
" 1872	† 2,185	3,823	81	344,524	67,243	411,767	"	"	"	"	"	"	"	"	"	From 1st November, 1873, address and signature given in free.
" 1873	‡ 2,356	4,574	93	485,507	83,453	568,960	"	"	"	"	"	"	"	"	"	
" 1874	§ 2,530	5,782	105	645,067	107,832	752,899	"	"	"	"	"	"	"	"	"	
" 1875	|| 2,986	6,626	127	786,237	130,891	917,128	"	"	"	"	"	"	"	"	"	From 1st November, 1873, address and signature given in free.
" 1876	¶ 3,154	7,247	142	890,382	160,704	1,051,086	"	"	"	"	"	"	"	"	"	
" 1877	** 3,259	7,423	155	952,283	172,159	1,124,442	"	"	"	"	"	"	"	"	"	
" 1878	†† 3,434	8,035	182	1,065,481	194,843	1,260,324	"	"	"	"	"	"	"	"	"	From 1st November, 1873, address and signature given in free.
" 1879	‡‡ 3,512	8,117	195	1,201,982	246,961	1,448,943	"	"	"	"	"	"	"	"	"	
31st March, 1880	§§ 3,638	9,333	214	824,734	183,675	1,008,409	"	"	"	"	"	"	"	"	"	
" 1881	||| 3,758	9,587	227	1,058,342	246,370	1,304,712	"	"	"	"	"	"	"	"	"	

* From this mileage 78 miles to be deducted before computing the cost per mile for maintenance.

† From this mileage 32 miles to be deducted before computing the cost per mile for maintenance.

‡ From this mileage 42 miles to be deducted before computing the cost per mile for maintenance.

§ From this mileage 106 miles to be deducted before computing the cost per mile for maintenance.

|| From this mileage 31 miles to be deducted before computing the cost per mile for maintenance.

¶ From this mileage 174 miles to be deducted before computing the cost per mile for maintenance.

** From this mileage 85 miles to be deducted before computing the cost per mile for maintenance.

†† From this mileage 116 miles to be deducted before computing the cost per mile for maintenance.

‡‡ From this mileage 109 miles to be deducted before computing the cost per mile for maintenance.

§§ From this mileage 95 miles to be deducted before computing the cost per mile for maintenance.

||| From this mileage 102 miles to be deducted before computing the cost per mile for maintenance.

TABLE E.
COST OF MAINTENANCE OF Telegraph Lines for the Year ended 31st March, 1881.

Section.	Number of Miles.	Travelling Expenses of Linemen and Inspectors.	Extra Labour.	Cost of Material used for Repairs.	Salaries of Linemen and Inspectors.	Total Cost of Maintenance.	Cost per Mile.
Riverton to Balclutha, including Winton to Lowther's, Switzer's, Catlin's River, Wyndham, and Lowther to Kingston Lines	296	£ s. d. 135 5 8	£ s. d. 20 16 5	£ s. d. 124 14 8	£ s. d. 345 6 8	£ s. d. 626 3 5	£ s. d. 2 2 3
Tokomairiro to Queenstown	142	136 8 8	17 11 6	109 16 1	440 10 10	704 7 1	4 19 2
Balclutha to Waitaki, including Naseby, Ophir, St. Bathans, Kaitangata, Outram, Otago Heads, Dunroon, and Portobello Lines	319	233 16 5	460 3 8	307 16 7	558 11 8	1,560 8 4	4 17 10
Waitaki to Christchurch, including Akaroa, Geraldine, Southbridge, Lyttelton, and Rolleston to Darfield Junction	277	229 8 8	212 13 1	1,048 8 9	511 4 2	2,001 14 8	7 4 6
Christchurch to Greymouth, including Ross Line	196	365 18 10	135 9 10	170 14 1	499 2 4	1,171 5 1	5 19 6
Greymouth to Lyell, including Westport Line	177	214 16 9	68 9 6	165 6 11	370 16 8	819 9 10	4 12 7
Lyell to Nelson, including Tophouse to Blenheim and Motueka Lines	210	212 11 11	94 8 11	159 3 0	170 13 4	636 17 2	3 0 7
Nelson to Blenheim, including Wakapuaka and White's Bay Lines	92	268 5 9	53 8 8	128 8 10	477 5 0	927 8 3	10 1 7
Blenheim to Christchurch, including Waiau, Rangiora, and Oxford Lines	253	364 7 7	482 0 3	724 14 6	825 6 0	2,396 8 4	9 9 5
Wellington to New Plymouth, including Foxton to Feilding, Palmerston to Woodville, and Opunake Lines	373	550 12 3	236 6 4	422 11 10	912 4 2	2,121 14 7	5 13 9
Wellington to Napier, including Castlepoint, Kopua, and Hastings Lines	240	575 4 9	481 10 6	345 1 3	915 19 11	2,317 16 5	9 13 1
Napier to Tauranga, including Gisborne and Opotiki Lines	363	644 8 8	654 13 2	305 15 10	768 12 6	2,373 10 2	6 10 9
Tauranga to Grahamstown	73	234 15 6	194 7 5	137 13 10	461 12 2	1,028 8 11	14 1 9
Auckland to Coromandel and Alexandra, including Manukau Heads and Onehunga Lines	270	558 7 7	435 2 6	739 19 11	708 7 2	2,441 17 2	9 0 10
Auckland to Kawakawa, including Waivera, Russell, Hokianga, Port Albert, and Dargaville Lines	322	460 19 8	193 6 9	348 13 2	676 19 2	1,679 18 9	5 4 4
Kawakawa to Mongonui	53	59 5 6	11 11 2	69 5 1	206 18 4	347 0 1	6 10 11
Totals	3,656	5,244 14 2	3,751 19 8	5,308 4 4	8,849 10 1	23,154 8 3	6 6 7*

* Total average cost per mile.

NOTE.—Stoney River to Opunake (28 miles), Motueka to Collingwood (48 miles), and Riverton to Otatau Lines (13 miles), not included in this table.

TABLE F.

INSULATION TESTS of the FIRST and SECOND COOK STRAIT CABLES for the Year ended 31st March, 1881, showing the Resistance per Knot after Two Minutes' Electrification in Megohms (British Association Units of Resistance).

First Cook Strait Cable.				No. 1 Wire.	No. 2 Wire.	No. 3 Wire.	Second Cook Strait Cable.*				Dielectric Resistance per Knot.
1880—							1880—				Five Cells.
April	24	...	...	164	275	341	April	24	...	...	1,568
May	24	...	...	175	287	363	May	24	...	...	1,716
June	24	...	...	189	307	371	June	24	...	...	1,643
July	24	...	...	189	311	372	July	24	...	...	1,765
August	24	...	...	181	291	345	August	24	...	...	1,681
September	24	...	...	165	263	323	September	24	...	...	1,358
October	25	...	...	148	248	311	October	24	...	...	1,393
November	24	...	...	142	239	306	November	24	...	...	1,211
December	24	...	...	141	259	313	December	24	...	...	1,410
1881—							1881—				
January	24	...	...	135	225	302	January	24	...	...	1,311
February	24	...	...	135	237	296	February	24	...	...	1,200
March	24	...	...	129	221	277	March	24	...	...	1,262

* Length of cable laid, 44,315 knots.

TABLE G.

INSULATION TESTS of the WANGANUI and WAKAPUAKA CABLE for the Year ended 31st March, 1881, showing the Resistance per Knot after Ten Minutes' Electrification in Megohms (British Association Units of Resistance).

Length of Cable Laid, 108·69 Knots.

Date.								Dielectric Resistance per Knot.	Copper Resistance per Knot in Ohms.	Mean Temperature of Sea-bottom calculated from the Observed C.R.
								Twenty Cells.		
1880—										Deg. F.
March	2	...	...	...	...	...	...	2,532	11·084	63
April	24	...	...	...	...	...	...	2,688	11·113	64
May	25	...	...	...	...	...	...	2,715	11·043	61
June	24	...	...	...	...	...	...	4,187	11·017	60
July	24	...	...	...	...	...	...	4,934	11	59
August	24	...	...	...	...	...	...	5,604	10·95	57
September	24	...	...	...	...	...	...	4,920	10·93	56
October	23	...	...	...	...	...	...	4,927	10·95	57
November	24	...	...	...	...	...	...	4,194	10·99	59
December	23	...	...	...	...	...	...	4,293	10·94	56
1881—										
January	24	...	...	...	...	...	...	4,490	10·99	59
February	24	...	...	...	...	...	...	3,886	10·99	59
March	24	...	...	...	...	...	...	3,666	11·04	61

TABLE H.
TOTAL COST of LINES of TELEGRAPH throughout the Colony, and of COOK STRAIT CABLES.

Section of Line.	Length of Section in Miles.	Cost of Clearing Bush.	Total Cost of Poles, including Delivery.	Cost of Wire, Arms, Insulators, &c., including Carriage.	Cost of Erection.	Total Cost of Section.	Cost per Mile.
SOUTH ISLAND.							
Total South Island to 31st March, 1880 ...	1,962	£ 19,769 11 11	£ 66,941 2 0	£ 51,078 7 5	£ 62,712 8 8	£ 200,501 10 0	...
Riverton to Otatau Line (18 miles) ...	13	...	216 12 6	77 16 11	21 16 4	316 5 9	17 11 5
Nelson to Blenheim, reconstruction, additional expenditure (80 miles) ...	...	...	210 6 8	..	131 12 11	341 19 7	4 5 6
Richmond to Motueka, reconstruction, and new line, Motueka to Collingwood (76 miles) ...	48	873 4 10	1,052 2 9	541 15 11	961 13 6	3,428 17 0	45 2 4
Oamaru to Timaru Railway Wire (52 miles) ...	...	...	...	21 3 6	116 10 5	137 13 11	2 12 11
Reefton to Lyell, reconstruction (32 miles) ...	...	...	1,062 18 0	36 15 3	726 9 0	1,826 2 3	57 1 4
Port Chalmers to Seaciff Wire (32 miles) ...	13	...	...	284 1 5	254 11 0	538 12 5	16 16 8
	2,036	20,642 16 9	69,483 1 11	52,040 0 5	64,925 1 10	207,091 0 11	...
NORTH ISLAND.							
Total North Island to 31st March, 1880 ...	1,676	£ 11,174 5 4	£ 54,741 5 3	£ 56,444 9 9	£ 66,993 6 7	£ 189,353 6 11	...
Feilding to Marton <i>via</i> Halcombe ...	18	...	407 3 6	126 5 0	420 0 0	953 8 6	52 19 4
Third Wire, Wanganui to Hawera (58 miles) ...	...	...	798 3 4	608 3 7	1,029 3 6	2,435 10 5	41 19 10
New Plymouth to Stoney River, reconstruction, and new line Stoney River to Opunake (50 miles) ...	28	...	794 7 2	596 0 7	460 2 9	1,850 10 6	37 0 2
Wellington to Featherston, reconstruction (45 miles) ...	...	...	46 0 0	199 18 0	307 18 1	553 16 1	12 6 1
Totals, North Island ...	1,722	11,174 5 4	56,786 19 3	57,974 16 11	69,210 10 11	195,146 12 5	...
Totals, South Island ...	2,036	20,642 16 9	69,483 1 11	52,040 0 5	64,925 1 10	207,091 0 11	...
	3,758	31,817 2 1	126,270 1 2	110,014 17 4	134,135 12 9	402,237 13 4	...
Mount Egmont Road ...	...	...	...	...	...	1,006 11 6	...
Repairs to No. 1 Cook Strait Cable ...	...	...	...	...	...	2,126 17 9	...
Expenditure on Railway-lines South (to be recovered from Public Works Department) ...	...	...	...	...	...	1,939 9 2	...
Expenditure on Railway-lines North (to be recovered from Public Works Department) ...	...	...	...	...	...	1,423 18 11	...
No. 1 Cook Strait Cable, including freight from London and expenses of laying ...	...	...	...	...	...	29,864 0 0	...
No. 2 Cook Strait Cable, including freight from London, expenses of laying, and 8½ miles of spare cable, and demurrage of ship "Zealandia" ...	...	...	...	...	...	13,248 6 8	...
Five miles spare No. 1 Cable, including freight from London ...	...	...	...	...	...	2,822 4 3	...
No. 3 Cable, including freight from London, expenses of laying, and 11½ knots spare cable ...	...	...	...	...	...	25,338 1 2	...
Repairs to No. 1 Cook Strait Cable (additional expenditure) and 5 miles of spare cable ...	...	...	...	...	...	2,906 17 3	...
						482,914 0 0	...

TABLE I.

RETURN of the NUMBER and AMOUNT of TELEGRAPH MONEY ORDERS ISSUED within the several POSTAL DISTRICTS during the Year ended 31st December, 1880.

District.	Number.	Commission.	Amount.
		£ s. d.	£ s. d.
Auckland ...	2,485	291 5 0	10,020 3 6
Blenheim ...	504	62 5 0	2,223 19 3
Christchurch ...	1,537	189 10 8	6,761 18 6
Dunedin ...	1,673	194 16 0	6,669 5 0
Greymouth ...	755	91 9 4	3,223 5 4
Hokitika ...	443	49 1 8	1,616 18 0
Invercargill ...	651	70 4 0	2,259 2 4
Napier ...	1,185	147 17 8	5,318 7 6
Nelson ...	354	43 10 8	1,550 1 5
New Plymouth ...	384	46 12 8	1,646 7 0
Oamaru ...	278	31 6 0	1,044 17 4
Thames ...	139	15 8 0	507 3 8
Timaru ...	472	50 9 8	1,613 13 7
Wanganui ...	1,157	127 17 0	4,200 3 0
Wellington ...	2,155	247 10 0	8,385 2 11
Westport ...	325	37 16 4	1,294 3 7
Totals ...	14,497	1,696 19 8	58,334 11 11

TABLE K.

CASH VALUE of SHIPPING TELEGRAMS and AMOUNT chargeable to each DEPARTMENT of the GENERAL GOVERNMENT for TELEGRAMS transmitted during the Year ended 31st March, 1881.

Department.						Value.		
						£	s.	d.
Colonial Secretary	...	...	...	...	...	2,879	8	8
Customs	...	...	...	...	...	565	10	0
Defence	...	...	...	...	...	4,992	12	4
Judicial	...	...	...	...	...	2,674	15	0
Postal	...	...	...	...	...	3,781	5	4
Registrar-General	...	...	...	...	...	211	11	8
Treasury	...	...	...	...	...	2,148	12	4
Public Works	...	...	...	...	...	6,847	13	8
Shipping Reports	...	...	...	...	...	1,641	4	4
Weather Reports	...	...	...	...	...	1,278	10	4
Total	...	...	...	...	...	27,021	3	8

TABLE L.

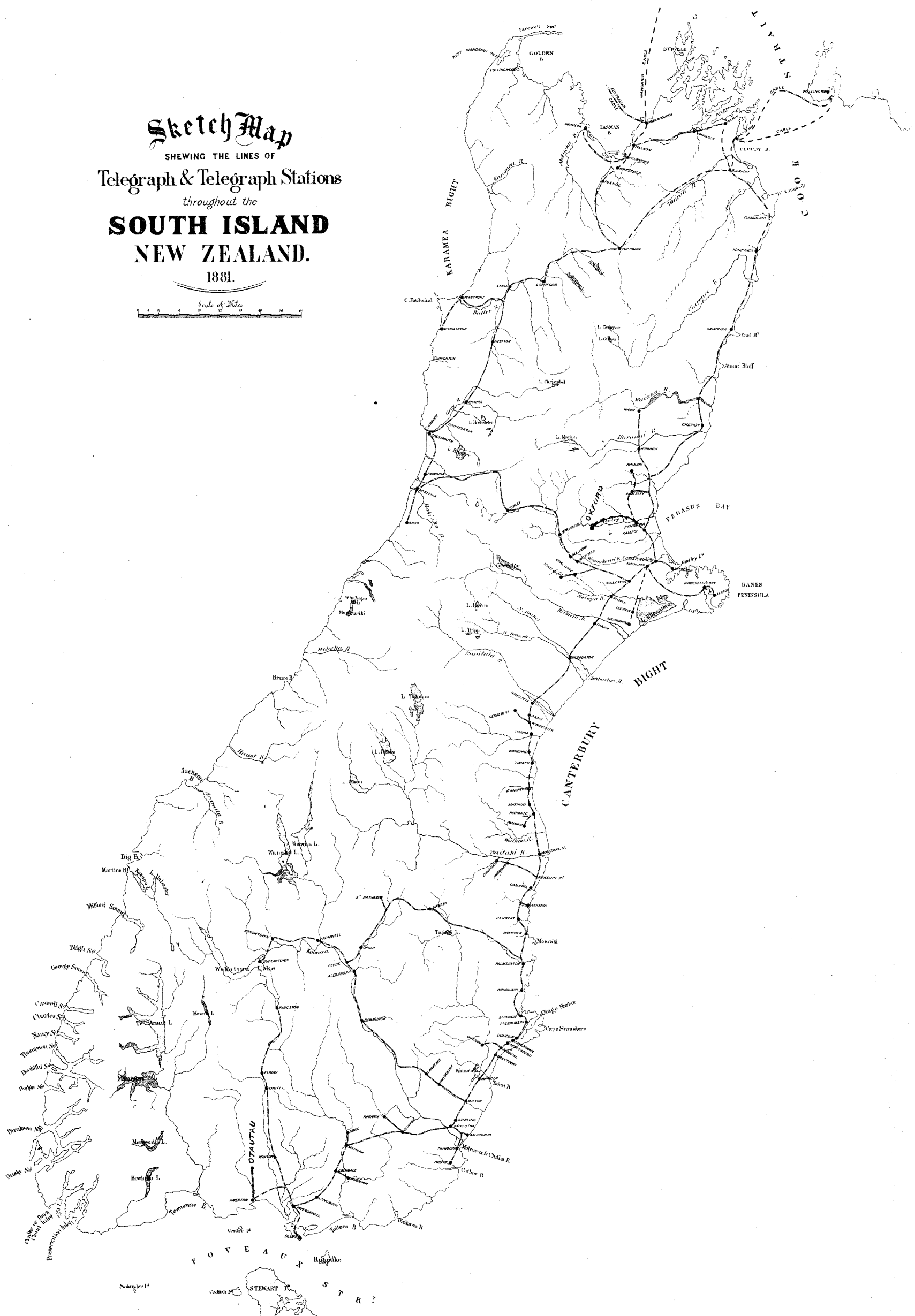
DEBTOR and CREDITOR STATEMENT.

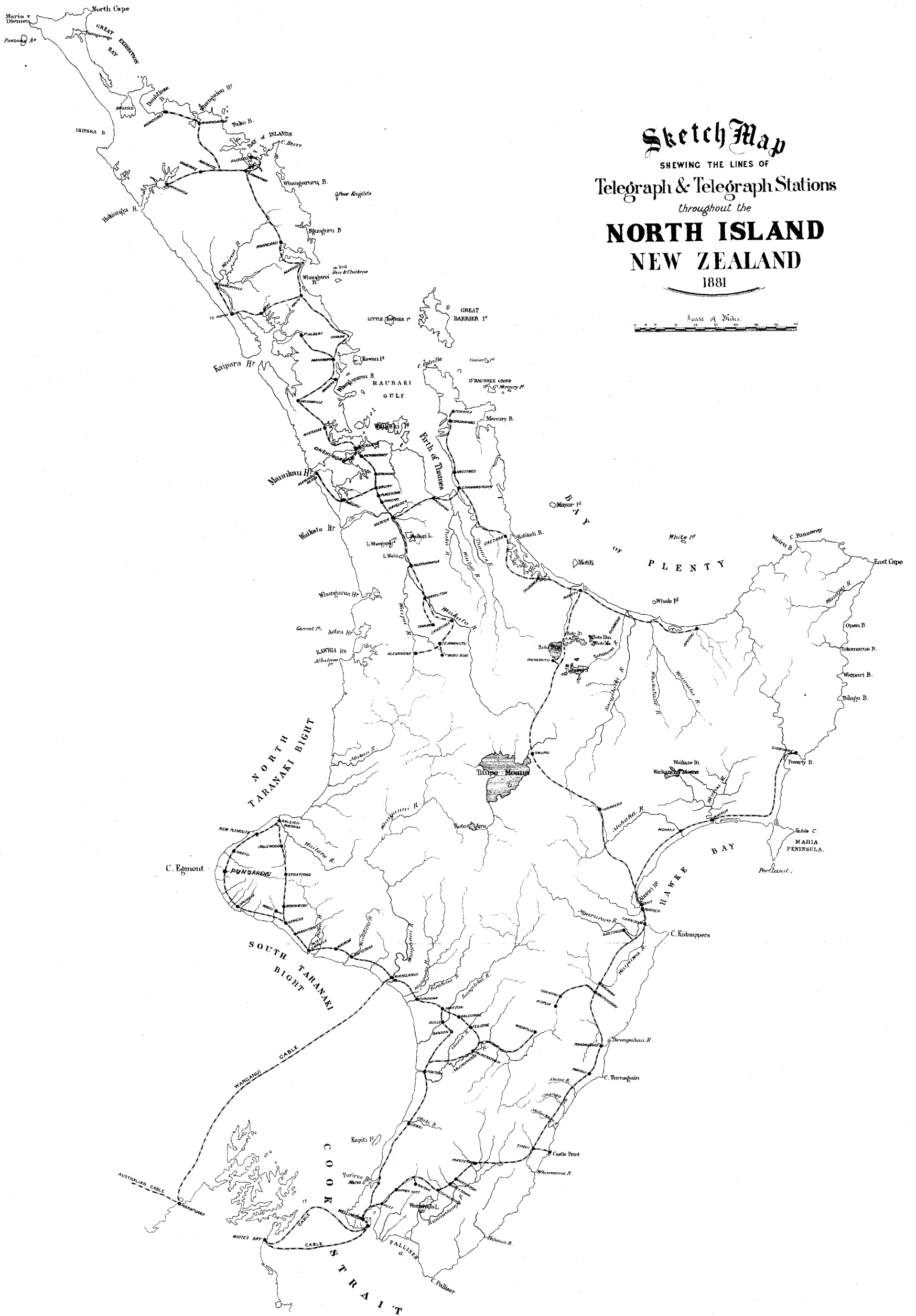
DR.			CR.		
	£	s. d.		£	s. d.
To Total cost of maintenance of stations	...	77,324 1 8	By Cash receipts as under :—		
Total cost of maintenance of lines	...	23,154 8 3	Ordinary and Press telegrams*	...	69,634 12 7
			Incidental receipts not included in tables,—		
			Excess on ordinary telegrams	73 4 0	
			Collections for copies and search of telegrams	19 8 6	
			Amount collected by Postal Department for money-order telegrams	724 17 0	
			Proceeds of sale of condemned line, horses, sundry material, &c.	635 12 8	
			Amount recovered for subsidies on account of private lines	153 9 3	
			Amount recovered on account of guaranteed stations	90 16 0	
				1,697 7 5	
			Special-wire subsidy for Press purposes	1,647 8 4	
			Recoveries on account of mid-night cable service	22 13 8	
				1,670 2 0	
				73,002 2 0	
			Value of General Government telegrams...	27,021 3 8	
				100,023 5 8	
			Balance	455 4 3	
				£100,478 9 11	
				£100,478 9 11	

* Of this amount £1,634 11s. 6d. was collected in postage stamps.

Sketch Map
 SHEWING THE LINES OF
 Telegraph & Telegraph Stations
 throughout the
SOUTH ISLAND
NEW ZEALAND.
 1881.

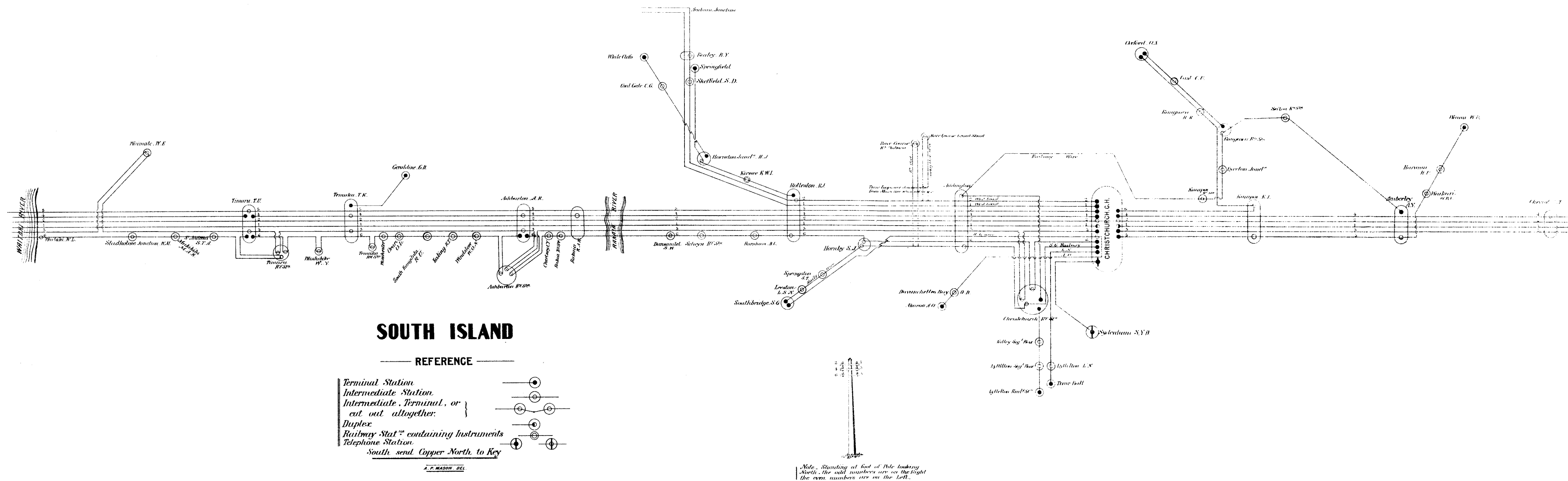
Scale of Miles
 0 10 20 30 40

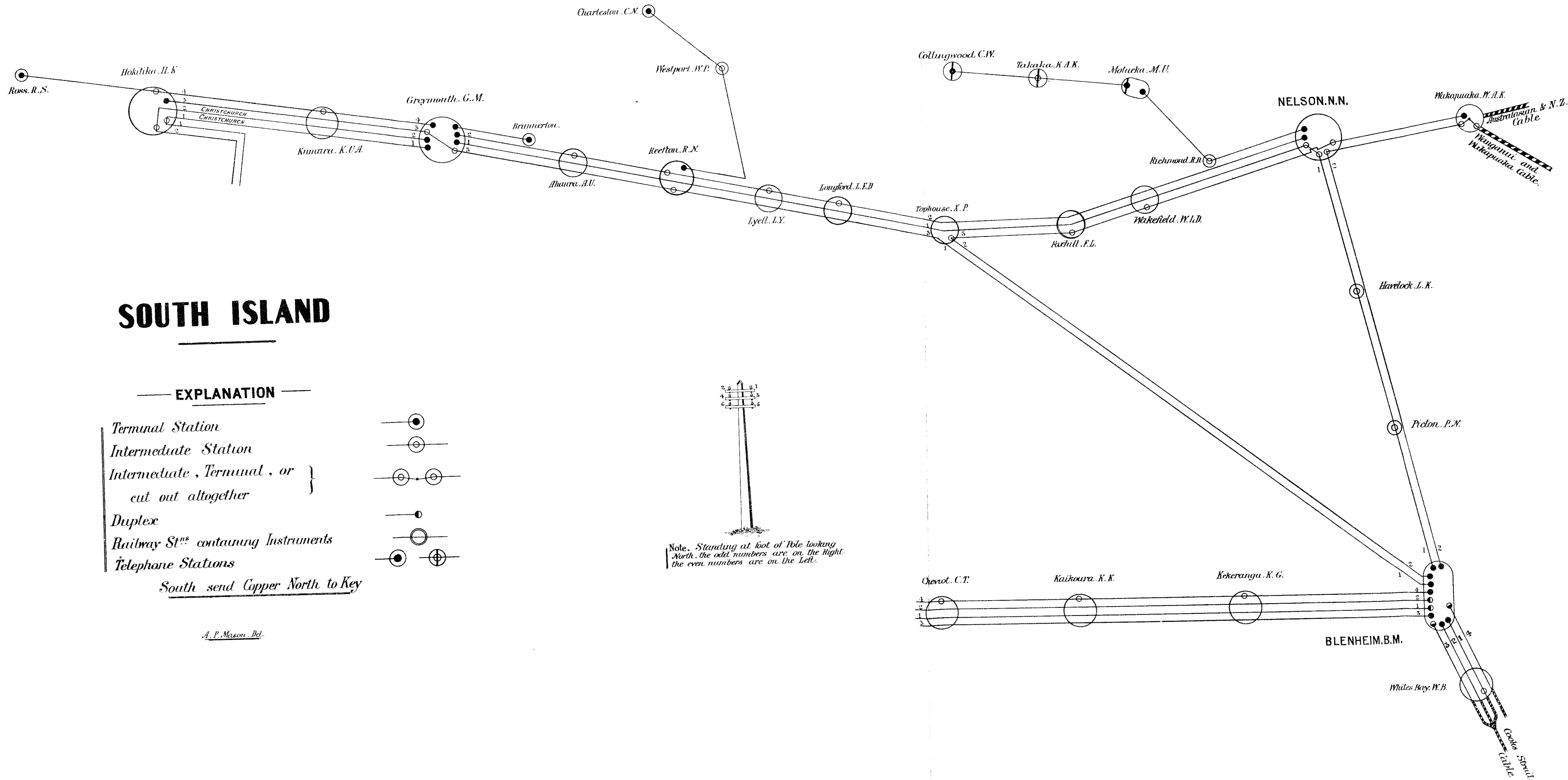


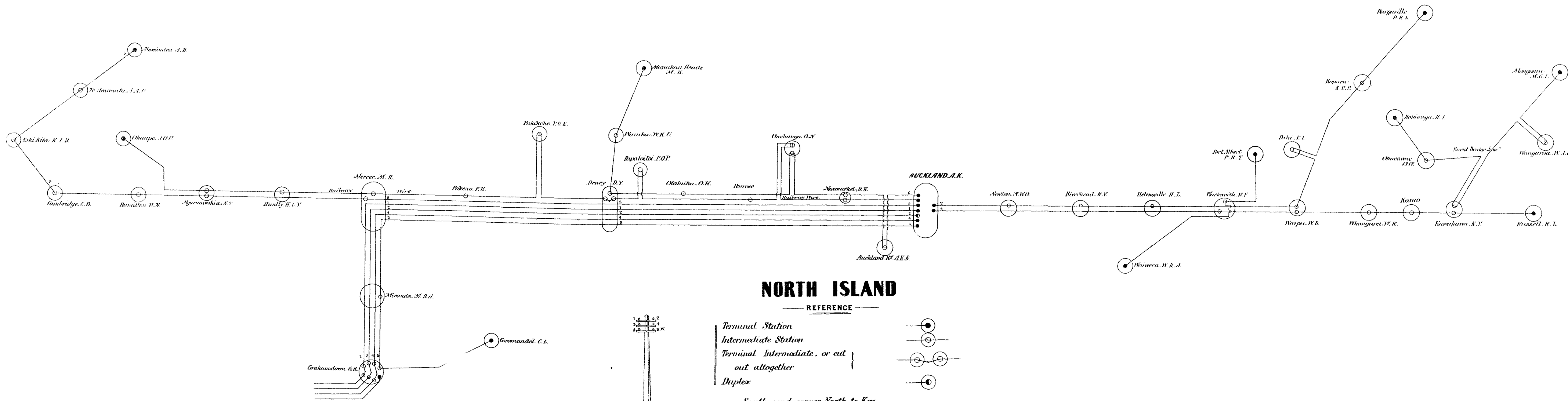


Sketch Map
SHEWING THE LINES OF
Telegraph & Telegraph Stations
throughout the
NORTH ISLAND
NEW ZEALAND
1881

Scale of Miles.







Note - Standing at foot of Pole looking North, Nos 2 & R.W are on the Right and Nos 1, 3, & 5 on the left.

