1875.

NEW ZEALAND.

PUBLIC WORKS STATEMENT,

BY THE MINISTER FOR PUBLIC WORKS, THE HON. EDWARD RICHARDSON,

3RD AUGUST, 1875.

MR. SPEAKER,—

I propose this evening somewhat to change the course I have adopted on the two previous occasions on which I have had the honour to make annual Statements of the proceedings of the Public Works Department.

I do not propose to go so much into detail on the several portions of work throughout the country; as I find that to carry out my original intention in that direction would not only extend this Statement beyond the limits of endurance of honorable members, but involve much repetition from the Reports of the Engineer-in-Chief and the other officers of the department attached as appendices to this Statement.

I have likewise attached a series of tables very similar to those of previous years. These—with the annual reports of the Engineer-in-Chief, the Assistant Engineer-in-Chief, the Superintending Engineer for Constructed Railways, and the Colonial Architect; also, from the Geological Department, relating principally to coal, and from the Chief Inspector under the Inspection of Machinery Act, together with maps showing the progress of the various works,—will fully inform honorable members on every detail, and to the whole I request their earnest attention.

It is only now for the first time that I am able to speak with any degree of certainty as to the cost of the various railways. It will be remembered that in 1872, on the occasion of the large appropriation for the construction of the railways throughout the country being proposed by my predecessor, Mr. Ormond, he laid great stress on the fact that all the estimates then made were only approximate; and also, that when making my annual Statements in 1873 and last year I expressed the hope that the appropriations would, with few exceptions, be found sufficient. During the past two years the detailed surveys of nearly all the railways have gradually been completed, and I now find myself in a position to state to the House how far the approximate estimates—which in 1872 were only made from preliminary surveys—have proved reliable.

I propose briefly to remind the House of the action taken by the Public Works Department in previous years; and my object in doing so is to show how satisfactory are the results of the large railway works undertaken by the colony.

By the Railways Act of 1872, appropriations to the extent of £3,886,900 were taken, which it was supposed would suffice for the construction of 764 miles of railway;—278 miles being in the North Island, and 486 in the Middle Island. Further appropriations were taken in 1873, amounting to £1,680,000, and additional small appropriations in 1874—the total being £5,777,900 for the construction of 1,010 miles of railway;—370 miles in the North Island, and 640 miles in the Middle Island.

Now that the actual lengths and cost can be correctly estimated, it is found that to complete the lines in the North Island—omitting 24 miles between Featherston and Masterton, to which I shall refer presently—there will be required a further appropriation for some of them of £142,400, while on the other lines there will be a balance of appropriations not required amounting to £50,000.

It is also found that, for the completion of the lines in the Middle Island, there will be required additional appropriations on some of them to the extent of £265,000; and that there will on the others be a balance, already appropriated but not required, of £43,319. For the completion of the whole of the railways now authorized,—always excepting the length from Featherston to Masterton,—there will thus be required to be newly appropriated a sum of £407,400, with a balance of excess of votes of £93,319, thus only really increasing the present appropriation by £314,081.

The total appropriation will therefore be £6,091,981 for the completion of 991 miles of railway fully equipped; 100 miles being of a much more permanent character than previously contemplated.

It is worthy of remark that, with three notable exceptions, one in the North and the others in the Middle Island, the lines as a whole will be constructed for an average cost of about £5,600 per mile; the former being the Wellington to Featherston, and the two latter the Port Chalmers and the Dunedin to Moeraki. These will cost about £10,000, £27,600, and £9,000 per mile, respectively. Of the above 991 miles of railway, we now have open for traffic 278 miles; but there will, in all probability, be opened during the next three months a further length of 173 miles, and before the end of the year it is anticipated 116 additional miles will be ready for opening.

The excess in the cost of completing the several railways will readily be understood when the rise in the rates of labour and material, the still greater rise in the price of timber, and the very heavy cost of transhipment, are taken into account. And still more readily will this be understood, when it is borne in mind that the rise in Home prices forced a large portion of the permanent way to be contracted for at rates no one could possibly have anticipated in 1872; that circumstances have necessitated an expenditure of £120,000 in fencing beyond the original estimate; and that the Government have had in some cases to pay a very high price for the land required for the railways.

I desire particularly to remind honorable members that the estimates made in 1871 and 1872 of the traffic to be carried on the various lines, were at the time generally considered far in excess of what was likely to be realized when the railways were opened. But what has been the result? Why, that the traffic on all the lines is very greatly in excess of those estimates. On this becoming evident, soon after the close of last session, the Engineer-in-Chief very properly pointed out to the Government, that, to avoid the certainty of the carrying capacity of the railways being totally inadequate for the traffic, very large additional rolling stock must be at once ordered in anticipation from England. The Government, knowing by previous experience that it took nearly two years to get out from Home any large quantity of stock, adopted the Engineer-in-Chief's suggestion, and at once sent Home an order for additional rolling stock to the value of £96,000, feeling sure that the House would approve of their action in the matter.

The Engineer-in-Chief also at the same time pointed out that, as the price of iron was falling fast at Home, it would be advisable, in the face of the much larger traffic than was expected when the railways were first proposed, to provide heavier rails on those lines where there were steep gradients and sharp curves. The Government adopted this advice to a certain extent, and sent Home qualified orders for a limited tonnage of rails 52 lbs. to the yard, instead of 40 lbs., the standard weight that had been adopted; and the result is that we are now getting out about 100 miles of rails of the heavier description, a considerable proportion of which will be used in the Wellington Province, and the balance on the line to the North of Dunedin.

The rails will arrive much faster than was intended when the order was sent Home, owing to the Agent-General having, in the exercise of his discretion,

thought it best to take advantage of the comparatively low rates prevailing in March last.

While on the subject of the importation of railway plant, I think it as well to refer to the charges which have been very freely made during the past year as to the bad quality of the material. As far as experience has shown at present, there is very little to complain of. The orders sent Home have been very well executed on the whole. In addition to the inspection which takes place in England, everything is so closely examined in the colony, that wherever there is any room for complaint it is at once made, and claims for remedying the evils are sent Home. In almost every instance the amounts claimed have been at once recognized and paid, or fresh material sent out free of cost.

Although many of the works have not been proceeded with as expeditiously as was contemplated last year, it will be found that a very large amount of work has been done. Where delays have occurred in completing some of the contracts, they have not arisen from want of pressing on the part of the officers of the department. In spite of the very large accession to the labouring population of the colony during the greater portion of the year, there has scarcely been a locality where contractors have been able to procure a sufficient supply of labour, and to this cause the delays that have taken place are mainly to be attributed.

From almost every district where railways have been authorized, urgent demands have been received to press on the works faster than they have been proceeded with. It has been the duty of the Government to be careful not to place too much work in the market, and so further force up the rates of labour. For the same reason it has been considered better to extend the time for completion on several contracts. Although in every contract there are penalties for non-completion, a large amount of discretion has been used as to their infliction. Speaking generally, they have only been enforced where it has been shown that the contractors have not really endeavoured to procure labour and materials for their work, or where the Government have suffered directly by the delays so incurred.

I will only add, Sir, that I trust the House will not urge this or any Government to enter upon the construction of any extension of the railways already authorized, or of any new ones, until they have the assurance that the lines have been properly surveyed, and reliable details procured. I attribute, in a great measure, to the departure from this rule, the additional cost which has been incurred in several directions,—a cost which would undoubtedly have been saved had sufficient time been allowed in the first instance for proper surveys to have been made.

I shall avail myself of the opportunity of the second reading of the Railways Bill to refer in detail to the increased votes the Government intend to ask for, and only allude here to the principal items.

First, the Auckland and Mercer line now open. The excess of £20,000 is mainly caused by the large cost of the station buildings (particularly those in Auckland), an additional supply of rolling stock, and a bonus to the contractors, Messrs. John Brogden and Sons, who have expedited their work on this line very much during the past year, and saved four months on the contract time.

The Napier and Waipukurau line also cost some £20,400 more than is already appropriated for it, the excess being mainly attributable to the amount of bridge work being so much greater than was at first estimated for, together with large additions to the rolling stock. A considerable additional length of this line will be open for traffic during the current year.

Owing to the evident failure of the Manawatu tramway to resist the heavy traffic upon it, the Government decided last November to abandon the idea of using wooden rails in the extension of the Napier line to Takapau, and to substitute iron rails, and the House will be asked for the requisite funds for this purpose.

The Manawatu tramway, which was last year authorized to be converted into a railway, will require a further vote of £24,000, making a total cost, including previous votes, of £84,000 for the 25 miles of railway, including station buildings and rolling stock. In asking for the vote last session, it was anticipated

that the wooden rails would have lasted until next year, but the traffic has proved so heavy that it is questionable whether the line can be kept open during the remainder of the winter. The iron rails intended to be used for this line are only now beginning to arrive, but meanwhile a few miles have been borrowed from other lines to enable the re-laying of those portions where the wooden rails were most worn. During next summer the whole will be completed.

The largest additional vote in the North Island is required for the Wellington and Featherston line. I regret that on two of the contracts on this line so much progress has not been made as was expected. The difficulty of carrying on work in the densely timbered country this line passes through, is such that it is very questionable whether the contractors will be able to complete their sections in anything like the contract time. There has been considerable local uneasiness owing to the work not progressing faster, and the Government have been urged to offer bonuses to hasten it. Had the Government found that such a course would have been of any service bonuses would have been readily offered; but as it would not have advanced the work the Government have felt that to make the offer would have been useless.

The nature of the work on this line has proved even more expensive than was contemplated last year, and now that the detail-estimates have been completed it is found that a considerable sum will be required to take the line to Featherston. The Government will ask for £59,000 for the completion of the line to Featherston. This sum will cover a large additional supply of rolling stock ordered from England, also the cost of laying the line all the way through, from the commencement of the heavy works, with rails of 52 lbs. to the yard instead of 40 lbs. The line cannot be completed before the end of 1876—probably the middle of 1877.

The branch connecting the sections now under contract, both on the north and south side of the Wanganui River, with the town—a distance of two miles—will shortly be surveyed. Although not included in the estimated cost of either of the lines on to which it joins, the necessity for its construction, in order to develop traffic on those lines, has always been admitted. The cost of this branch, with the necessary terminal accommodation, has been roughly estimated at £50,000; but an alternative line has lately been suggested which, it is hoped, will very greatly reduce this otherwise almost prohibitive cost.

The line between Wanganui and Manawatu is all surveyed, and those portions not under contract can be let as soon as circumstances render it desirable to do so. This line has proved to be five miles longer than originally estimated for. About 20 miles will be ready to open by April next.

The Waitara and New Plymouth line will probably be opened for traffic in September. The surveys are completed for 13½ miles southwards towards Patea; and from Wanganui northwards a section of 8½ miles is under contract, and a further length is now under survey.

On the Nelson and Foxhill Railway, which is expected to be opened in about three months, it has been found necessary to expend or incur liabilities to the extent of £13,000 beyond the present appropriation. The excess is principally on the three items of fencing, land claims, and bridgework.

On the Picton and Blenheim line there is a large additional expenditure. From the first every endeavour has been made to keep down the cost of this line; but, owing to the heavy floods to which the country through which it passes is liable, much more bridgework has been found necessary. It has also been found necessary to increase the amount of ballast on the whole line. The station accommodation required will cost £9,000 beyond that provided in the original estimates. The cost of rails and land claims has also been £5,000 in excess of the estimated amount. The extra cost of bridging which is found to be necessary to take off the flood waters is about £18,000. The total extra cost will be £40,000; but if the extension from the present temporary terminus into the town of Blenheim is not constructed, only £25,000 will be required. The Government, however, will ask for £40,000.

Next is the Greymouth and Brunnerton Railway; and here again is a practical result of entering upon the construction of railways before detail surveys

and the fullest local information have been obtained, for to these causes is to be attributed the very large additional cost of the works.

The landslips have caused works to be executed costing £15,000 beyond what was estimated. The bridge over the Grey at the Gorge was intended to have been a simple wire tramway; but it is now, owing to the agreement with the Province of Nelson to take the coal direct from the mines to Greymouth in the railway trucks, being built as a suspension bridge, at a cost of £5,500 higher than the original estimate. There is a large additional amount of rolling stock provided for this line beyond that at first proposed, and the cost of transhipment of all the permanent-way materials and rolling stock has been exceptionally heavy; these two items amounting to £13,000.

The cost of land has also been £3,000 more than it was estimated at.

These items bring up the total cost of the line to £121,400; but out of this there is an expenditure of £20,812 for wharf accommodation.

Of the railways in Canterbury, there is still unfinished northwards the portion between the Ashley township and the North Kowai at Amberley.

The delay here has arisen from the extreme difficulty of getting sleepers, the whole having been contracted for, so far back as October 1873, to be shipped from the North of Auckland. The contractors there have signally failed, and the sleepers are being procured locally, but still very slowly. This line will, I hope, be open by the end of September, and will be completed within the estimate.

On the main line from the Selwyn to Ashburton River, after providing for a very large additional amount of rolling stock and ample station accommodation, there will be a saving on the appropriations of £17,419.

Between the Ashburton and Timaru the line will be completed within the appropriation; it is now open to the North Rangitata. In a few days it will be open to the south bank of the Rangitata by means of a temporary bridge over the river, built at the joint expense of the General and Provincial Governments and the railway contractors. Between the south bank of the Rangitata and Temuka the line is now being rapidly completed, although, owing to the failure of one of the contractors, much delay has taken place. From Temuka to Young's Creek the line is nearly completed, and from Young's Creek to Timaru it is ready for opening.

From Timaru southwards to the Waitaki the whole is under contract. The date of completion of the contracts now let is April 1876, but there will then remain 18 miles of plate-laying to be done between the Hook and the Waitaki Rivers.

The plans and specifications are ready for the Waimate branch, towards the cost of which the Canterbury Province has appropriated £5,000. It will be put in hand so as to have it ready for the plate-laying as soon as the main line is completed to the junction.

With regard to the branch lines in Canterbury during the past year, the whole of them have been opened for traffic, with the exception of the White Cliffs line and that from Kaiapoi to Eyreton. These are nearly finished. There is an additional expenditure of £16,000 on them, without the Waimate branch. This latter will cost £19,000, and Government will ask for a vote for its completion.

The Waitaki Bridge is very nearly completed, but it will require a further vote of £1,600, principally caused by the very high rates which have been paid for transhipment from Port Chalmers. The work has been very faithfully performed. The fatal accident which occurred to one of the contractors, who fell off the bridge and was drowned early in the year, and the many difficulties which have occurred, fully account for any little delay beyond the contract time which may elapse before the bridge is ready for opening. This bridge will have cost £76,600.

In the Province of Otago, the line from Waitaki to Oamaru is nearly finished, and, when the Waitaki Bridge is completed, will be ready to open from the station now in course of construction on the north side of the river to Oamaru. From Oamaru to Moeraki, the works are being carried on under Messrs. John Brogden and Sons. The works on the deviation alluded to last year at Moeraki have been delayed awaiting the arrival of the necessary timber from Western Australia. This

has now come to hand, and I hope the line will be completed by the middle of next year. There will be an additional expenditure to be provided for on this line amounting to £37,400. This is accounted for by the cost of the deviation at Moeraki, £18,500, a large provision of additional rolling stock, the great cost of transhipment both of permanent-way material and rolling stock, the cost of land, and the large provision which has been found necessary to be made for station accommodation at Oamaru. It must be remembered that the surveys for this line were not completed when the appropriation was taken in 1873, and therefore the estimates were only approximate.

From Moeraki to Dunedin, the contract plans and specifications are nearly ready for the whole distance; and from Blueskin Bay to the junction with the Port Chalmers Railway the line is under contract. Considerable difficulty has been experienced with one of the contractors, but I have no reason to suppose that any extra cost will be incurred thereby, or any serious delay. The appropriation for this line will be in excess of the requirements.

The Dunedin to Clutha Railway will probably be opened on 1st September. There is an additional outlay incurred to the extent of £46,000. The excess beyond the present appropriation is accounted for by the large expenditure on the central station at Dunedin, the exceptionally high rates paid for the permanent-way materials, a very large additional arrival of rolling stock, and the necessity for lining the whole of the Chain Hills tunnel.

On the Tokomairiro and Lawrence line, the works have been very much impeded by the bankruptcy of the contractor for the Glenore Tunnel. This work has been re-let, and I hope the whole will be completed before the middle of next year.

The contract plans are completed for the line from Clutha to Mataura, and the southern portion is under contract and well advanced. There will be an excess in the appropriation on this line.

The line from Mataura to Invercargill is just completed; thirty-two miles of it have been opened. There is an excess of expenditure incurred on this line, the principal items being the high price of rails, fencing to the extent of £6,000, the heavy slip which occurred, and the large station accommodation—amounting in the whole to £39,500.

Much of this expenditure might have been saved had some time been allowed for exploration and survey before the work was undertaken.

The works on the railway from Winton to Kingston are now progressing favourably. A considerable delay has taken place on the first length of this line, which is not altogether the fault of the contractor. About twenty miles are nearly ready for opening, and the remainder well in hand. There will be a small additional amount required to be appropriated, mainly due to additional rolling stock.

RAILWAYS OPEN FOR TRAFFIC.

I will now refer to the railways open for traffic. Those worked by the General Government have all, as soon as completed by the contractors, been placed by the Engineer-in-Chief under the immediate charge of Mr. Passmore, who was selected on account of the large practical experience he possessed in connection with the working of railways in other countries, and particularly with the narrow gauge and the working of heavy gradients.

This officer has had anything but an enviable task; but thus far, the Government have every cause to be satisfied with the way in which he has carried out the important work intrusted to him.

His first annual report (issued with this Statement) enters very fully into detail, and has some useful tables appended to it. From these it will be seen that the Wellington and Masterton Railway has yielded since its opening to the end of last year, a period of fourteen and a half months, an excess of £1,891 13s. 1d. over and above the working expenses. This is a result which must be considered highly satisfactory when it is remembered what a fragment of a line is open, that the present temporary terminus is inconveniently distant from the city, and that the line is so short as almost to preclude goods traffic.

The Napier and Waipukurau Railway has yielded, over and above working expenses for the eight and a half months since the opening, £2,028 9s. Considering how short a length of this line has been opened for traffic, the results are very encouraging.

The Auckland and Onehunga Railway has, during the past year, yielded £2,149 5s. 1d. over the working expenses. The portion from Penrose to Mercer, 38 miles, had only been opened for six weeks for passenger traffic, and about five weeks for goods traffic: indeed this portion of the line can scarcely be considered to have been in working order at the end of the year.

Taking these three items of profit, amounting to £6,069 7s. 2d., the annual yield on the capitalized cost will be a fraction over 2 per cent.

There is no doubt that for a few months the Auckland and Onehunga line was worked in a very unsatisfactory manner, as it was impossible for Mr. Passmore at once to arrange the preliminaries which were necessary for inaugurating a complete system, intended to apply to all the lines in the country.

During this period the then manager in charge at Auckland gave way to pressure from without the department, and made it very difficult to get matters into order. This has now to a great extent been accomplished, and I see no reason to doubt that the traffic will henceforth be carried on with due regard to economy and the public convenience.

There have been complaints as to the rates charged both for passengers and goods. But when I inform the House that the passenger rates for first-class are very slightly in excess of those charged on many of the English railways away from the large centres of traffic, and that in the second class they are below those similarly charged in England, I think that there is very little just cause for complaint.

The loudest complaints have been made as to the scale fixed for the line from Auckland to Mercer. Whether these complaints are justified I leave honorable members to judge for themselves from the following facts:—The length of the line is 43 miles, and on it there are several miles of very steep gradient. The first-class passenger fare for the whole distance is 11s., the second-class is 7s. 6d., and the rates charged for goods vary according to description, from 15s. 8d. to 12s. per ton. The coach rate for passengers between Auckland and Mercer up to the opening of the railway was 15s., and the wagon rate for goods from 60s. to 65s. These facts speak for themselves, and will, I think, be admitted to be a complete answer to the complaints that have been made.

I may here state that with a view to assist in developing the Waikato Mines it is intended to fix a special haulage rate for coal from Mercer to Auckland at 7s. 2d. per ton.

The supply of rolling stock now in the colony, together with that ordered from England, is considered to be ample for all possible requirements, and the workshops already started in Auckland will be able not only to provide for the repairs of all the stock on the lines centering in Auckland, but will also be able to construct the new stock which will gradually be required.

I have appended a statement showing the receipts and expenditure for the year ending 31st March on the railways in Canterbury and Otago, which show in the former a clear profit of £19,641 6s. 11d., and in the latter of £22,323 9s. 6d.

ROADS, NORTH ISLAND.

I shall now refer to the roads in the North Island.

The Assistant Engineer-in-Chief has very fully reported upon the various works which have been executed during the past year. As a rule these works have been confined to completing roads and bridges which were in hand at the end of last year.

The only road which calls for special attention is that between Masterton and the Manawatu Gorge. During the year a sum of £28,622 0s. 3d. has been expended, which has sufficed to complete the formation of the whole length of the road, with the exception of about one and a half miles now under contract, a few small bridges, and two large ones.

There have been 57 bridges built on this road, of an average length of 35 feet.

There now remains the metalling of the road, for the greater portion of which specifications are ready for calling for tenders. It is intended to put this work in hand in the spring, as also the construction of the bridges above referred to.

The total length of roads completed or in progress in the North Island remains about the same as it was last year, being 1,188 miles of dray road and 526 miles of horse road.

In the Province of Auckland there has been

	£	s.	d.	£	s.	d.
Expended to 30th June, 1875	163,822	10	2			
Liabilities to ditto	4,541	3	9			
				168,363	13	11

In the Province of Hawke's Bay there has been

Expended to 30th June, 1875	67,481	4	2			
Liabilities to ditto	2,732	17	0			
				70,214	1	2

In the Province of Wellington there has been

Expended to 30th June, 1875	159,941	11	2			
Liabilities to ditto	4,132	11	10			
				164,074	3	0

In the Province of Taranaki there has been

Expended to 30th June, 1875	74,998	13	7			
Liabilities to ditto	423	0	0			
				75,421	13	7

The bridge over the Manawatu River at the Gorge is one of considerable magnitude, being 428 feet in length. It is one of the largest in the North Island, and has been completed very satisfactorily by Mr. McNeil at a cost of a little over £12,000. It is suitable for both road and railway traffic, and has been open for the past two months.

The maintenance of many of these roads, more especially those in the unsettled districts, is a matter which, involving as it does considerable annual outlay, will require to be provided for. It is proposed to utilize, as far as possible, the services of the Constabulary for this purpose, and when these are not available other provision will have to be made.

ROADS, NELSON SOUTH-WEST GOLD FIELDS.

The works which have been executed in this district during the past year have not been of a very extensive character.

The total amount expended has been £63,283 0s. 2d., and there are liabilities to the amount of £1,913 15s.

The total length of road-work completed and in progress under the Immigration and Public Works Act of 1870 is 114 miles.

ROADS, WESTLAND.

There has been a total expenditure of £112,009 11s. 5d. on the roads in this district, and the total length of roads completed and in progress under the Immigration and Public Works Act is 135 miles.

The large expenditure on the Hokitika and Christchurch Road has been under the immediate supervision of the Provincial Engineer.

WATER SUPPLY ON THE GOLD FIELDS.

I shall now say a few words about the expenditure under the head of Water Supply on the Gold Fields.

The three large water-races which have been undertaken under the immediate supervision of the General Government have all of them proved to be much more costly undertakings than was anticipated. The original estimates, as I informed the House last year, were very much understated, and to enable the Government to complete them satisfactorily, I shall have to ask the House to vote a further sum of £41,000. This excess is caused mainly by the large expenditure which has been found necessary to secure the stability of the head works of the Nelson Creek and Waimea Races.

The same result has occurred on the large water-race at Naseby, which is being supervised by the Provincial Government of Otago, and the sum of £10,000 is required to complete it satisfactorily.

It would appear that, with all the precautions which have been taken to obtain reliable data previously to the commencement of these four great works, we have met with the same unsatisfactory results as have occurred in respect to similar undertakings in other parts of the world, and more particularly in India, California, and the adjoining Colony of Victoria.

Fortunately for us the works we have entered upon are not on such a large scale as in those cases to which I have referred, and the water-races we have undertaken will, if the House votes the necessary funds, be completed, and within a few months be made remunerative. But I am ready to admit that the late Government, of which I was a member, made a grave error in yielding to the pressure which was brought to bear upon it, and entering upon the construction of these races without more reliable data.

The surveys were made by men who were considered thoroughly capable of executing the work properly; and in such rough country as these races traverse, it is impossible to check them without great delay and large expenditure.

A new survey has been made, with great care, of the Mikonui Race, Westland, but I have not yet received the detailed estimates. At a later period of the Session, I hope to be able to lay a report on this race on the Table of the House.

PUBLIC BUILDINGS.

A reference to the Colonial Architect's Report will show that a very large number of public buildings of various descriptions have been erected under the direction of that officer, but the high prices of labour and material of all descriptions have compelled the Government to hold over all those which the requirements of the public service permitted.

COAL EXPLORATION.

During the past year the topographical survey of the Buller Coal Field has been proceeded with as rapidly as possible, and the plotting of all coal outcrops has been going on cotemporaneously with it. The survey of the tract of country between the Ngakawau and Mount Rochfort, and bounded on the East by the Mount William Range and the Cascade break, and on the West by the sea face, has been completed.

The explorations which have been carried on up to this time on the Buller Coal Field have developed to a considerable extent the known quantity of coal which exists.

A rough estimate of the quantity in the area yet surveyed gives as much as 140,000,000 tons of coal. This occurs over the greater part in seams of from 20 ft. and upwards, attaining at one point a thickness of 53 ft. These seams require to be worked in a special manner, and to insure the maximum yield of coal it would be necessary for the mines to be worked subject to inspection.

The work done by parties to whom prospecting licenses have been granted has been very small, but the coal field cannot be opened up until the line is extended as far as the Ngakawau, to which point the trams for working the higher levels will have to be taken.

The brown coal of the Kupakupa mine on the Waikato is still being steadily worked, the seam holding about 18 feet in thickness.

At Raglan the coal formation again appears, and there is little doubt that coal will be struck at a comparatively small depth in this neighbourhood. If the magnetic sands of the district could be utilized at the same time, impetus would be given to the place, which it sadly requires.

Near the Miranda Redoubt coal also occurs, varying from 16 feet to 18 feet in thickness, and is of the same quality as that at Kupakupa. It is an outlier of the Waikato coal, and could communication be established with the Frith of Thames, it might be worked to advantage for the supply of that place.

A band of clay ironstone about 3 feet thick, and returning 39·56 per cent. of metallic iron, also occurs here overlying the coal. It is of a good useful quality

and merits attention. Several pits have been sunk on this property proving the extent of the coal, but at present nothing is being done towards forming a company to work it.

In Shakespeare Bay, Picton, coal has been reported to occur, but an examination of the country does not give any prospect of coal being found there in workable quantities.

The almost inexhaustible coal fields in Otago are now being worked to a comparatively large extent, and with the facilities that will be immediately offered by the railways in course of construction, the development of these mines will be rapidly extended. The same remark applies to the coal fields in Canterbury and the neighbourhood of Greymouth.

INSPECTION OF MACHINERY.

Shortly after the close of last Session, steps were taken to bring into operation the Act for the Inspection of Machinery. The Inspector of Marine Steam Engines was appointed as Chief Inspector under the Act, and four Inspectors were appointed under him.

From the report of the Chief Inspector, it will be seen that machinery of various descriptions, in 351 establishments, have been inspected, and 513 steam boilers.

Several small defects have been found in the Act, which it is proposed to amend this Session. The fees for inspection in some cases are too high, and in others not sufficient.

The amount of fees collected under the Act for the six months ending 30th June last was £903, and the expenditure £824 12s. 9d.; but while the expenditure will rather increase during the next six months, the receipts will be considerably less.

The Government consider that while no attempt should be made to create a revenue from this source, the fees should be made to pay all the necessary expenses of carrying out the Act.

As a rule, the owners of machinery of all classes have signified their approval of the Act, and there is no doubt that the Inspector's recommendations have been of much service; and if the provisions of the Act are carefully carried out in the future, very great benefit must accrue to the public.

NEW WORKS.

The Government consider that the only appropriations which should be taken this year out of the balance of the loans authorized to be raised are those for works which will tend to render the railways already authorized to be constructed more complete, and that any further extensions should be postponed until, at all events, the greater proportion of the railways now in course of construction are open for traffic. I feel convinced, from the satisfactory results shown by those already open, that there will then be no difficulty in raising whatever funds may be necessary to further extend the main trunk lines.

At Auckland workshops have been erected, on which about £12,000 has been expended, and before they are completed about £3,000 more will be required. No vote has yet been taken for this expenditure, and we shall ask for £15,000.

The extension of the Napier and Waipukurau Railway was authorized as a tramway; but as the experience of the Manawatu Tramway showed the Government that it would be a great waste of money to lay down wooden rails, they determined to ask the House to convert this line into a railway at once; and for this purpose, including the necessary stations and rolling stock which has been ordered from England, a sum of £27,000 is required.

Between Manawatu and Wanganui votes were taken for an estimated length of 58½ miles; but on completion of the plans it is found that the length is five miles in excess of that estimate, and we therefore ask for £30,500 to finish it.

The Government knowing that it was the intention of Parliament that the Wellington and Masterton line should be constructed as far as Masterton, a vote is proposed to be taken for that purpose. As already described, on completion of the contract surveys it has been found that a large additional vote is required to

take the line to Featherston, leaving twenty-four miles between that town and Masterton unprovided for; and although that length cannot be undertaken before the year 1877, still they consider that a vote should now be taken to complete it, and they will accordingly ask for £120,000 for that purpose.

There is also the terminus at Wellington to be provided for. This, including the reclamation, will cost £35,000, and a Railway wharf must be built, the estimated cost of which is £25,000.

In addition to these amounts, there is a vote of £5,000 required for a small workshop, immediately wanted. It is proposed to build this in such a manner as to be capable of easy extension.

To complete the line inland from the Waitara to the township of Inglewood will require an appropriation of £35,000. Seeing how rapidly the settlement of this district is proceeding, the Government will ask for a vote to that amount.

The Government hope to be in a position to submit to the Assembly at its next Session estimates of the cost of completing the portions of the Main Trunk Railway through the North Island between Wanganui and Taranaki, and Masterton and Manawatu and Napier. Survey parties are now engaged on these routes, and although the cost of completing these railways will be very large, still the Government are satisfied there will be no difficulty in raising the necessary funds when the railways now in hand are finished and the extension can be undertaken with economy.

The Westport and Mount Rochfort Railway is now so far progressed that provision must at once be made for shipping coal and protective works; and the amount originally estimated by the Engineer-in-Chief will be asked for—£30,500. The plans for this work are already prepared.

At Port Chalmers a new passenger station is absolutely essential, and will cost £10,000. This sum includes the refund of the cost of the reclamation undertaken and completed by the province.

The only other vote it is proposed to ask for is for the workshops at Dunedin. There has been already expended on these shops about £9,000, but before they are completed, with all the necessary sidings, they will cost the same as those in Auckland, viz. £15,000.

I promised last year that a survey should be made if possible to enable the Government to decide which was the best route for a railway to join the East and West Coast of the Middle Island. The Engineer-in-Chief was fortunate in securing the services of Mr. Foy, an engineer of considerable experience for this service. He has traversed a great extent of country during the recess, and has furnished data sufficient to enable the Engineer-in-Chief to express an opinion that the best route for a railway from the West to the East Coast, north of Hokitika, is from Greymouth *viâ* the River Ahaura to the Tutaikurae, over the Hope Pass, thence along the Hope and the Waiau-au to where that river would be crossed by the extension northwards of the main trunk line.

I shall in a few days lay upon the Table a full report on all the lines traversed in this direction, as also on two routes which have been traversed from Amberley northwards to Blenheim *viâ* Jollies' Pass.

The two last-named routes are through very rough country, and in which it would be very inexpedient to attempt to construct a railway at the present time.

It is proposed to have the alternative route by the East Coast surveyed as soon as the department is in a position to undertake it.

Then the Government will be in a position to come to some conclusion on the subject, but at present they are not able to recommend any action in this matter to the Assembly.

In concluding this Statement, the House will no doubt wish to be informed, in few words, of the expenditure on the principal Public Works up to the end of the year just terminated. During the past year the expenditure on Roads has been £123,958 15s. 8d., in addition to a total expenditure to 30th June, 1874, of £508,787 16s. 4d.; on Railways the expenditure for the year has been £1,997,165 3s. 9d., in addition to £1,994,256 10s. 5d. previously; and on Water Races there has been £113,335 18s. 2d. expended, in addition to £101,352 18s. 3d.: the total expenditure to the 30th June last for each of the above class of Works being,

on Roads, £632,746 12s.; on Railways, £3,991,421 14s. 2d.; and Water Races, £214,688 16s. 5d., giving a total expenditure of £4,838,857 2s. 7d. The liabilities on these respective works were, at the same date—Roads, £23,132 2s. 7d.; Railways, £1,620,365 5s. 10d.; and Water Races, £137,072 6s. 1d., making a total liability on those works of £1,780,570 14s. 6d., and of expenditure and liabilities £6,619,427 17s. 1d. I should add that the greater portion of the expenditure of the liabilities above mentioned, together with the amount of the new services I have laid before you this evening, will be distributed, as stated in my honorable colleague's Financial Statement, over a period of two years.

But we have not only the expenditure side of the question before us to-night, we have also the beginning of the return which the larger portion of the expenditure on railways will produce. I have stated that on all the lines opened for traffic a very gratifying profit has been received, more especially when the fragmentary character of some of those lines is taken into account. Now, Sir, with the working of those short lengths before us, I think there is no room for any gloomy forebodings as to the financial success of the railway system adopted by the colony. Even at present the easy and certain communication the railways afford has greatly assisted settlement in the country districts, and this constantly growing element of settler-population must furnish a corresponding increase of traffic, as the lines in course of completion open up country hitherto cut off from a market by reason of the cost or difficulty in communicating therewith.

If further evidence of the probable paying results of our railway expenditure should be needed, I ask the House to turn to the table appended hereto, as reprinted from the annual report of the Commissioner of Railways in Victoria, for the year 1874. I have had that table reprinted because I think it is calculated to inspire great confidence in the minds of honorable members. It shows that in the year 1874 there were open in the Colony of Victoria 441 miles of railway, the total cost of which was £11,557,484; the average cost per mile was £26,207; the gross receipts from all sources were £851,042; the working expenses were £374,715; and the net income was £476,327, being interest at the rate of 4·12 per cent. on the total capital. Now, Sir, we, in New Zealand, shall have 991 miles of railway for the total cost of £6,091,981, or at the rate of about £6,000 per mile. After making full allowance for the difference in the population of the two colonies, and the extra expense involved in the working by our having three or four great centres of traffic instead of one as in Victoria, I cannot but think that honorable members will agree with me in believing that the comparative difference in cost, which is more than at the rate of £20,000 per mile in favour of New Zealand, leaves such a margin as will insure very satisfactory results to the railways in this colony.

The House will have already judged from what I have said that the policy of the Government is to complete all the lines now in hand, and get them into thorough working order. It will then be seen where extensions are most wanted to further open up the country. Meanwhile, large as the liability is which has already been incurred for railway construction, I am sure that if the railways are but prudently managed, the result will be such as to make it very easy for succeeding Governments to raise whatever further sums may be required for any railways it can be shown will help the settlement of the country —the one main object which has been kept in view since the commencement of what has been styled the Public Works and Immigration policy.

Sir, I have trespassed on the time of the House very largely on two similar occasions in previous years, and I am sure I have to-night sorely tried your patience and that of honorable members, but the importance of the occasion is such as to warrant me in extending my remarks to the length I have done. It now only remains for me to thank you, Sir, and the House, for the consideration you have shown to me.

NORTH ISLAND
OF
NEW ZEALAND
SKETCH MAP

Public Works Department
1875.
JOHN CARRUTHERS M.I.C.E.
ENGINEER IN CHIEF.

MIDDLE ISLAND
OF
NEW ZEALAND
SKETCH MAP

Public Works Department

1875.

JOHN CARRUTHERS M.I.C.E.

ENGINEER IN CHIEF.

No. 1.—ROADS AND TRAMWAYS—NORTH ISLAND.

RETURN of CLASSIFIED EXPENDITURE for SURVEY and CONSTRUCTION, from 1st July, 1874, to 30th June, 1875.

LINES OF ROAD.	BY CONTRACT AND PIECE-WORK.			BY DAY LABOUR.			Exploration, Survey, Cutting Tracks and Lines, Supervision, Tools, Materials, and Contingencies.	TOTALS.	LINES OF ROAD.
	Colonial Forces.	Natives.	Others.	Colonial Forces.	Natives.	Others.			
AUCKLAND.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	**AUCKLAND.**
BAY OF ISLANDS :—									BAY OF ISLANDS :—
Mongonui—Victoria Valley ...	...	...	...	...	...	...	17 12 0	17 12 0	Mongonui—Victoria Valley.
Waimate—Waihau	...	109 10 0	...	...	...	...	...	109 10 0	Waimate—Waihau.
Awanui—Ahipara	...	238 0 0	121 0 10	...	...	...	10 10 0	369 10 10	Awanui—Ahipara.
Wairoa—Kaikohe	...	507 1 11	...	...	16 4 6	...	141 11 1	664 17 6	Wairoa—Kaikohe.
Keri Keri—Mongonui... ...	...	57 18 0	1,017 0 0	...	...	...	50 14 10	1,125 12 10	Keri Keri—Mongonui.
Mahurangi—Port Albert ...	...	...	3,625 15 6	...	...	...	382 1 2	4,007 16 8	Mahurangi—Port Albert.
Awanui—California	...	...	48 0 0	...	...	...	...	48 0 0	Awanui—California.
Okaihau—Utukura	...	40 0 0	...	...	...	...	...	40 0 0	Okaihau—Utukura.
Mangapai—Wairoa	...	...	...	...	...	...	46 8 0	46 8 0	Mangapai—Wairoa.
Waitangi—Hokianga	...	238 12 0	2,180 19 0	...	...	...	27 19 6	2,447 10 6	Waitangi—Hokianga.
Kawa Kawa—Whangarei ...	...	171 11 6	373 0 0	...	3 0 0	...	60 15 6	608 7 0	Kawa Kawa—Whangarei.
Bay of Islands	...	...	...	...	...	...	241 1 8	241 1 8	Bay of Islands.
	...	1,362 13 5	7,365 15 4	...	19 4 6	...	978 13 9	9,726 7 0	
NORTH OF AUCKLAND	...	...	603 10 10	...	...	16 18 0	1,725 12 4	2,346 1 2	NORTH OF AUCKLAND.
MANGERE BRIDGE	...	...	5,719 17 6	...	...	...	128 17 2	5,848 14 8	MANGERE BRIDGE.
WAIKATO :—									WAIKATO :—
Mercer—Cambridge	...	...	460 10 7	...	...	1,352 2 7	367 15 8	2,180 8 10	Mercer—Cambridge.
Newcastle—Alexandra... ...	...	...	...	...	...	...	0 12 10	0 12 10	Newcastle—Alexandra.
Waipa—Raglan	...	...	...	...	...	...	45 5 0	45 5 0	Waipa—Raglan.
Raglan—Aotea	...	130 0 0	...	...	...	...	47 15 0	177 15 0	Raglan—Aotea.
Waikato District	...	...	...	...	...	...	809 9 6	809 9 6	Waikato District.
	...	130 0 0	460 10 7	...	...	1,352 2 7	1,270 18 0	3,213 11 2	
BAY OF PLENTY :—									BAY OF PLENTY :—
Tauranga—Te Papa	...	...	35 0 0	...	...	...	3 0 0	38 0 0	Tauranga—Te Papa.
Tauranga—East Cape	...	69 0 0	1,865 15 0	...	30 15 0	...	3 15 3	1,969 5 3	Tauranga—East Cape.
Rotorua—Tarawera	137 4 0	18 10 0	5 5 10	...	...	5 19 0	12 8 2	179 7 0	Rotorua—Tarawera.
Tauranga—Ohinemuri... ...	54 0 6	141 10 0	1,557 19 6	...	...	6 0 0	172 4 0	1,931 14 0	Tauranga—Ohinemuri.
Tauranga—Tapuaeharuru ...	47 10 0	1,037 3 0	1,181 2 7	...	82 7 0	91 4 4	304 13 10	2,744 0 9	Tauranga—Tapuaeharuru.
Maketu—Rotorua	...	80 9 0	...	...	...	...	...	80 9 0	Maketu—Rotorua.
Whakatane—Te Teko	94 1 0	211 2 6	75 10 9	...	...	...	61 2 0	441 16 3	Whakatane—Te Teko.
Opotiki—Gisborne	...	112 19 0	872 10 2	...	83 11 0	42 6 0	132 13 5	1,243 19 7	Opotiki—Gisborne.
Opotiki—Ohiwa	...	...	...	...	...	...	4 10 0	4 10 0	Opotiki—Ohiwa.
Whakatane Valley	30 16 8	...	...	...	...	...	...	30 16 8	Whakatane Valley.

(*For continuation see next page.*)

No. 1.—ROADS AND TRAMWAYS—NORTH ISLAND—*continued from previous page.*

RETURN of Classified Expenditure for Survey and Construction—*continued.*

Lines of Road.	By Contract and Piece-work.			By Day Labour.			Exploration, Survey, Cutting Tracks and Lines, Supervision, Tools, Materials, and Contingencies.	Totals.	Lines of Road.
	Colonial Forces.	Natives.	Others.	Colonial Forces.	Natives.	Others.			
AUCKLAND—*continued.*	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	AUCKLAND—*continued.*
Bay of Plenty—*continued.*									Bay of Plenty—*continued.*
Opotiki—Waioeka	41 16 4	...	...	...	...	...	...	41 16 4	Opotiki—Waioeka.
Ohinemutu—Branch	...	31 10 0	18 4 0	...	...	6 13 0	6 7 1	62 14 1	Ohinemutu—Branch.
Cambridge—Atiamuri	...	...	...	...	7 10 0	92 19 0	223 11 6	324 0 6	Cambridge—Atiamuri.
Richmond—Galatea	...	...	43 4 6 7 10 0	...	7 13 0	...	5 3 0	63 10 6	Richmond—Galatea.
Bay of Plenty	...	...	...	...	...	...	2,208 1 11	2,208 1 11	Bay of Plenty.
Galatea—Opepe	...	...	...	24 5 0	...	...	...	24 5 0	Galatea—Opepe.
Tauranga—Cambridge... ...	...	...	...	...	...	...	135 1 5	135 1 5	Tauranga—Cambridge.
	405 8 6	1,702 3 6	5,662 2 4	24 5 0	211 16 0	245 1 4	3,272 11 7	11,523 8 3	
Poverty Bay:—									Poverty Bay:—
Mahia—Gisborne	...	45 0 0	19 13 0	...	...	...	34 14 6	99 7 6	Mahia—Gisborne.
Gisborne—Hicks Bay	...	309 2 4	...	...	...	1 1 0	53 4 0	363 7 4	Gisborne—Hicks Bay.
Ormond—Mangatu	...	...	...	...	...	...	154 2 2	154 2 2	Ormond—Mangatu.
Gisborne—Ormond	...	...	...	...	...	...	2 5 0	2 5 0	Gisborne—Ormond.
Te Kapu—Waikare Moana ...	...	65 0 0	73 1 0	...	...	...	20 14 0	158 15 0	Te Kapu—Waikare Moana.
Te Kapu—Gisborne	5 4 0	614 0 0	50 0 0	...	...	14 1 0	354 0 2	1,037 5 2	Te Kapu—Gisborne.
Poverty Bay	...	...	...	...	...	...	1,029 2 6	1,029 2 6	Poverty Bay.
	5 4 0	1,033 2 4	142 14 0	...	...	15 2 0	1,648 2 4	2,844 4 8	
Taupo:—									Taupo:—
Tarawera—Tapuaeharuru ...	342 4 6	17 18 10	102 18 9	...	...	52 11 6	95 10 8	611 4 3	Tarawera—Tapuaeharuru.
Tapuaeharuru—Tokaano ...	...	...	...	...	...	...	43 18 7	43 18 7	Tapuaeharuru—Tokaano.
	342 4 6	17 18 10	102 18 9	...	...	52 11 6	139 9 3	655 2 10	
HAWKE'S BAY.									HAWKE'S BAY.
Napier:—									Napier:—
Napier—Tarawera	43 9 6	1,184 6 0	...	...	...	1,006 19 5	994 14 1	3,229 9 0	Napier—Tarawera.
Wairoa—Mahia	...	36 0 0	30 0 0	...	...	...	63 18 0	129 18 0	Wairoa—Mahia.
Napier—Patea	...	...	...	...	...	48 18 0	513 12 6	562 10 6	Napier—Patea.
	43 9 6	1,220 6 0	30 0 0	...	...	1,055 17 5	1,572 4 7	3,921 17 6	
Seventy-Mile Bush:—									Seventy-Mile Bush:—
Takapau—Gorge	...	14 7 0	3,756 1 10	...	...	1,094 7 6	447 18 4	5,312 14 8	Takapau—Gorge.
Te Kapu—Wairoa	3 5 0	30 0 0	3 14 6	...	...	48 18 6	21 15 5	107 13 5	Te Kapu—Wairoa.

(*For continuation see next page.*)

No. 1.—ROADS AND TRAMWAYS—NORTH ISLAND—*continued from previous page.*

RETURN of CLASSIFIED EXPENDITURE for SURVEY and CONSTRUCTION—*continued.*

LINES OF ROAD.	BY CONTRACT AND PIECE-WORK.			BY DAY LABOUR.			Exploration, Survey, Cutting Tracks and Lines, Supervision, Tools, Materials, and Contingencies.	TOTALS.	LINES OF ROAD.
	Colonial Forces.	Natives.	Others.	Colonial Forces.	Natives.	Others.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
WELLINGTON.									**WELLINGTON.**
Wanganui—Patea	...	...	1,014 10 7	...	...	291 17 0	463 0 8	1,769 8 3	Wangauui—Patea.
Wanganui—Taupo	...	...	459 0 0	...	...	325 14 6	29 2 9	813 17 3	Wanganui—Taupo.
Ranana—Muremoto	...	...	...	...	...	...	...	...	Ranana—Muremoto.
	...	...	1,473 10 7	...	...	617 11 6	492 3 5	2,583 5 6	
MANAWATU :—									MANAWATU :—
Foxton—Gorge	...	3 0 0	5,985 17 10	...	14 0 0	1,584 7 3	912 16 5	8,500 1 6	Foxton—Gorge.
Awahura—Feilding	...	...	...	...	...	...	77 19 4	77 19 4	Awahura—Feilding.
	...	3 0 0	5,985 17 10	...	14 0 0	1,584 7 3	990 15 9	8,578 0 10	
MANAWATU TRAMWAY :—									MANAWATU TRAMWAY :—
Foxton—Palmerston	...	...	752 2 1	...	...	321 7 6	401 2 5	1,474 12 0	Foxton—Palmerston.
SEVENTY-MILE BUSH :—									SEVENTY-MILE BUSH :—
Opaki—Gorge	...	...	22,683 19 2	...	7 10 0	4,703 4 7	1,227 6 6	28,622 0 3	Opaki—Gorge.
HUTT—LOWRY BAY :—	...	...	290 0 0	...	...	...	...	290 0 0	HUTT—LOWRY BAY.
TARANAKI.									**TARANAKI.**
Patea—Wai-iti	...	146 10 0	4,436 15 1	...	179 10 0	2,792 14 6	1,248 2 9	8,803 12 4	Patea—Wai-iti.
New Plymouth—Mount Egmont	...	...	944 18 0	...	...	27 18 0	12 0 0	984 16 0	New Plymouth—Mount Egmont.
Hawera—Waitara	...	...	398 16 0	6 2 0	628 13 0	1,190 6 0	300 11 11	2,524 8 11	Hawera—Waitara.

No. 2.—ROADS AND TRAMWAYS—NORTH ISLAND.

RECAPITULATION of CLASSIFIED EXPENDITURE for SURVEY and CONSTRUCTION, to 30th June, 1875.

DISTRICTS.	PERIODS.	BY CONTRACT AND PIECE-WORK.			BY DAY LABOUR.			Exploration, Survey, Cutting Tracks and Lines, Supervision, Tools, Materials, and Contingencies.	TOTAL TO 30TH JUNE, 1874.	DURING YEAR 1874–75.	TOTAL TO 30TH JUNE, 1875.	DISTRICTS.
		Colonial Forces.	Natives.	Others.	Colonial Forces.	Natives.	Others.					
AUCKLAND.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	AUCKLAND.
Bay of Islands ...	To 30 June, 1874	...	6,197 2 8	10,037 3 3	...	1,279 17 0	662 2 6	5,057 1 0	23,233 6 5	...	...	Bay of Islands.
	Year 1874–75	...	1,362 13 5	7,365 15 4	...	19 4 6	...	978 13 9	...	9,726 7 0	32,959 13 5	
North of Auckland ...	To 30 June, 1874	...	...	10,221 2 8	...	...	137 12 0	1,588 4 11	11,946 19 7	...	...	North of Auckland.
	Year 1874–75	...	...	603 10 10	...	...	16 18 0	1,725 12 4	...	2,346 1 2	14,293 0 9	
Mangere Bridge ...	To 30 June, 1874	...	...	9,221 7 6	...	...	...	416 5 6	9,637 13 0	...	...	Mangere Bridge.
	Year 1874–75	...	...	5,719 17 6	...	...	...	128 17 2	...	5,848 14 8	15,486 7 8	
Thames	To 30 June, 1874	...	...	75 2 9	...	...	...	...	75 2 9	...	75 2 9	Thames.
Waikato	To 30 June, 1874	2,050 2 5	205 10 0	7,028 2 3	245 17 8	39 15 0	1,128 3 0	2,586 16 1	13,284 6 5	...	...	Waikato.
	Year 1874–75	...	130 0 0	460 10 7	...	...	1,352 2 7	1,270 18 0	...	3,213 11 2	16,497 17 7	
Bay of Plenty ...	To 30 June, 1874	1,107 19 9	12,094 14 8	24,272 1 2	3,500 13 0	83 3 6	445 19 11	8,662 10 5	50,167 2 5	...	...	Bay of Plenty.
	Year 1874–75	405 8 6	1,702 3 6	5,662 2 4	24 5 0	211 16 0	245 1 4	3,272 11 7	...	11,523 8 3	61,690 10 8	
Poverty Bay	To 30 June, 1874	123 18 11	3,885 14 4	3,630 17 2	204 6 4	3 18 0	284 9 4	2,604 5 11	10,737 10 0	...	...	Poverty Bay.
	Year 1874–75	5 4 0	1,033 2 4	142 14 0	...	...	15 2 0	1,648 2 4	...	2,844 4 8	13,581 14 8	
Taupo	To 30 June, 1874	1,401 17 5	1,080 16 1	2,533 7 9	515 11 3	1 10 0	1,015 4 1	2,034 13 3	8,582 19 10	...	...	Taupo.
	Year 1874–75	342 4 6	17 18 10	102 18 9	...	...	52 11 6	139 9 3	...	655 2 10	9,238 2 8	
TOTAL, AUCKLAND ...	...	5,436 15 6	27,709 15 10	87,076 13 10	4,490 13 3	1,639 4 0	5,355 6 3	32,114 1 6	127,665 0 5	36,157 9 9	163,822 10 2	TOTAL, AUCKLAND.
HAWKE'S BAY.												HAWKE'S BAY.
Napier	To 30 June, 1874	836 1 8	1,681 19 7	6,586 19 8	417 6 3	...	3,374 10 1	4,176 17 4	17,073 14 7	...	...	Napier.
	Year 1874–75	43 9 6	1,220 6 0	30 0 0	...	...	1,055 17 5	1,572 4 7	...	3,921 17 6	20,995 12 1	
Seventy-Mile Bush ...	To 30 June, 1874	...	600 1 0	34,181 16 4	...	22 4 0	2,628 14 0	2,616 6 11	40,049 2 3	...	...	Seventy-Mile Bush.
	Year 1874–75	...	14 7 0	3,756 1 10	...	...	1,094 7 6	447 18 4	...	5,312 14 8	45,361 16 11	
Wairoa	To 30 June, 1874	...	379 13 4	375 17 9	37 8 0	...	26 11 6	196 11 2	1,016 1 9	...	...	Wairoa.
	Year 1874–75	3 5 0	30 0 0	3 14 6	...	...	48 18 6	21 15 5	...	107 13 5	1,123 15 2	
TOTAL, HAWKE'S BAY	...	882 16 2	3,926 6 11	44,934 10 1	454 14 3	22 4 0	8,228 19 0	9,031 13 9	58,138 18 7	9,342 5 7	67,481 4 2	TOTAL, HAWKE'S BAY.

(*For continuation see next page.*)

No. 2.—ROADS AND TRAMWAYS—NORTH ISLAND—*continued from previous page.*

RECAPITULATION of Classified Expenditure for Survey and Construction, to 30th June, 1875—*continued.*

Districts.	Periods.	By Contract and Piece-work.			By Day Labour.			Exploration, Survey, Cutting Tracks and Lines, Supervision, Tools, Materials, and Contingencies.	Total to 30th June, 1874.	During Year 1874–75.	Total to 30th June, 1875.	Districts.
		Colonial Forces.	Natives.	Others.	Colonial Forces.	Natives.	Others.					
WELLINGTON.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	**WELLINGTON.**
Wanganui—Patea ...	To 30 June, 1874	65 12 6	99 8 0	24,118 8 2	5,157 13 7	22 0 6	959 4 8	4,152 4 8	34,574 12 1	...	...	Wanganui—Patea.
	Year 1874–75	...	...	1,014 10 7	...	...	291 17 0	463 0 8	...	1,769 8 3	36,344 0 4	
Wanganui—Taupo ...	To 30 June, 1874	...	400 0 0	1,808 5 0	...	...	141 18 0	1,710 9 6	4,060 12 6	...	...	Wanganui—Taupo.
	Year 1874–75	...	...	459 0 0	...	...	325 14 6	29 2 9	...	813 17 3	4,874 9 9	
Seventy-Mile Bush ...	To 30 June, 1874	...	235 0 0	11,617 2 7	...	...	2,571 16 6	1,797 11 4	16,221 10 5	...	...	Seventy-Mile Bush.
	Year 1874–75	...	...	22,683 19 2	...	7 10 0	4,703 4 7	1,227 6 6	...	28,622 0 3	44,843 10 8	
Manawatu	To 30 June, 1874	...	2,831 0 9	21,483 12 2	...	9 19 0	5,509 4 3	4,297 3 9	34,130 19 11	...	...	Manawatu.
	Year 1874–75	...	3 0 0	5,985 17 10	...	14 0 0	1,584 7 3	990 15 9	...	8,578 0 10	42,709 0 9	
Hutt—Lowry Bay ...	Year 1874–75	...	...	290 0 0	...	...	...	...	...	290 0 0	290 0 0	Hutt—Lowry Bay.
Manawatu Tramway ...	To 30 June, 1874	...	858 4 9	21,961 15 5	...	119 8 3	4,125 10 10	2,340 18 5	29,405 17 8	...	...	Manawatu Tramway.
	Year 1874–75	...	...	752 2 1	...	...	321 7 6	401 2 5	...	1,474 12 0	30,880 9 8	
Total, Wellington		65 12 6	4,426 13 6	112,174 13 0	5,157 13 7	172 17 9	20,534 5 1	17,409 15 9	118,393 12 7	41,547 18 7	159,941 11 2	Total, Wellington.
TARANAKI.												**TARANAKI.**
Wai-iti—Patea ...	To 30 June, 1874	1,133 9 6	4,772 19 7	27,996 1 3	5,107 13 9	1,325 15 6	4,399 3 1	5,202 5 9	49,937 8 5	...	...	Wai-iti—Patea.
	Year 1874–75	...	146 10 0	4,436 15 1	...	179 10 0	2,792 14 6	1,248 2 9	...	8,803 12 4	58,741 0 9	
New Plymouth—Mount Egmont	To 30 June, 1874	...	...	1,295 7 11	...	...	461 9 9	474 10 7	2,231 8 3	...	...	New Plymouth—Mount Egmont.
	Year 1874–75	...	...	944 18 0	...	...	27 18 0	12 0 0	...	984 16 0	3,216 4 3	
Hawera—Waitara ...	To 30 June, 1874	...	...	1,245 2 6	22 11 0	3,541 7 0	4,279 10 2	1,428 9 0	10,516 19 8	...	...	Hawera—Waitara.
	Year 1874–75	...	...	398 16 0	6 2 0	628 13 0	1,190 6 0	300 11 11	...	2,524 8 11	13,041 8 7	
Total, Taranaki ...	...	1,133 9 6	4,919 9 7	36,317 0 9	5,136 6 9	5,675 5 6	13,151 1 6	8,666 0 0	62,685 16 4	12,312 17 3	74,998 13 7	Total, Taranaki.
SUMMARY.												**SUMMARY.**
Auckland	...	5,436 15 6	27,709 15 10	87,076 13 10	4,490 13 3	1,639 4 0	5,355 6 3	32,114 1 6	127,665 0 5	36,157 9 9	163,822 10 2	Auckland.
Hawke's Bay ...	...	882 16 2	3,926 6 11	44,934 10 1	454 14 3	22 4 0	8,228 19 0	9,031 13 9	58,138 18 7	9,342 5 7	67,481 4 2	Hawke's Bay.
Wellington	...	65 12 6	4,426 13 6	112,174 13 0	5,157 13 7	172 17 9	20,534 5 1	17,409 15 9	118,393 12 7	41,547 18 7	159,941 11 2	Wellington.
Taranaki	...	1,133 9 6	4,919 9 7	36,317 0 9	5,136 6 9	5,675 5 6	13,151 1 6	8,666 0 0	62,685 16 4	12,312 17 3	74,998 13 7	Taranaki.
		7,518 13 8	40,982 5 10	280,502 17 8	15,239 7 10	7,509 11 3	47,269 11 10	67,221 11 0	366,883 7 11	99,360 11 2	466,243 19 1	

No. 3.—ROADS AND TRAMWAYS—NORTH ISLAND.

RETURN of Expenditure and Liabilities for Survey and Construction, to 30th June, 1875.

Locality.	No. of Miles Constructed or in Progress.	Expenditure. 1869–70.	1870–71.	1871–72.	1872–73.	1873–74.	1874–75.	Totals.	Liabilities on Contracts, 30 June, 1875.	Total Expenditure and Liabilities.	No. of Miles Constructed or in Progress.	Locality.
	Miles chs.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ . d.	£ s. d.	Miles chs.	
Province of Auckland:—												Province of Auckland:—
Bay of Islands	159 40	...	...	723 7 3	5,779 13 8	16,730 5 6	9,726 7 0	32,959 13 5	1,184 4 9	34,143 18 2	159 40	Bay of Islands.
North of Auckland ...	362 20	...	...	42 0 0	2,705 10 9	9,199 8 10	2,346 1 2	14,293 0 9	...	14,293 0 9	362 20	North of Auckland.
Mangere Bridge	...	...	...	...	227 17 8	9,409 15 4	5,848 14 8	15,486 7 8	...	15,486 7 8	...	Mangere Bridge.
Thames	20 0	...	...	...	75 2 9	...	...	75 2 9	...	75 2 9	20 0	Thames.
Waikato...	34 40	303 6 0	340 17 0	1,871 16 11	3,316 9 0	7,451 17 6	3,213 11 2	16,497 17 7	...	16,497 17 7	34 40	Waikato.
Bay of Plenty	467 0	6,001 1 4	4,327 2 4	11,746 1 8	15,379 15 10	12,713 1 3	11,523 8 3	61,690 10 8	1,869 9 0	63,559 19 8	467 0	Bay of Plenty.
Poverty Bay	243 0	...	204 6 4	1,590 7 10	4,403 3 0	4,539 12 10	2,844 4 8	13,581 14 8	1,487 10 0	15,069 4 8	243 0	Poverty Bay.
Taupo	47 0	667 13 11	939 8 2	2,082 18 2	3,667 9 9	1,225 9 10	655 2 10	9,238 2 8	...	9,238 2 8	47 0	Taupo.
Total, Auckland ...	1,333 20	6,972 1 3	5,811 13 10	18,056 11 10	35,555 2 5	61,269 11 1	36,157 9 9	163,822 10 2	4,541 3 9	168,363 13 11	1,333 20	Total, Auckland.
Province of Hawke's Bay:—												Province of Hawke's Bay:—
Napier	30 0	732 0 5	3,416 3 0	6,484 18 0	2,795 10 2	3,645 3 0	3,921 17 6	20,995 12 1	2,252 0 0	23,247 12 1	30 0	Napier.
Seventy-Mile Bush ...	37 40	...	4,628 2 6	6,449 8 1	5,559 0 2	23,412 11 6	5,312 14 8	45,361 16 11	350 17 0	45,712 13 11	37 40	Seventy-Mile Bush.
Wairoa	43 0	...	335 7 0	403 0 8	152 19 1	124 15 0	107 13 5	1,123 15 2	130 0 0	1,253 15 2	43 0	Wairoa.
Total, Hawke's Bay ...	110 40	732 0 5	8,379 12 6	13,337 6 9	8,507 9 5	27,182 9 6	9,342 5 7	67,481 4 2	2,732 17 0	70,214 1 2	110 40	Total, Hawke's Bay.
Province of Taranaki:—												Province of Taranaki:—
New Plymouth, inland ...	7 40	350 8 0	149 12 0	...	353 14 8	1,025 15 7	984 16 0	3,216 4 3	324 0 0	3,540 4 3	7 40	New Plymouth, inland.
Hawera—Waitara ...	41 0	...	...	...	351 18 0	10,516 19 8	2,524 8 11	13,041 8 7	99 0 0	13,140 8 7	41 0	Hawera—Waitara.
Wai-iti—Patea	126 0	6,254 9 7	4,648 2 9	8,511 2 8	16,988 19 1	13,534 14 4	8,803 12 4	58,741 0 9	...	58,741 0 9	126 0	Wai-iti—Patea.
Total, Taranaki ...	174 40	6,604 17 7	4,797 14 9	8,511 2 8	17,694 11 9	25,077 9 7	12,312 17 3	74,998 13 7	423 0 0	75,421 13 7	174 40	Total, Taranaki.
Province of Wellington:—												Province of Wellington:—
Patea—Wanganui ...	38 0	6,791 16 1	2,252 10 9	8,186 8 8	7,457 17 8	9,885 18 11	1,769 8 3	36,344 0 4	...	36,344 0 4	38 0	Patea—Wanganui.
Wanganui—Taupo ...	24 40	489 13 9	445 17 5	414 9 11	741 17 1	1,968 14 4	813 17 3	4,874 9 9	274 0 0	5,148 9 9	24 40	Wanganui—Taupo.
Manawatu	46 0	1,416 3 8	5,596 16 10	11,316 15 8	6,424 9 9	9,376 14 0	8,578 0 10	42,709 0 9	952 8 10	43,661 9 7	46 0	Manawatu.
Manawatu Tramway* ...	25 0	...	278 13 10	8,919 1 6	12,459 4 2	7,748 18 2	1,474 12 0	30,880 9 8	...	30,880 9 8	25 0	Manawatu Tramway.*
Opaki—Manawatu Gorge ...	46 0	...	28 12 1	897 6 10	4,963 17 9	10,331 13 9	28,622 0 3	44,843 10 8	2,906 3 0	47,749 13 8	46 0	Opaki—Manawatu Gorge.
Hutt—Lowry Bay ...	...	...	...	...	...	...	290 0 0	290 0 0	...	290 0 0	...	Hutt—Lowry Bay.
Total, Wellington ...	179 40	8,697 13 6	8,602 10 11	29,734 2 7	32,047 6 5	39,311 19 2	41,547 18 7	159,941 11 2	4,132 11 10	164,074 3 0	179 40	Total, Wellington.
SUMMARY.												SUMMARY.
Province of Auckland ...	1,333 20	6,972 1 3	5,811 13 10	18,056 11 10	35,555 2 5	61,269 11 1	36,157 9 9	163,822 10 2	4,541 3 9	168,363 13 11	1,333 20	Province of Auckland.
Hawke's Bay ...	110 40	732 0 5	8,379 12 6	13,337 6 9	8,507 9 5	27,182 9 6	9,342 5 7	67,481 4 2	2,732 17 0	70,214 1 2	110 40	Hawke's Bay.
Taranaki ...	174 40	6,604 17 7	4,797 14 9	8,511 2 8	17,694 11 9	25,077 9 7	12,312 17 3	74,998 13 7	423 0 0	75,421 13 7	174 40	Taranaki.
Wellington ...	179 40	8,697 13 6	8,602 10 11	29,734 2 7	32,047 6 5	39,311 19 2	41,547 18 7	159,941 11 2	4,132 11 10	164,074 3 0	179 40	Wellington.
Unapportionable—Tools, &c. ...	...	1,732 18 6	...	...	...	...	...	1,732 18 6	...	1,732 18 6	...	Unapportionable—Tools, &c.
Recoveries	...	14 12 11	...	...	...	...	...	14 12 11	...	14 12 11	...	Recoveries.
Totals	1,797 60	24,754 4 2	27,591 12 0	69,639 3 10	93,804 10 0	152,841 9 4	99,360 11 2	467,991 10 6†	11,829 12 7	479,821 3 1	1,797 60	Totals.

* The Manawatu Tramway is being converted into a railway, and is therefore transferred to Railway Return.

† Gross Expenditure on construction £467,991 10 6
Proportion of expenses raising Loan 10,605 19 2

478,597 9 8
Recoveries and Transfers 31,550 19 7

Net Expenditure £447,046 10 1

No. 4.—ROADS—MIDDLE ISLAND.

RETURN of Classified Expenditure for Survey and Construction, to 30th June, 1875.

Lines of Road.	Periods.	By Contract, &c.			By Day Labour.			Surveying, &c.	Total to 30th June, 1874.	Total for Year 1874-75.	Total to 30th June, 1875.	Lines of Road.
		Colonial Forces.	Natives.	Others.	Colonial Forces.	Natives.	Others.					
WESTLAND.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	WESTLAND.
Greymouth—Okarito ...	To 30 June, 1874	...	...	50,536 8 5	...	...	1,510 17 7	6,941 8 2	58,988 14 2	...	...	Greymouth—Okarito.
	Year 1874-75	...	...	13,270 19 10	...	...	417 5 0	1,029 11 2	...	14,717 16 0	73,706 10 2	
Christchurch Junction ...	To 30 June, 1874	...	...	3,667 0 0	...	...	...	256 9 5	3,923 9 5	...	...	Christchurch Junction.
	Year 1874-75	...	...	...	...	...	...	...	...	...	3,923 9 5	
South Creek Branch to Main Line	To 30 June, 1874	...	...	274 15 0	...	...	...	7 2 6	281 17 6	...	...	South Creek Branch to Main Line.
	Year 1874-75	...	...	...	...	...	...	...	...	...	281 17 6	
Greymouth—Arnould ...	To 30 June, 1874	...	...	3,124 10 10	...	...	646 8 10	978 14 8	4,749 14 4	...	...	Greymouth—Arnould.
	Year 1874-75	...	...	...	...	...	...	...	...	...	4,749 14 4	
Greenstone—Lake Brunner ...	To 30 June, 1874	...	...	...	...	...	64 10 0	22 4 6	86 14 6	...	...	Greenstone—Lake Brunner.
	Year 1874-75	...	...	2,657 0 6	...	...	...	12 10 6	...	2,669 11 0	2,756 5 6	
Marsden—Maori Creek ...	To 30 June, 1874	...	...	2,316 17 0	...	...	16 8 0	204 18 0	2,538 3 0	...	...	Marsden—Maori Creek.
	Year 1874-75	...	...	...	...	...	...	...	...	...	2,538 3 0	
Marsden—Paroa	To 30 June, 1874	...	...	663 5 0	...	...	...	135 3 0	798 8 0	...	...	Marsden—Paroa.
	Year 1874-75	...	...	...	...	...	...	...	...	...	798 8 0	
Still Water—Maori Gully ...	To 30 June, 1874	...	...	1,191 0 0	...	...	18 10 0	41 7 0	1,250 17 0	...	...	Still Water—Maori Gully.
	Year 1874-75	...	...	618 5 0	...	...	...	...	...	618 5 0	1,869 2 0	
Kanieri Forks—Kanieri Lakes...	To 30 June, 1874	...	...	...	...	...	19 16 0	63 5 0	83 1 0	...	...	Kanieri Forks—Kanieri Lakes.
	Year 1874-75	...	...	1,435 15 0	...	...	...	57 15 0	...	1,493 10 0	1,576 11 0	
Hokitika—Blue Spur ...	To 30 June, 1874	...	...	350 0 0	...	...	...	155 11 11	505 11 11	...	...	Hokitika—Blue Spur.
	Year 1874-75	...	...	1,942 15 0	...	...	19 11 6	43 10 0	...	2,005 16 6	2,511 8 5	
Kanieri Bridge	To 30 June, 1874	...	...	482 8 0	...	...	...	7 7 0	489 15 0	...	...	Kanieri Bridge.
	Year 1874-75	...	...	...	...	...	...	...	...	...	489 15 0	
Waimea Bridge	To 30 June, 1874	...	...	...	...	...	...	5 10 6	5 10 6	...	...	Waimea Bridge.
	Year 1874-75	...	...	202 2 0	...	...	...	...	...	202 2 0	207 12 6	
Hokitika—Christchurch ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	Hokitika—Christchurch.
	Year 1874-75	...	...	12,036 15 11	...	...	1,698 5 0	668 2 6	...	14,403 3 5	14,403 3 5	
Westland, General	To 30 June, 1874	...	...	...	...	...	...	501 14 4	501 14 4	...	...	Westland, General.
	Year 1874-75	...	...	...	...	...	...	1,695 16 10	...	1,695 16 10	2,197 11 2	
		...	...	94,769 17 6	...	...	4,411 11 11	12,828 2 0	74,203 10 8	37,806 0 9	112,009 11 5	
NELSON.												NELSON.
Buller—Arnould	To 30 June, 1874	...	...	30,208 5 3	...	...	13,077 2 2	1,683 3 10	44,968 11 3	...	...	Buller—Arnould.
	Year 1874-75	...	...	3,956 16 0	...	...	818 2 8	305 5 7	...	5,080 4 3	50,048 15 6	
Ahaura—Amuri	To 30 June, 1874	...	...	3,545 0 0	...	...	31 10 0	696 13 6	4,273 3 6	...	...	Ahaura—Amuri.
	Year 1874-75	...	...	...	...	...	339 12 0	39 0 0	...	378 12 0	4,651 15 6	
Westport—Nine-Mile Bluff ...	To 30 June, 1874	...	...	5,500 11 0	...	...	204 10 0	198 3 4	5,903 4 4	...	...	Westport—Nine-Mile Bluff.
	Year 1874-75	...	...	...	...	...	33 10 0	4 17 0	...	38 7 0	5,941 11 4	
Westport—Lyell	To 30 June, 1874	...	...	1,221 9 0	...	...	55 12 0	53 17 6	1,330 18 6	...	...	Westport—Lyell.
	Year 1874-75	...	...	...	...	...	...	1 4 0	...	1 4 0	1,332 2 6	
Boatman's to Larry's ...	„ 1874-75	...	...	290 0 0	...	...	...	...	...	290 0 0	290 0 0	Boatman's to Larry's.
Nile Bridge	„ 1874-75	...	...	622 10 0	...	...	...	...	...	622 10 0	622 10 0	Nile Bridge.
Takaka Valley	„ 1874-75	...	...	392 14 10	...	...	...	3 10 6	...	396 5 4	396 5 4	Takaka Valley.
		...	...	45,737 6 1	...	...	14,559 18 10	2,985 15 3	56,475 17 7	6,807 2 7	63,283 0 2	

No. 5.—ROADS—MIDDLE ISLAND.

RETURN of Expenditure and Liabilities for Survey and Construction to 30th June, 1875.

Lines of Road.	Miles. Completed and in course of Completion.	Expenditure. 1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	Total.	Liabilities on Contracts, 30th June, 1875.	Total Expenditure and Liabilities.	Miles. Completed and in course of Completion.	Lines of Road.
WESTLAND.	Mls. chs.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Mls. chs.	**WESTLAND.**
Greymouth—Arnould	7 19	...	1,073 7 5	2,768 10 10	907 16 1	...	4,749 14 4	...	4,749 14 4	7 19	Greymouth—Arnould.
Greymouth—Okarito	81 30	51 6 3	17,529 12 9	18,513 14 2	22,894 1 0	14,717 16 0	73,706 10 2	2,624 17 3	76,331 7 5	81 30	Greymouth—Okarito.
South Creek—Branch to Main Line	0 37	...	...	261 17 6	20 0 0	...	281 17 6	...	281 17 6	0 37	South Creek—Branch to Main Line.
Junction Line	4 65	...	3,817 13 5	105 16 0	...	...	3,923 9 5	...	3,923 9 5	4 65	Junction Line.
Greenstone—Lake Brunner ...	8 04	...	...	...	86 14 6	2,669 11 0	2,756 5 6	...	2,756 5 6	8 04	Greenstone—Lake Brunner.
Marsden—Maori Creek	5 50	...	...	...	2,538 3 0	...	2,538 3 0	...	2,538 3 0	5 50	Marsden—Maori Creek.
Marsden—Paroa	0 77	...	...	...	798 8 0	...	798 8 0	...	798 8 0	0 77	Marsden—Paroa.
Still Water—Maori Gully ...	6 15	...	...	...	1,250 17 0	618 5 0	1,869 2 0	...	1,869 2 0	6 15	Still Water—Maori Gully.
Kanieri Forks—Kanieri Lakes ...	4 54	...	...	...	83 1 0	1,493 10 0	1,576 11 0	...	1,576 11 0	4 54	Kanieri Forks—Kanieri Lakes.
Hokitika—Blue Spur	4 46	...	...	...	505 11 11	2,005 16 6	2,511 8 5	...	2,511 8 5	4 46	Hokitika—Blue Spur.
Kanieri Bridge	0 4	...	...	...	489 15 0	...	489 15 0	...	489 15 0	0 4	Kanieri Bridge.
Waimea Bridge	...	...	...	...	5 10 6	202 2 0	207 12 6	...	207 12 6	...	Waimea Bridge.
Hokitika-Christchurch, Deviations	11 14	...	...	...	...	14,403 3 5	14,403 3 5	6,764 18 6	21,168 1 1	11 14	Hokitika-Christchurch, Deviations.
Westland, General	...	...	...	...	501 14 4	1,695 16 10	2,197 11 2	...	2,197 11 2	...	Westland, General.
	135 15	51 6 3	22,420 13 7	21,649 18 6	30,081 12 4	37,806 0 9	112,009 11 5	9,389 15 9	121,399 7 2	135 15	
NELSON.											**NELSON.**
Buller—Arnould	48 54	...	9,917 15 0	26,420 14 9	8,630 1 6	5,080 4 3	50,048 15 6	317 15 0	50,366 10 6	48 54	Buller—Arnould.
Westport—Nine-Mile Bluff ...	6 40	...	...	104 0 0	5,799 4 4	38 7 0	5,941 11 4	...	5,941 11 4	6 40	Westport—Nine-Mile Bluff.
Ahaura—Amuri	9 36	...	...	128 5 0	4,144 18 6	378 12 0	4,651 15 6	...	4,651 15 6	9 36	Ahaura—Amuri.
Nine-Mile Bluff—Lyell	38 43	...	...	...	1,330 18 6	1 4 0	1,332 2 6	...	1,332 2 6	38 43	Nine-Mile Bluff—Lyell.
Boatman's to Larry's	...	...	...	...	...	290 0 0	290 0 0	...	290 0 0	...	Boatman's to Larry's.
Nile Bridge	...	...	...	...	...	622 10 0	622 10 0	...	622 10 0	...	Nile Bridge.
Takaka Valley	...	...	...	...	...	396 5 4	396 5 4	...	396 5 4	...	Takaka Valley.
Square Town—Little Grey Junction	11 00	...	...	...	...	...	...	1,596 0 0	1,596 0 0	11 00	Square Town—Little Grey Junction.
	114 13	...	9,917 15 0	26,652 19 9	19,905 2 10	6,807 2 7	63,283 0 2	1,913 15 0	65,196 15 2	114 13	
SUMMARY.											**SUMMARY.**
Westland	135 15	51 6 3	22,420 13 7	21,649 18 6	30,081 12 4	37,806 0 9	112,009 11 5	9,389 15 0	121,399 7 2	135 15	Westland.
Nelson	114 13	...	9,917 15 0	26,652 19 9	19,905 2 10	6,807 2 7	63,283 0 2	1,913 15 0	65,196 15 2	114 13	Nelson.
	249 28	51 6 3	32,338 8 7	48,302 18 3	49,986 15 2	44,613 3 4	175,292 11 7	11,303 10 0	186,596 2 4	249 28	

No. 6.—RAILWAYS, BRIDGES, PLANT, AND ROLLING STOCK.

Net Expenditure to 30th June, 1875.

Lines of Railway.	Period.	Land. Cost.	Land. Expenses.	Surveys—Preliminary and Working.	Construction. Grading.	Construction. Bridges and Culverts.	Construction. Fencing.	Construction. Permanent Way, New Zealand.	Construction. Permanent Way, England.	Rolling Stock. New Zealand.	Rolling Stock. England.	Stations.	Engineering and Office.	Incidental.	Payments which cannot yet be Classified.	Total Expenditure to 30 June, 1874.	Total Net Expenditure during Year 1874-75.	Total Net Expenditure to 30 June, 1875.	Lines of Railway.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Auckland:—																			**Auckland:—**
Kawa Kawa Coal Mine ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	105 0 0	...	292 7 4	Kawa Kawa Coal Mine.
	Year 1874-75	...	...	287 7 4	...	...	...	...	...	...	...	...	...	5 0 0	...	...	187 7 4		
Thames—Waikato (Surveys)	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	346 10 11	...	350 0 11	Thames—Waikato (Surveys).
	Year 1874-75	...	...	350 0 11	...	...	...	...	...	...	...	...	...	...	...	...	3 10 0		
Kaipara—Riverhead ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39,880 4 8	...	59,517 14 9	Kaipara—Riverhead.
	Year 1874-75	...	160 10 2	1,000 19 0	14,082 12 3	2,866 17 0	308 14 0	10,922 4 2	19,819 12 3	63 0 0	5,000 4 7	1,094 3 3	3,954 13 7	244 4 6	...	...	19,637 10 1		
Riverhead—Auckland ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,592 1 11	...	12,018 2 1	Riverhead—Auckland.
	Year 1874-75	...	19 0 6	1,583 9 11	7,370 19 3	266 1 4	...	357 15 10	...	15 1 9	...	1,781 11 3	619 18 8	4 3 7	...	...	10,426 0 2		
Auckland—Mercer ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	100,776 18 7	...	354,227 4 4	Auckland—Mercer.
	Year 1874-75	24,332 17 2	1,195 14 10	3,175 11 6	100,558 6 6	37,844 15 5	5,431 11 6	57,976 6 5	49,519 7 9	9,222 8 8	28,944 10 11	25,601 4 0	10,052 14 1	371 15 7	...	...	253,450 5 9		
Mercer—Newcastle ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15,719 9 1	...	117,211 12 8	Mercer—Newcastle.
	Year 1874-75	632 18 0	37 9 0	2,487 2 1	44,330 8 5	10,661 3 0	31 9 9	2,310 10 1	19,871 15 11	919 18 7	8,293 17 10	3,618 5 0	3,608 10 1	554 3 8	19,854 1 3	...	101,492 3 7		
Newcastle—Punia ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	132 0 4	...	5,301 0 11	Newcastle—Punia.
	Year 1874-75	...	19 0 0	1,105 5 4	...	4,026 14 3	...	...	...	...	...	8 14 0	132 7 6	8 19 10	...	...	5,169 0 7		
Mercer—Cambridge (Surveys)	To 30 June, 1874	...	...	528 17 3	...	...	...	...	...	...	...	...	...	...	...	528 17 3	...	528 17 3	Mercer—Cambridge (Surveys)
Cambridge—Taupo (Surveys)	To 30 June, 1874	...	...	346 4 1	...	...	...	...	...	...	...	...	...	...	...	346 4 1	...	346 4 1	Cambridge—Taupo (Surveys)
Auckland Office	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	1,295 0 0	...	...	...	1,295 0 0	1,295 0 0	Auckland Office.
Wellington:—																			**Wellington:—**
Wellington—Masterton ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	113,738 0 0	...	185,855 4 3	Wellington—Masterton.
	Year 1874-75	5,901 12 6	528 6 11	8,762 12 2	66,806 2 8	24,749 16 3	6,645 2 3	16,452 5 7	21,031 12 4	1,897 12 8	15,223 9 4	11,712 12 0	5,741 7 5	402 12 2	...	...	72,117 4 3		
Manawatu—Wanganui ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27,060 1 8	...	107,940 19 3	Manawatu—Wanganui.
	Year 1874-75	3,255 4 1	226 19 0	7,902 0 6	24,524 6 5	22,164 18 9	2,403 7 1	2,076 1 8	32,953 18 6	8 6 6	6,495 16 3	2,179 16 6	3,460 13 4	289 10 8	...	...	80,880 17 7		
Manawatu—Foxton ...	Year 1874-75	...	...	46 10 6	159 8 11	65 10 10	7 2 9	1,282 7 6	721 6 7	1,395 8 0	...	121 1 3	235 11 4	19 8 4	26,514 12 8	...	30,568 8 8	30,568 8 8	Manawatu—Foxton.
Wanganui—Patea ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,498 14 11	...	2,352 12 3	Wanganui—Patea.
	Year 1874-75	...	...	2,074 4 6	...	10 6 6	...	...	...	27 10 0	...	...	116 0 3	124 11 0	...	...	853 17 4		
Wanganui Office	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	400 0 0	...	...	...	400 0 0	400 0 0	Wanganui Office.
Taranaki:—																			**Taranaki:—**
Patea—Waitara ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25,030 18 4	...	54,547 8 4	Patea—Waitara.
	Year 1874-75	6,728 19 10	277 5 5	2,196 13 7	10,274 19 5	7,390 13 6	1,356 15 4	7,002 8 9	10,067 19 2	948 6 5	3,018 4 2	3,746 17 6	1,522 2 3	16 3 0	...	...	29,516 10 0		
Hawke's Bay:—																			**Hawke's Bay:—**
Tokano—Napier (Surveys) ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20 16 0	...	20 16 0	Tokano—Napier (Surveys).
	Year 1874-75	...	...	20 16 0	...	...	...	...	...	...	...	...	...	...	...	...	...		
Napier—Waipukurau ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	70,907 1 3	...	192,911 0 5	Napier—Waipukurau.
	Year 1874-75	1,483 15 0	2 4 8	4,517 15 7	39,696 5 11	34,718 14 1	3,869 8 7	27,350 2 0	44,231 15 5	2,739 12 5	16,914 17 0	11,979 4 0	4,867 12 1	539 13 8	...	...	122,003 19 2		
Waipukurau—Manawatu ...	Year 1874-75	...	...	2,025 1 5	605 11 4	...	...	1,347 17 11	...	...	...	...	98 18 10	9 2 0	...	...	4,086 11 6	4,086 11 6	Waipukurau—Manawatu.
Waipukurau—Manawatu (Surveys)	To 30 June, 1874	...	...	17 0 0	...	...	...	...	...	...	...	...	...	...	...	17 0 0	...	17 0 0	Waipukurau—Manawatu (Surveys)
Contingencies, North Island	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	184 15 6	...	1,101 12 6	Contingencies, North Island.
	Year 1874-75	...	13 10 0	...	...	19 12 0	...	8 8 0	36 17 6	...	174 7 6	198 8 9	580 7 9	70 1 0	...	...	916 17 0		
Total, North Island ...	...	42,335 6 7	2,480 0 6	38,427 11 8	308,409 1 1	144,785 2 11	20,053 11 3	127,086 7 11	198,254 5 5	17,237 5 0	84,065 7 7	62,041 17 6	36,685 17 2	2,659 9 0	46,368 13 11	397,884 14 6	733,005 3 0	1,130,889 17 6	Total, North Island.
Nelson:—																			**Nelson:—**
Nelson—Foxhill	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	38,703 14 3	...	85,339 11 10	Nelson—Foxhill.
	Year 1874-75	12,242 2 10	770 3 0	1,693 9 4	14,266 19 7	12,108 14 9	6,105 7 3	7,535 14 7	21,601 9 4	107 8 0	5,252 16 3	1,433 18 1	2,105 10 2	115 18 8	...	...	46,635 17 7		
Foxhill—Brunner (Surveys)	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,417 3 8	...	2,869 6 7	Foxhill—Brunner (Surveys).
	Year 1874-75	...	...	2,748 3 11	...	...	...	...	...	...	...	...	0 15 0	120 7 8	...	...	452 2 11		
Foxhill—Southwards (Surveys)	Year 1874-75	...	...	346 6 8	...	...	...	...	...	...	...	...	...	...	...	...	346 6 8	346 6 8	Foxhill—Southwards (Surveys)
Westport—Mount Rochfort	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,126 3 2	...	50,419 18 10	Westport—Mount Rochfort.
	Year 1874-75	1,120 0 0	250 13 4	3,367 15 8	15,415 19 6	2,364 16 3	...	6,006 5 5	13,035 19 2	...	6,091 14 5	878 13 6	1,814 2 2	73 19 5	...	...	49,293 15 8		
Westland:—																			**Westland:—**
Brunner—Greymouth ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	41,269 10 11	...	88,819 13 5	Brunner—Greymouth.
	Year 1874-75	5,317 9 0	474 2 2	1,257 1 2	28,586 7 5	18,479 6 2	508 9 2	1,613 7 6	4,834 0 2	4 7 0	15,940 19 10	9,073 9 9	2,551 18 3	178 15 10	...	...	47,550 2 6		
Greymouth—Christchurch (Surveys)	Year 1874-75	...	...	795 18 3	...	...	...	...	...	...	...	...	...	...	...	...	795 18 3	795 18 3	Greymouth—Christchurch (Surveys).
Greymouth—Hokitika (Surveys)	Year 1874-75	...	...	1,561 18 11	...	...	...	...	...	...	...	...	...	...	...	...	1,561 18 11	1,561 18 11	Greymouth—Hokitika (Surveys).
Hokitika—Malvern (Surveys)	To 30 June, 1874	...	...	468 0 3	...	...	...	...	...	...	...	...	...	...	...	468 0 3	...	468 0 3	Hokitika—Malvern (Surveys).
Hokitika Office	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	308 3 4	...	...	...	308 3 4	308 3 4	Hokitika Office.
Marlborough:—																			**Marlborough:—**
Picton—Blenheim ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	74,135 9 4	...	107,458 6 5	Picton—Blenheim.
	Year 1874-75	6,682 3 6	779 12 0	1,674 2 3	37,514 10 5	22,277 6 0	814 15 3	9,928 16 9	12,151 8 8	955 8 3	6,689 3 1	4,808 9 9	3,070 13 11	111 16 7	...	...	33,322 17 1		
Canterbury:—																			**Canterbury:—**
Addington—Kowai ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	166,542 11 10	...	187,861 5 0	Addington—Kowai.
	Year 1874-75	18,045 15 4	1,533 2 2	2,842 19 4	15,533 7 6	49,337 1 3	10,189 1 1	25,926 17 2	50,559 13 5	...	...	8,689 8 6	4,923 18 8	280 0 7	...	...	21,318 13 2		
Rangiora—Oxford ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	49,988 18 2	...	66,467 8 10	Rangiora—Oxford.
	Year 1874-75	807 17 6	77 11 0	914 16 8	4,504 4 3	2,051 14 1	1,448 5 0	15,666 3 3	30,085 18 1	104 5 6	4,519 4 6	5,670 9 8	529 6 5	87 12 11	...	...	16,478 10 8		
Kaiapoi—Eyreton ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15,813 17 4	...	30,205 12 10	Kaiapoi—Eyreton.
	Year 1874-75	30 0 0	2 6 6	727 1 1	3,306 6 1	756 1 6	751 12 6	5,881 17 5	15,310 19 10	...	153 7 6	3,008 9 4	232 17 7	44 13 6	...	...	14,391 15 6		
Rolleston—Malvern ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	57,258 19 5	...	77,573 8 8	Rolleston—Malvern.
	Year 1874-75	817 14 5	53 2 10	947 1 6	4,089 14 10	3,935 18 9	319 19 0	26,451 2 3	21,424 7 5	252 4 1	10,787 19 7	7,648 18 2	785 15 5	59 10 5	...	...	20,314 9 3		
Racecourse—Southbridge ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50,103 7 5	...	84,237 17 8	Racecourse—Southbridge.
	Year 1874-75	4,368 10 4	217 1 6	1,099 15 1	4,156 1 7	10,023 10 1	10,060 0 2	16,758 6 3	22,979 7 0	117 0 0	2,880 16 2	10,216 5 11	1,221 16 6	139 7 1	...	...	34,134 10 3		
Waimate—Main Line ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	15 16 6	...	...	...	15 16 6	15 16 6	Waimate—Main Line.
Canterbury Branch Lines—Unapportioned	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11,065 18 11	...	11,086 16 10	Canterbury Branch Lines—Unapportioned.
Selwyn—Rakaia	To 30 June, 1874	...	...	...	...	...	...	...	410 13 8	...	10,676 3 2	...	...	...	...	...	20 17 11		
	Year 1874-75	178 4 0	3 19 8	45 14 8	2,953 2 10	33,879 18 4	2,174 18 6	14,654 12 2	12,704 3 10	...	3,221 7 4	4,974 5 6	902 1 2	90 19 4	...	73,322 16 1	2,460 11 3	75,783 7 4	Selwyn—Rakaia.
Rakaia—Ashburton ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	49,006 17 6	...	70,517 2 7	Rakaia—Ashburton.
	Year 1874-75	50 8 0	...	814 18 2	7,718 4 2	21,064 1 11	336 9 10	13,445 6 6	16,105 14 3	2,915 7 5	4,567 8 11	1,939 11 10	1,348 2 2	211 9 5	...	...	21,510 5 1		
Ashburton—Temuka ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12,396 19 3	...	127,838 11 8	Ashburton—Temuka.
	Year 1874-75	...	...	1,155 17 11	11,386 10 2	39,598 7 9	677 9 0	19,278 2 2	40,508 13 7	234 12 5	11,652 1 1	2,705 14 1	454 14 0	186 9 6	...	...	115,441 12 5		
Temuka—Timaru ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48,278 5 5	...	58,232 3 6	Temuka—Timaru.
	Year 1874-75	5,880 7 6	404 4 8	449 15 10	9,728 11 7	5,653 14 1	1,027 9 2	8,248 12 7	17,588 15 10	364 9 6	1,774 14 2	4,742 17 9	2,227 1 8	141 9 2	...	...	9,953 18 1		
Timaru—Waitaki ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,059 10 9	...	27,369 18 0	Timaru—Waitaki.
	Year 1874-75	...	...	1,152 18 10	7,133 6 6	3,795 18 0	564 6 0	4,584 1 7	3,696 7 7	11 6 8	0 3 2	4,373 1 5	1,844 7 1	214 1 2	...	...	26,310 7 3		
Canterbury Office ...	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	1,847 4 10	...	...	...	1,847 4 10	1,847 4 10	Canterbury Office.
Canterbury Lines General ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,866 10 0	...	6,953 8 3	Canterbury Lines General.
	Year 1874-75	...	675 15 11	89 18 4	...	32 11 3	...	690 12 5	...	...	17 6 8	6 0 2	4,425 1 3	1,016 2 3	...	...	2,086 18 3		
Canterbury and Otago:—																			**Canterbury and Otago:—**
Waitaki Bridge	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39,481 6 5	...	58,188 14 10	Waitaki Bridge.
	Year 1874-75	...	...	...	...	58,188 14 10	...	...	...	...	...	...	...	...	...	...	18,707 8 5		
Otago:—																			**Otago:—**
Waitaki—Moeraki ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63,840 4 8	...	208,437 9 4	Waitaki—Moeraki.
	Year 1874-75	6,868 10 8	412 13 7	2,668 2 5	64,388 8 11	19,300 7 6	5,232 4 10	20,979 3 9	40,829 19 8	611 7 8	30,295 10 4	11,966 16 6	4,679 11 4	204 12 2	...	...	144,597 4 8		
Oamaru—Waireka (Surveys)	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	474 1 4	...	493 6 9	Oamaru—Waireka (Surveys).
	Year 1874-75	...	...	493 6 9	...	...	...	...	...	...	...	...	...	...	...	...	19 5 5		
Dunedin—Moeraki ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7,186 15 5	...	84,897 14 8	Dunedin—Moeraki.
	Year 1874-75	3,644 11 3	5 5 0	4,182 15 5	24,570 5 5	3,655 12 0	71 18 6	514 12 4	27,976 5 8	...	132 6 0	18,934 13 10	1,072 5 5	137 3 10	...	...	77,710 19 3		
Dunedin—Moeraki (Surveys)	To 30 June, 1874	...	...	2,175 2 4	...	...	...	...	...	...	...	...	...	...	...	2,175 2 4	...	2,175 2 4	Dunedin—Moeraki (Surveys).
Dunedin—Port Chalmers ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	100,090 16 6	...	216,638 15 2	Dunedin—Port Chalmers.
	Year 1874-75	...	7 10 0	...	...	...	...	767 14 5	...	4,633 12 0	...	19,300 17 5	506 3 6	91 18 7	191,330 19 3	...	116,547 18 8		
Dunedin—Clutha ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	253,915 4 1	...	337,145 7 6	Dunedin—Clutha.
	Year 1874-75	12,108 3 5	2,060 8 5	2,598 8 8	113,003 3 1	38,348 12 4	13,165 7 0	49,528 18 5	61,304 8 7	3,320 9 5	16,959 14 8	16,420 14 11	7,691 2 2	635 16 5	...	...	83,230 3 5		
Tokomairiro—Lawrence ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35,852 15 5	...	71,990 3 1	Tokomairiro—Lawrence.
	Year 1874-75	1,769 4 11	227 0 3	1,325 15 0	39,418 15 3	10,341 4 6	2,923 2 2	2,744 3 2	5,558 9 2	1,259 0 1	1,225 14 9	2,811 0 3	2,308 0 7	78 13 0	...	...	36,137 7 8		
Clutha—Mataura ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,860 3 11	...	48,671 5 2	Clutha—Mataura.
	Year 1874-75	...	2 0 0	2,960 8 2	5,224 15 7	14,122 13 8	86 8 0	889 16 3	22,248 8 0	5 8 0	1,498 5 0	743 3 7	828 5 6	61 13 5	...	...	46,811 1 3		
Clutha—Mataura (Surveys)	To 30 June, 1874	...	...	115 9 6	...	...	...	...	...	...	...	...	...	...	...	115 9 6	...	115 9 6	Clutha—Mataura (Surveys).
Waipihi—Cromwell (Surveys)	To 30 June, 1874	...	...	100 0 0	...	...	...	...	...	...	...	...	...	...	...	100 0 0	...	100 0 0	Waipihi—Cromwell (Surveys)
Mataura—Invercargill ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	100,874 14 10	...	150,059 14 10	Mataura—Invercargill.
	Year 1874-75	969 12 9	279 18 4	1,537 13 0	30,370 18 7	7,489 5 6	5,686 7 11	34,804 0 1	41,743 18 6	1,486 0 4	12,074 14 2	9,915 3 6	3,316 17 5	385 4 9	...	...	49,185 0 0		
Winton—Kingston ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8,564 11 5	...	88,827 1 6	Winton—Kingston.
	Year 1874-75	440 0 0	2 0 0	2,305 16 2	13,392 14 6	1,486 19 10	1,202 13 7	18,011 19 11	37,231 9 6	1,259 8 3	11,016 16 5	606 12 0	1,648 0 10	222 10 6	...	...	80,262 10 1		
Dunedin Office	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	1,660 2 11	...	...	...	1,660 2 11	1,660 2 11	Dunedin—Office.
Invercargill Office ...	Year 1874-75	...	...	...	...	...	...	...	...	...	...	...	1,133 5 0	...	...	...	1,133 5 0	1,133 5 0	Invercargill Office.
Otago Lines, General ...	To 30 June, 1874	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3,372 9 2	...	4,841 10 5	Otago Lines, General.
	Year 1874-75	...	1,048 17 8	26 4 0	...	0 19 6	...	249 11 4	16 18 0	...	10 12 5	57 10 3	3,137 3 9	293 13 6	...	...	1,469 1 3		
Total, South Island		81,340 15 5	9,287 8 0	44,642 15 3	456,662 7 9	378,293 9 10	63,346 3 11	305,159 17 8	519,907 8 11	17,659 1 3	157,421 12 11	150,926 5 8	58,590 4 6	5,183 19 8	191,330 19 3	1,315,728 8 8	1,124,024 1 4	2,439,752 10 0	Total, South Island.
Summary.																			**Summary.**
Railways, North Island ...	...	42,335 6 7	2,480 0 6	38,427 11 8	308,409 1 1	144,785 2 11	20,053 11 3	127,086 7 11	198,254 5 5	17,237 5 0	84,065 7 7	62,041 17 6	36,685 17 2	2,659 9 0	46,368 13 11	397,884 14 6	733,005 3 0	1,130,889 17 6	Railways, North Island.
„ South Island ...	...	81,340 15 5	9,287 8 0	44,642 15 3	456,662 7 9	378,293 9 10	63,346 3 11	305,159 17 8	519,907 8 11	17,659 1 3	157,421 12 11	150,926 5 8	58,590 4 6	5,183 19 8	191,330 19 3	1,315,728 8 8	1,124,024 1 4	2,439,752 10 0	„ South Island.
Totals		123,676 2 0	11,767 8 6	83,070 6 11	765,071 8 10	523,078 12 9	83,399 15 2	432,246 5 7	718,161 14 4	34,896 6 3	241,487 0 6	212,968 3 2	95,276 1 8	7,843 8 8	237,699 13 2	1,713,613 3 2	1,857,029 4 4	3,570,642 7 6	Totals.

No. 7.—RAILWAYS, BRIDGES, PLANT, AND ROLLING STOCK.

RETURN of Expenditure and Liabilities for Survey and Construction, to 30th June, 1875.

Lines of Railway.	Total Length.	Open for Traffic.	Under Construction.	Not yet Begun.	Expenditure. 1870–71.	1871–72.	1872–73.	1873–74.	1874–75.	Total.	Liabilities on 30th June, 1875.	Total Expenditure and Liabilities.	Lines of Railway.
NORTH ISLAND.	Mls. chs.	Mls. chs.	Mls. chs.	Mls. chs.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	**NORTH ISLAND.**
Province of Auckland:—													Province of Auckland:—
Kawa Kawa	8 0	...	...	8 0	...	...	105 0 0	...	187 7 4	292 7 4	...	292 7 4	Kawa Kawa.
Kaipara—Riverhead ...	15 68	...	15 68	...	...	10,465 10 6	7,330 18 2	22,083 16 0	19,637 10 1	59,517 14 9	3,752 5 0	63,269 19 9	Kaipara—Riverhead.
Riverhead—Auckland ...	22 48	...	...	22 48	...	100 0 0	450 12 3	1,041 9 8	10,426 0 2	12,018 2 1	8,845 0 0	20,863 2 1	Riverhead—Auckland.
Auckland—Mercer	45 56	45 56	...	...	920 0 0	19,451 14 1	102,930 10 9	130,148 0 11	100,776 18 7	354,227 4 4	3,526 0 0	357,753 4 4	Auckland—Mercer.
Mercer—Newcastle	30 36	...	30 36	...	...	...	17 3 0	16,231 3 4	101,492 3 7	117,740 9 11	36,974 1 9	154,714 11 8	Mercer—Newcastle.
Newcastle—Punia	29 30	...	10 14	19 16	...	...	...	478 4 5	5,169 0 7	5,647 5 0	62,957 11 8	68,604 16 8	Newcastle—Punia.
Thames—Waikato	...	...	...	...	...	...	279 1 2	67 9 9	3 10 0	350 0 11	...	350 0 11	Thames—Waikato.
Auckland Office	...	...	...	...	...	...	...	...	1,295 0 0	1,295 0 0	...	1,295 0 0	Auckland Office.
Total, Auckland ...	151 78	45 56	56 38	49 64	920 0 0	30,017 4 7	111,113 5 4	170,050 4 1	238,987 10 4	551,088 4 4	116,054 18 5	667,143 2 9	Total, Auckland.
Province of Hawke's Bay:—													Province of Hawke's Bay:—
Napier—Tokaano	...	...	...	...	...	...	...	20 16 0	...	20 16 0	...	20 16 0	Napier—Tokaano.
Napier—Waipukurau ...	45 22	18 13	27 9	...	707 7 5	1,708 5 1	21,560 18 9	46,930 10 0	122,003 19 2	192,911 0 5	64,747 11 5	257,658 11 10	Napier—Waipukurau.
Waipukurau—Manawatu ...	13 14	...	13 14	...	...	...	...	17 0 0	4,086 11 6	4,103 11 6	...	4,103 11 6	Waipukurau—Manawatu.
Total, Hawke's Bay...	58 36	18 13	40 23	...	707 7 5	1,708 5 1	21,560 18 9	46,968 6 0	126,090 10 8	197,035 7 11	64,747 11 5	261,782 19 4	Total, Hawke's Bay.
Province of Taranaki:—													Province of Taranaki:—
Waitara—Patea	17 13	...	11 13	6 0	163 7 0	252 4 10	492 14 5	24,122 12 1	29,516 10 0	54,547 8 4	20,868 18 6	75,416 6 10	Waitara—Patea.
Province of Wellington:—													Province of Wellington:—
Wellington—Masterton ...	68 39	14 46	20 23	33 50	1,559 6 10	1,517 4 10	30,912 15 1	79,748 13 3	72,117 4 3	185,855 4 3	163,264 0 9	349,119 5 0	Wellington—Masterton.
Patea—Wanganui	8 31	...	8 31	...	157 17 0	394 2 9	463 19 0	482 16 2	853 17 4	2,352 12 3	47,152 0 0	49,504 12 3	Patea—Wanganui.
Wanganui—Manawatu ...	58 35	...	34 38	23 77	583 18 7	1,849 0 4	1,381 8 6	23,245 14 3	80,880 17 7	107,940 19 3	63,380 7 1	171,321 6 4	Wanganui—Manawatu.
Manawatu—Foxton... ...	24 73	...	24 73	...	...	...	...	...	30,568 8 8	30,568 8 8	26,223 0 0	56,791 8 8	Manawatu—Foxton.
Wanganui Office	...	...	...	...	...	...	...	...	400 0 0	400 0 0	...	400 0 0	Wanganui Office.
Total, Wellington ...	160 18	14 46	88 5	57 47	2,301 2 5	3,760 7 11	32,758 2 7	103,477 3 8	184,820 7 10	327,117 4 5	300,019 7 10	627,136 12 3	Total, Wellington.
General Contingencies ...	...	...	...	...	...	...	45 2 6	139 13 0	936 9 0	1,121 4 6	...	1,121 4 6	General Contingencies.
MIDDLE ISLAND.													**MIDDLE ISLAND.**
Province of Westland:—													Province of Westland:—
Hokitika—Malvern	...	...	...	...	...	...	...	468 0 3	...	468 0 3	...	468 0 3	Hokitika—Malvern.
Hokitika—Greymouth ...	...	...	...	...	...	...	...	...	1,561 18 11	1,561 18 11	...	1,561 18 11	Hokitika—Greymouth.
Brunner—Greymouth ...	7 46	...	7 46	...	...	1,391 19 4	5,493 4 1	34,384 7 6	47,550 2 6	88,819 13 5	19,062 11 11	107,882 5 4	Brunner—Greymouth.
Greymouth—Christchurch ...	...	...	...	...	...	...	...	...	795 18 3	795 18 3	...	795 18 3	Greymouth—Christchurch.
Hokitika Office	...	...	...	...	...	...	...	...	308 3 4	308 3 4	...	308 3 4	Hokitika Office.
Total, Westland ...	7 46	...	7 46	...	...	1,391 19 4	5,493 4 1	34,852 7 9	50,216 3 0	91,953 14 2	19,062 11 11	111,016 6 1	Total, Westland.
Province of Nelson:—													Province of Nelson:—
Brunner—Foxhill	...	...	...	...	...	...	...	2,417 3 8	452 2 11	2,869 6 7	...	2,869 6 7	Brunner—Foxhill.
Foxhill—Nelson ...	20 10	...	19 10	1 0	60 0 0	546 19 6	3,293 19 4	34,802 15 5	46,635 17 7	85,339 11 10	28,365 4 3	113,704 16 1	Foxhill—Nelson.
Foxhill—Southwards ...	...	...	...	...	...	...	...	...	346 6 8	346 6 8	...	346 6 8	Foxhill—Southwards.
Westport—Mount Rochfort ...	18 25	...	11 17	7 8	...	...	...	1,126 3 2	49,293 15 8	50,419 18 10	27,436 12 1	77,856 10 11	Westport—Mount Rochfort.
Total, Nelson ...	38 35	...	30 27	8 8	60 0 0	546 19 6	3,293 19 4	38,346 2 3	96,728 2 10	138,975 3 11	55,801 16 4	194,777 0 3	Total—Nelson.
Province of Marlborough:—													Province of Marlborough:—
Picton—Blenheim	17 68	...	17 10	0 58	...	1,182 18 8	31,954 16 3	40,997 14 5	33,322 17 1	107,458 6 5	31,253 0 0	138,711 6 5	Picton—Blenheim.
Province of Canterbury:—													Province of Canterbury:—
Kowai—Addington	32 10	20 50	11 40	...	446 6 11	82,797 1 4	35,769 15 6	47,529 8 1	21,318 13 2	187,861 5 0	23,140 15 2	211,002 0 2	Kowai—Addington.
Selwyn—Rakaia	12 61	12 61	...	...	...	11,348 11 3	54,297 2 4	7,677 2 6	2,460 11 3	75,783 7 4	7,099 6 5	82,882 13 9	Selwyn—Rakaia.
Rakaia—Ashburton... ...	18 8	18 8	...	...	100 0 0	312 1 2	8,743 6 0	39,851 10 4	21,510 5 1	70,517 2 7	16,395 0 4	86,912 2 11	Rakaia—Ashburton.
Ashburton—Temuka ...	34 3	18 29	15 54	...	...	247 5 0	270 6 7	11,879 7 8	115,441 12 5	127,838 11 8	56,086 9 9	183,925 1 5	Ashburton—Temuka.
Temuka—Timaru	12 0	...	12 0	...	118 7 0	9,981 19 5	6,356 11 4	31,821 7 8	9,953 18 1	58,232 3 6	12,330 3 9	70,562 7 3	Temuka—Timaru.
Timaru—Waitaki	38 2	...	38 2	...	...	105 0 0	...	954 10 9	26,310 7 3	27,369 18 0	116,150 13 10	143,520 11 10	Timaru—Waitaki.
Rangiora—Oxford	21 51	21 51	...	...	...	367 0 3	19,405 9 9	30,216 8 2	16,478 10 8	66,467 8 10	3,833 2 8	70,300 11 6	Rangiora—Oxford.
Kaiapoi—Eyreton	15 67	...	15 67	...	...	71 15 3	197 15 4	15,544 6 9	14,391 15 6	30,205 12 10	6,094 2 6	36,299 15 4	Kaiapoi—Eyreton.
Rolleston—Malvern... ...	35 52	35 52	...	...	120 0 0	496 10 0	13,193 5 6	43,449 3 11	20,314 9 3	77,573 8 8	13,581 6 10	91,154 15 6	Rolleston—Malvern.
Racecourse—Southbridge ...	26 8	26 8	...	...	...	205 6 6	1,431 18 1	48,466 2 10	34,134 10 3	84,237 17 8	4,439 11 8	88,677 9 4	Racecourse—Southbridge.
Waimate—Main Line ...	4 38	...	...	4 38	...	...	...	...	15 16 6	15 16 6	...	15 16 6	Waimate—Main Line.
Unapportioned	...	...	...	...	...	...	...	11,065 18 11	20 17 11	11,086 16 10	...	11,086 16 10	Unapportioned.
General Contingencies ...	...	...	...	...	...	36 19 10	1,522 9 3	3,307 0 11	2,086 18 3	6,953 8 3	...	6,953 8 3	General Contingencies.
Canterbury Office	...	...	...	...	...	...	...	...	1,847 4 10	1,847 4 10	...	1,847 4 10	Canterbury Office.
Total, Canterbury ...	250 60	153 19	93 3	4 38	784 13 11	105,969 10 0	141,187 19 8	291,762 8 6	286,285 10 5	825,990 2 6	259,150 12 11	1,085,140 15 5	Total, Canterbury.
Canterbury and Otago:—													Canterbury and Otago:—
Waitaki Bridge	0 66	...	0 66	...	153 17 6	10,106 3 8	20,475 9 7	8,745 15 8	18,707 8 5	58,188 14 10	15,059 5 10	73,248 0 8	Waitaki Bridge.
Province of Otago:—													Province of Otago:—
Waitaki—Moeraki	39 21	...	39 21	...	...	1,298 2 7	8,935 16 5	53,606 5 8	144,597 4 8	208,437 9 4	84,965 6 8	293,402 16 0	Waitaki—Moeraki.
Moeraki—Dunedin	47 67	...	12 17	35 50	...	...	636 11 3	8,725 6 6	77,735 15 9	87,097 13 6	177,917 7 11	265,015 1 5	Moeraki—Dunedin.
Dunedin—Clutha	51 35	6 5	45 30	...	5,582 3 4	42,104 2 4	100,642 2 1	105,586 16 4	83,230 3 5	337,145 7 6	27,034 12 0	364,179 19 6	Dunedin—Clutha.
Port Chalmers—Dunedin ...	8 0	8 0	...	...	...	...	87,267 3 0	12,823 13 6	116,547 18 8	216,638 15 2	1,846 6 6	218,485 1 8	Port Chalmers—Dunedin.
Clutha—Mataura	47 72	...	25 72	22 0	400 0 0	730 10 6	...	845 2 11	46,811 1 3	48,786 14 8	77,052 19 4	125,839 14 0	Clutha—Mataura.
Mataura—Invercargill ...	39 56	32 10	7 46	...	654 1 3	729 1 8	35,117 16 1	64,373 15 10	49,185 0 0	150,059 14 10	31,342 0 0.	181,401 14 10	Mataura—Invercargill.
Oamaru—Waireka	...	...	...	...	...	...	474 1 4	...	19 5 5	493 6 9	...	493 6 9	Oamaru—Waireka.
Waipihi—Cromwell	...	...	...	...	...	...	100 0 0	...	...	100 0 0	...	100 0 0	Waipihi—Cromwell.
Tokomairiro—Lawrence ...	22 0	...	22 0	...	...	122 4 11	525 10 8	35,204 19 10	36,137 7 8	71,990 3 1	73,144 11 8	145,134 14 9	Tokomairiro—Lawrence.
Winton—Kingston	68 36	...	50 0	18 36	...	851 6 4	1,796 4 3	5,917 0 10	80,262 10 1	88,827 1 6	124,735 18 7	213,563 0 1	Winton—Kingston.
General Contingencies ...	...	...	...	...	...	...	452 10 7	2,919 18 7	1,469 1 3	4,841 10 5	...	4,841 10 5	General Contingencies.
Otago and Invercargill Offices	...	...	...	...	...	...	...	...	2,793 7 11	2,793 7 11	...	2,793 7 11	Otago and Invercargill Offices.
Total Otago	324 47	46 15	202 26	76 6	6,636 4 7	45,835 8 4	235,947 15 8	290,003 0 0	638,788 16 1	1,217,211 4 8	598,039 2 8	1,815,250 7 4	Total Otago.
SUMMARY.													**SUMMARY.**
North Island:—													North Island:—
Auckland	151 78	45 56	56 38	49 64	920 0 0	30,017 4 7	111,113 5 4	170,050 4 1	238,987 10 4	551,088 4 4	116,054 18 5	667,143 2 9	Auckland.
Hawke's Bay	58 36	18 13	40 23	...	707 7 5	1,708 5 1	21,560 18 9	46,968 6 0	126,090 10 8	197,035 7 11	64,747 11 5	261,782 19 4	Hawke's Bay.
Wellington	160 18	14 46	88 5	57 47	2,301 2 5	3,760 7 11	32,758 2 7	103,477 3 8	184,820 7 10	327,117 4 5	300,019 7 10	627,136 12 3	Wellington.
Taranaki	17 13	...	11 13	6 0	163 7 0	252 4 10	492 14 5	24,122 12 1	29,516 10 0	54,547 8 4	20,868 18 6	75,416 6 10	Taranaki.
General Contingencies ...	...	...	...	...	...	...	45 2 6	139 13 0	916 17 0	1,101 12 6	...	1,101 12 6	General Contingencies.
South Island:—													South Island:—
Westland	7 46	...	7 46	...	...	1,391 19 4	5,493 4 1	34,852 7 9	50,216 3 0	91,953 14 2	19,062 11 11	111,016 6 1	Westland.
Nelson	38 35	...	30 27	8 8	60 0 0	546 19 6	3,293 19 4	38,346 2 3	96,728 2 10	138,975 3 11	55,801 16 4	194,777 0 3	Nelson.
Marlborough	17 68	...	17 10	0 58	...	1,182 18 8	31,954 16 3	40,997 14 5	33,322 17 1	107,458 6 5	31,253 0 0	138,711 6 5	Marlborough.
Canterbury	250 60	153 19	93 3	4 38	784 13 11	105,969 10 0	141,187 19 8	291,762 8 6	286,285 10 5	825,990 2 6	259,150 12 11	1,085,140 15 5	Canterbury.
Waitaki Bridge	0 66	...	0 66	...	153 17 6	10,106 3 8	20,475 9 7	8,745 15 8	18,707 8 5	58,188 14 10	15,059 5 10	73,248 0 8	Waitaki Bridge.
Otago	324 47	46 15	202 26	76 6	6,636 4 7	45,835 8 4	235,947 15 8	290,003 0 0	638,763 19 7	1,217,186 8 2	598,039 2 8	1,815,225 10 10	Otago.
General:—													General:—
Material and Workshops ...	...	...	...	...	...	...	27,640 3 9	65,839 5 3	102,960 1 8	196,439 10 8	140,308 0 0	336,747 10 8	Material and Workshops.
Unapportionable	...	...	...	...	...	641 9 7	...	...	...	641 9 7	...	641 9 7	Unapportionable.
Charges raising Loan ...	...	...	...	...	...	...	...	33,849 1 6	189,849 4 11	223,698 6 5	...	223,698 6 5	Charges raising Loan.
	1,027 67	277 69	547 17	202 61	11,726 12 10	201,412 11 6	631,963 11 11	1,149,153 14 2	1,997,165 3 9	3,991,421 14 2	1,620,365 5 10	5,611,787 0 0	
Total, North Island...	387 65	78 35	195 79	113 31	4,091 16 10	35,738 2 5	165,970 3 7	344,757 18 10	580,331 15 10	1,130,889 17 6	501,690 16 2	1,632,580 13 8	Total, North Island.
„ South Island...	640 2	199 34	351 18	89 30	7,634 16 0	165,032 19 6	438,353 4 7	704,707 8 7	1,124,024 1 4	2,439,752 10 0	978,366 9 8	3,418,118 19 8	„ South Island.
„ General ...	...	...	...	...	...	641 9 7	27,640 3 9	99,688 6 9	292,809 6 7	420,779 6 8	140,308 0 0	561,087 6 8	„ General.

No. 8.—WATER RACES.

RETURN showing EXPENDITURE and LIABILITIES for SURVEY, CONSTRUCTION of, and SUBSIDIES for, WATER RACES on GOLD FIELDS, to 30th June, 1875.

LOCALITY AND NAME OF COMPANY.	DISTANCE.	EXPENDITURE. Survey and Construction, 1870–74.	Subsidies, 1870–74.	Survey and Construction, 1874–75.	Subsidies, 1874–75.	Totals.	LIABILITIES. Contract Liabilities.	Engineer's Estimate to complete Work, including Lands, &c.	Subsidies.	Totals.	TOTAL EXPENDITURE AND LIABILITIES.	LOCALITY AND NAME OF COMPANY.
NORTH ISLAND.	Mls. chs.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	**NORTH ISLAND.**
AUCKLAND :—												AUCKLAND :—
Thames	11 70	28,709 6 9	...	11,783 2 9	...	40,492 9 6	13,470 14 2	6,036 16 4	...	19,507 10 6	60,000 0 0	Thames.
SOUTH ISLAND.												**SOUTH ISLAND.**
WESTLAND :—												WESTLAND :—
Hohonu	4 65	3 7 0	1,985 18 1	...	535 14 10	2,524 19 11	...	...	...	...	2,524 19 11	Hohonu.
Hibernian	4 36	7 18 10	2,000 0 0	1 14 4	...	2,009 13 2	...	...	...	...	2,009 13 2	Hibernian.
New River	4 52	18 12 6	2,922 4 6	...	580 5 9	3,521 2 9	...	...	1,497 9 9	1,497 9 9	5,018 12 6	New River.
Waimea	15 75	36,294 7 8	...	41,709 19 6	...	78,004 7 2	24,781 7 2	27,214 5 8	...	51,995 12 10	130,000 0 0	Waimea.
Mikonui	15 0	11 3 9	...	332 10 3	...	343 14 0	...	1,656 6 0	...	1,656 6 0	2,000 0 0	Mikonui.
Kanieri	...	1 5 6	3,135 0 10	...	6,631 13 8	9,768 0 0	...	...	233 5 6	233 5 6	10,001 5 6	Kanieri.
NELSON :—												NELSON :—
Nelson Creek ...	19 15	1,350 16 7	...	14,180 3 3	...	15,530 19 10	33,944 14 7	15,524 5 7	...	49,469 0 2	65,000 0 0	Nelson Creek.
Napoleon Hill ...	47 40	...	...	256 11 7	...	256 11 7	...	...	...	...	256 11 7	Napoleon Hill.
OTAGO :—												OTAGO :—
Mount Ida ...	64 44	13,152 5 5	...	22,238 17 4	...	35,391 2 9	8,803 1 5	...	...	8,803 1 5	44,194 4 2	Mount Ida.
Arrow	3 30	...	612 10 0	...	...	612 10 0	...	...	...	...	612 10 0	Arrow.
Golden Point ...	20 18	...	...	...	...	...	...	...	...	...	...	Golden Point.
Beaumont and Tuapeka	60 0	...	640 0 0	...	...	640 0 0	...	...	1,360 0 0	1,360 0 0	2,000 0 0	Beaumont and Tuapeka.
Carrick Range ...	17 20	...	1,550 0 1	...	700 0 0	2,250 0 1	...	...	1,749 19 11	1,749 19 11	4,000 0 0	Carrick Range.
Waipori	...	2,145 9 8	...	9,222 18 10	...	11,368 8 6	...	...	...	...	11,368 8 6	Waipori.
Mount Pisgah ...	...	...	...	...	200 0 0	200 0 0	...	...	800 0 0	800 0 0	1,000 0 0	Mount Pisgah.
DEPARTMENTAL :—												DEPARTMENTAL :—
Salaries, Travelling, Advertising, &c.	...	1,396 14 10	...	2,423 12 11	...	3,820 7 9	...	...	...	...	3,820 7 9	Salaries, Travelling, Advertising, &c.
Total	...	83,091 8 6	12,845 13 6	102,149 10 9	8,647 11 3	206,734 7 0	80,999 17 4	50,431 13 7	5,640 15 2	137,072 6 1	343,806 13 1	Total.
Proportion of Expenses of raising Loan 1873–74	...	...	...	...	...	5,415 16 3	...	...	...	...	7,954 9 5	Proportion of Expenses raising Loan.
Proportion of Expenses of raising Loan 1874–75	...	...	...	...	...	2,538 13 2						
						214,688 16 5					351,761 2 6	

RETURN showing the AMOUNT of SUBSIDIES, PAYMENTS on SUBSIDIES, PAYMENTS of INTEREST on SUMS ADVANCED, REFUNDS, &c.

—	Amount of Subsidy.	Payments on Subsidy.	Balance.	Payments of Interest.	Amounts Refunded.	—
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Hohonu	2,494 12 11	2,494 12 11	...	271 16 9	547 1 4	Hohonu.
Hibernian	2,000 0 0	2,000 0 0	...	268 11 5	...	Hibernian.
New River	5,000 0 0	3,502 10 3	1,497 9 9	396 18 3	...	New River.
Kanieri	10,000 0 0	9,766 14 6	233 5 6	348 1 7	...	Kanieri.
Arrow	612 10 0	612 10 0	...	85 16 0	...	Arrow.
Beaumont and Tuapeka	2,000 0 0	640 0 0	1,360 0 0	...	...	Beaumont and Tuapeka.
Carrick Range	4,000 0 0	2,250 0 1	1,749 19 11	...	...	Carrick Range.
Mount Pisgah	1,000 0 0	200 0 0	800 0 0	...	...	Mount Pisgah.
Total	27,107 2 11	21,466 7 9	5,640 15 2	1,371 4 0	547 1 4	Total.

No. 9.—COAL MINES.

RETURN of EXPENDITURE and LIABILITIES for PROSPECTING for and DEVELOPING, to 30th June, 1875.

PROVINCE.	EXPENDITURE.					LIABILITIES.	TOTALS.	PROVINCE.
	Prospecting and Developing.				Totals.			
	1871–72.	1872–73.	1873–74.	1874–75.				
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
AUCKLAND	24 3 9	150 0 0	943 5 2	135 0 0	1,252 8 11	...	1,252 8 11	AUCKLAND.
NELSON	233 4 2	459 16 6	1,040 7 5	2,500 15 1	4,234 3 2	2,328 18 5	6,563 1 7	NELSON.
WESTLAND	...	359 16 0	220 8 3	30 0 0	610 4 3	...	610 4 3	WESTLAND.
CANTERBURY	92 8 0	53 0 2	100 0 0	...	245 8 2	...	245 8 2	CANTERBURY.
OTAGO	193 9 9	44 0 0	83 10 0	...	320 19 9	...	320 19 9	OTAGO.
GENERAL EXPENSES	...	...	18 2 0	4 1 0	22 3 0	...	22 3 0	GENERAL EXPENSES.
TOTALS	543 5 8	1,066 12 8	2,405 12 10	2,669 16 1	6,685 7 3	2,328 18 5	9,014 5 8	TOTALS.

No. 10.—RAILWAY TRAFFIC RETURNS.

For Traffic, and Receipt and Expenditure Returns of the following Lines, viz.,—Auckland to Mercer and Branch to Onehunga, Napier to Paki Paki, and Wellington to Hutt, *see* Statements C., D., and E., appended to Report of Superintending Engineer for Constructed Railways, attached to Public Works Statement.

Tramway—Foxton to Palmerston.

Gross Amount, 18th May, 1874, to 18th May, 1875	£4,700 0 0
Government dues thereon	812 3 3

Canterbury Railways.—Earnings and Expenditure for Twelve Months ending 31st March, 1875.

Month ending.	Earnings.	Expenditure.		
		Engineer's Department.	Traffic Department.	Total.
1874.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
April	9,990 17 5	...	...	9,306 10 11
May	11,995 5 5	...	...	7,830 17 7
June	7,966 19 4	...	...	8,053 8 9
July	6,855 18 2	3,163 13 2	3,895 1 4	7,058 14 6
August	*10,388 18 1	3,422 12 1	4,008 5 8	7,430 17 9
September	7,869 16 5	3,754 4 9	4,042 14 3	7,796 19 0
October	7,297 16 10	4,015 19 9	4,208 16 0	8,224 15 9
November	10,803 15 2	4,151 1 0	4,701 6 5	8,852 7 5
December	8,582 14 2	4,819 6 9	4,408 2 6	9,227 9 3
1875.				
January	13,475 14 2	4,709 2 11	4,925 1 9	9,634 4 8
February	*14,514 6 5	4,689 11 4	4,715 4 7	9,404 15 11
March	16,275 5 0	8,079 6 2	5,475 12 0	13,554 18 2
Gross Total	126,017 6 7	40,804 17 11	40,380 4 6	106,375 19 8

Excess of Earnings over Expenditure, £19,641 6s. 11d.; Working Expenses, 84·41 per cent.

Canterbury Railways.—Earnings and Expenditure, Financial Period Nine Months ending 31st March, 1875.

Month ending.	Earnings.	Expenditure.		
		Engineer's Department.	Traffic Department.	Total.
1874.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
July	6,855 18 2	3,163 13 2	3,895 1 4	7,058 14 6
August	*10,388 18 1	3,422 12 1	4,008 5 8	7,430 17 9
September	7,869 16 5	3,754 4 9	4,042 14 3	7,796 19 0
October	7,297 16 10	4,015 19 9	4,208 16 0	8,224 15 9
November	10,803 15 2	4,151 1 0	4,701 6 5	8,852 7 5
December	8,582 14 2	4,819 6 9	4,408 2 6	9,227 9 3
1875.				
January	13,475 14 2	4,709 2 11	4,925 1 9	9,634 4 8
February	*14,514 6 5	4,689 11 4	4,715 4 7	9,404 15 11
March	16,275 5 0	8,079 6 2	5,475 12 0	13,554 18 2
Gross Total	96,064 4 5	40,804 17 11	40,380 4 6	81,185 2 5

Excess of Earnings over Expenditure, £14,879 2s.; Working Expenses, 84·51 per cent.

* These items of Earnings include £4,500, half-rates for Carriage of General Government Materials.

Note.—The alteration of Rates and Fares took effect on the 24th August last, and is estimated to have reduced the earnings by a sum of £12,180 14s. 2d. If this difference, therefore, be taken into consideration, the total earnings for the period of twelve months would be £32,595 4s. 3d., and for nine months, £27,832 19s. 4d. The per centage of working expenses, as against gross earnings, being 75·91 for twelve months, and 73·58 for nine months.

Note.—The Renewal Fund of £3,900 is not deducted from the net earnings.

(*For continuation see next page.*)

No. 10.—RAILWAY TRAFFIC RETURNS—*continued from previous page.*

Dunedin and Port Chalmers and Dunedin and Green Island Sections—Revenue, Receipts, and Expenditure, Year ending 31st March, 1875.

Dr.	£ s. d.	£ s. d.	Cr.	£ s. d.	£ s. d.
To Maintenance of Way and Works, as per Abstract A.	2,467 7 5		By Receipts from 191,163 Passengers, viz.,—		
To Working of Engines, Repairs of Carriages and Wagons, as per Abstract B.	4,308 16 11		Ordinary Tickets 189,396		
To Traffic Charges, as per Abstract C.	11,807 0 11		Season do. 1,767		
		18,583 5 3	191,163	17,981 3 8	
Profit on Working ...		17,104 0 4	By Conveyance of Goods, 81,917 tons	16,541 9 7	
			By Receipts from Parcels, Excess Luggage, &c. ...	888 12 4	
			By Receipts from Refreshment Rooms	201 0 0	
			By Receipts from Conveyance of Mails	75 0 0	
					35,687 5 7
Total		£35,687 5 7	Total		35,687 5 7

N.B.—Working expenses, 52·7 per cent. of receipts.

Dunedin and Port Chalmers Section—Traffic Returns for Year ending 31st March, 1875.

Table No. 1. Value.	Year ending 31st March, 1875.		Year ending 31st March, 1874.	
Description.	No.	£ s. d.	No.	£ s. d.
Passengers	146,947	14,964 13 10	93,774	9,210 7 9
Season Tickets	1,085	854 8 0	...	...
Parcels	...	926 12 5	...	...
Cloak Rooms	...	3 1 3	...	...
Freight up	...	10,603 18 10	...	7,847 14 10
„ down	...	4,374 5 8	...	4,119 11 4
Storage	...	29 10 6	...	...
Wharfage	...	149 17 6	...	...
Labour	...	...	...	...
Rents	...	686 0 0	...	376 2 8
Totals	...	32,592 8 0	...	21,553 16 7

Dunedin and Clutha Section—Traffic Return for Nine Months ending 31st March, 1875.

Table No. 2. Value.	Year ending 31st March, 1875.		Year ending 31st March, 1874.	
Description.	No.	£ s. d.	No.	£ s. d.
Passengers	42,449	2,184 0 7		
Season Tickets	682	269 10 11		
Parcels	...	59 11 2		
Freight up	...	1,641 6 9		
„ down	...	911 5 8		
Storage	...	...	Line	not opened.
Wharfage	...	...		
Labour	...	...		
Rents	...	...		
Totals	...	5,065 15 1		

Southland District.—Revenue, Receipts, and Expenditure, Year ending 31st March, 1875.

Dr.	£ s. d.	£ s. d.	Cr.	£ s. d.	£ s. d.
To Maintenance of Way and Works, as per Abstract A	5,855 16 3		By Receipts from 50,296 Passengers ...	7,165 3 6	
To Working of Engines, Repairs of Wagons and Carriages, as per Abstract B ...	6,331 17 6		By Receipts from 44,132 tons Goods ...	14,904 11 1	
To Traffic Charges, as per Abstract C ...	4,756 13 5		By Receipts from Bluff Jetty dues ...	67 12 6	
	16,944 7 2		By Receipts from sundry accounts ...	20 7 0	
Profit on Working	5,219 9 2		By Receipts from Storage	6 2 3	
Total	£22,163 16 4			£22,163 16 4	

N.B.—Working Expenses 76·45 per cent. of Receipts.

No. 11.—TELEGRAPH EXTENSION.

RETURN showing the AMOUNT EXPENDED for TELEGRAPH PURPOSES out of the IMMIGRATION and PUBLIC WORKS LOAN, from the 1st July, 1874, to the 30th June, 1875.

No. of Miles of Poles.	No. of Miles of Wire.	Locality.	Amount. £ s. d.
56	56	Naseby to Clyde Line	6,296 1 6
30	30	Southbridge Line from Christchurch	1,220 4 0
12	12	Geraldine Line from Temuka	388 10 10
	614	Christchurch to Bluff, fourth and fifth wires completed from Christchurch to Dunedin, and from Bluff to Clinton ...	9,150 2 0
57	57	Poverty Bay Line (Wairoa to Gisborne)	6,964 7 7
220	220	Kaipara and Bay of Islands Line	18,258 18 2
	115	Masterton to Waipukurau, third wire	2,194 0 11
25	25	Foxton to Palmerston	1,178 15 5
	102	Wellington to Masterton, and Waipukurau to Napier, fourth wire	1,747 15 1
4	4	Tokotea Line from Coromandel	201 19 11
	9	Thames, alterations, including Pukorokoro Line	1,281 5 7
	58	Wanganui to Hawera, second wire	924 19 0
	82	Second wire, Wellington to Wanganui, completed from Wanganui to Foxton, and from Wellington to Otaki ...	5,363 11 0
404	1,384		55,170 11 0
		New Stations, also sundry material lying in stock, and expenditure on Lines in course of construction not yet brought to charge	6,576 4 3
404	1,384		61,746 15 3

SUMMARY of TELEGRAPH EXPENDITURE out of PUBLIC WORKS LOAN to 30th June, 1875.

Period.	Miles. Poles.	Miles. Wire.	Amount. £ s. d.
To 30th June, 1872	801	1,260	58,297 8 9
„ „ 1873	170	559	32,998 3 3
„ „ 1874	270	704	34,442 18 4
„ „ 1875	404	1,384	61,746 15 3
Totals	1,645	3,907	187,485 5 7

No. 12.—PUBLIC WORKS.

Total Expenditure and Liabilities, 30th June, 1875.

—	As per Return No.	Expenditure to 30th June, 1874. £ s. d.	Expenditure during Year ending 30th June, 1875. £ s. d.	Total Expenditure to 30th June, 1875. £ s. d.	Liabilities on 30th June, 1875, extending over a Period of Years. £ s. d.	Total Expenditure and Liabilities. £ s. d.	—
Roads—North Island	3	368,630 19 4	67,809 11 7	447,046 10 1	11,829 12 7	458,876 2 8	Roads—North Island.
Proportion of Expenses raising Loan ...	...	7,221 1 8	3,384 17 6				
Roads—Middle Island	5	130,679 8 3	44,613 3 4	185,700 1 11	11,303 10 0	197,003 11 11	Roads—Middle Island.
Proportion of Expenses raising Loan ...	...	2,256 7 1	8,151 3 3				
Railways, Bridges, Plant, and Rolling Stock ...	7	1,960,407 8 11	1,807,315 18 10	3,991,421 14 2	1,620,365 5 10	5,611,787 0 0	Railways, Bridges, Plant, and Rolling Stock.
Proportion of Expenses raising Loan ...	...	33,849 1 6	189,849 4 11				
Water Supply on Gold Fields	8	95,937 2 0	110,797 5 0	214,688 16 5	137,072 6 1	351,761 2 6	Water Supply on Gold Fields.
Proportion of Expenses raising Loan ...	...	5,415 16 3	2,538 13 2				
Advance, Thames Deep Sinking Association ...	...	...	15,000 0 0	15,000 0 0	35,000 0 0	50,000 0 0	Advance, Thames Deep Sinking Association.
Coal Exploration and Mine Development ...	9	4,015 11 2	2,669 16 1	6,685 7 3	2,328 18 5	9,014 5 8	Coal Exploration and Mine Development.
Telegraph Extension	10	125,738 10 4	61,746 15 3	189,110 0 5	...	189,110 0 5	Telegraph Extension.
Proportion of Expenses raising Loan ...	...	1,624 14 10	...				
Greymouth Protective Works	...	4,000 0 0	...	4,000 0 0	...	4,000 0 0	Greymouth Protective Works.
Payments to Provinces and Road Boards ...	...	150,000 0 0	...	150,000 0 0	...	150,000 0 0	Payments to Provinces and Road Boards.
Departmental	...	52,507 15 6	17,701 2 9	70,208 18 3	2,063 0 7	72,271 18 10	Departmental.
Refunds of Stamp Revenue	...	199 2 2	178 4 10	377 7 0	...	377 7 0	Refunds of Stamp Revenue.
Refunds—Interest on Deposits	...	88 4 4	...	88 4 4	...	88 4 4	Refunds—Interest on Deposits.
Unauthorized	...	530 11 4	...	530 11 4	...	530 11 4	Unauthorized.
Total	...	2,943,101 14 8	2,331,755 16 6	5,274,857 11 2	1,819,962 13 6	*7,094,820 4 8	Total.

* Note.—This sum is subject to deductions for Recoveries amounting to £243,083 1s. 11d.

No. 13.

VICTORIAN RAILWAYS.

(Extracted from the Annual Report for 1874, of the Board of Land and Works, on Victorian Railways.)

COMPARATIVE YEARLY STATEMENT of Miles of Line Open, Cost of Construction, Rolling Stock Employed, Gross and Net Revenue, Working Charges, and Percentages of the same to Gross Revenue, &c., on the Victorian Railways, for Six and a half Years, from 1st January, 1868, to 30th June, 1874.

YEAR.	Miles open.	CONSTRUCTION.		ROLLING STOCK.				Number of Passengers conveyed.	Tonnage of Goods conveyed.	GROSS RECEIPTS.				Total Train Miles run.	Receipts per Train Mile.	MAINTENANCE.		LOCOMOTIVE.		TRAFFIC.		GENERAL.		TOTAL WORKING COST.				NET EARNINGS.			Per cent. on Capital Cost.
		Capital Cost, exclusive of Stores in hand.	Average Cost per mile open.	Passenger Engines.	Goods Engines.	Carriages.	Wagons, Vans, &c.			From Passenger Traffic.	From Goods Traffic.	Total.	Per Mile open.			Amount.	Per cent. of Gross Receipts.	Amount.	Per cent. of Gross Receipts.	Amount.	Per cent. of Gross Receipts.	Amount.	Per cent. of Gross Receipts.	Amount.	Per cent. of Gross Receipts.	Per Train Mile.	Per Mile open.	Amount.	Per Mile open.	Per Train Mile.	
		£	£							£	£	£	£		s. d.	£		£		£		£		£		s. d.	£	£	£	s. d.	
1868	254	9,130,652	35,947	44	33	147	1,245	943,327	433,470	226,208	355,195	581,403	2,289	1,138,128	10 2·60	62,698	10·78	103,307	17·77	102,637	17·65	14,335	2·46	282,977	48·66	4 11·66	1,114	298,426	1,175	5 2·94	3·27
1869	254	9,184,473	36,159	44	33	143	1,320	1,028,497	490,816	230,949	386,620	617,569	2,431	1,158,827	10 7·90	50,791	8·23	86,602	14·02	101,907	16·50	14,044	2·27	253,344	41·02	4 4·46	997	364,225	1,434	6 3·44	3·96
1870	254	9,323,340	36,706	44	33	143	1,379	1,192,474	461,466	209,222	357,795	567,017	2,232	1,116,218	10 1·91	53,552	9·45	84,323	14·87	104,769	18·48	13,964	2·46	256,608	45·26	4 7·17	1,010	310,409	1,222	5 6·74	3·33
*1871	259	9,537,120	36,823	44	39	143	1,462	664,256	237,622	102,381	173,832	276,213	1,067	530,326	10 5·00	28,727	10·40	40,218	14·56	51,710	18 72	7,194	2·60	127,849	46·28	4 9·86	494	148,364	573	5 7·14	3·12
1871–72	313	10,034,772	32,060	51	41	144	1,564	1,508,671	489,126	236,671	400,961	637,632	2,037	1,173,434	10 10·41	69,180	10·85	85,739	13·45	110,843	17·38	14·042	2·20	279,804	43·88	4 9 23	894	357,828	1,143	6 1·18	3·57
†1872–73	360	10,815,868	30,128	51	43	145	1,644	1,720,815	569,871	260,756	442,972	703,728	‡2,101	1,354,131	10 4·72	72,083	10·25	97,822	13·90	132,594	18·84	18,792	2·67	321,291	45·66	4 8·94	‡959	382,437	‡1,142	5 7·78	3·54
§1873–74	441	11,557,484	26,207	52	54	160	1,772	2,039,030	662,980	302,909	548,133	851,042	‡2,056	1,667,124	10 2·52	74,999	8·91	121,878	14·32	‖161,245	18·95	16,593	1·95	374,715	44·03	4 5·94	‡905	476,327	‡1,151	5 6·57	4·12
Totals...	2135	69,583,709	234,030	330	276	1025	10,286	9,097,070	3,345,351	1,569,096	2,665,508	4,234,604	14,213	8,138,188	72 11·06	412,030	68·77	619,889	102·89	765,705	126·52	98,964	16·61	1,896,588	314·79	32 9·26	6,373	2,338,016	7,840	40 5·79	24·91
Average	305	9,940,529	32,592	47	39	146	1,483	1,399,550	514,669	241,399	410,078	651,477	2,186	1,252,029	10 5·00	63,386	9·82	95,367	14·69	117,800	18·07	15,225	2·37	291,782	44·97	4 8·18	980	359,694	1,206	5 9·39	3·55

* Six months only.

† Average length open during the year, 335 miles.
§ Average length open during the year, 414 miles.

‡ Calculated on the average length open.

‖ Includes repairs and renewals of carriages and wagons.

Railway Department, 30th November, 1874.

JOHN STEAVENSON, Secretary.
GEO. T. A. LAVATER, Accountant.

APPENDICES TO THE PUBLIC WORKS STATEMENT, 1875.

APPENDIX A.

ANNUAL REPORT ON RAILWAYS BY THE ENGINEER-IN-CHIEF.

The Engineer-in-Chief to the Hon. the Minister for Public Works.

Sir,— Public Works Office, Wellington, 1st July, 1875.

I have the honor to submit my annual report on the position of the railways in New Zealand now under construction by the General Government.

The expenditure on railways up to the end of the year 1873–4 was	£1,713,613
During the present year 1874–5 it has been	1,857,029
Total expenditure to date	£3,570,642
There are also liabilities on contracts to the extent of	1,620,365
Total expenditure and liabilities	£5,191,007
Estimated cost of works not yet contracted for	900,974
Total estimated cost of railways	£6,091,981

Of the total expenditure during the year, £702,739 was for rails, rolling stock, and charges in England, leaving £1,154,290 as the work done in New Zealand. Considering the small population of the colony, the works are certainly being pushed on as fast as is advisable. Economy in first cost would be increased if a somewhat slower rate of progress were adopted.

As the simplest way of showing the present state of the works, I append a table of the mileage and cost of the several lines authorized:—

Name of Railway.	Appropriation.	Estimated Cost.	Total Length.	Open for Traffic.	Under Construction.	Not yet Begun.
	£	£	Miles ch.	Miles ch.	Miles ch.	Miles ch.
Kawakawa	42,500	42,500	8 ...	... ...	... ...	8 ...
Kaipara-Riverhead	65,000	65,000	15 68	... ...	15 68	... ...
Auckland-Riverhead	127,500	127,500	22 48	... ...	... ...	22 48
Auckland-Mercer	344,000	364,000	45 56	45 56	... ...	... ...
Mercer-Newcastle	170,000	175,000	30 36	... ...	30 36	... ...
Newcastle-Puniu	200,000	150,000	29 30	... ...	10 14	19 16
Waitara-Wanganui	160,500	171,000	25 44	... ...	19 44	6 ...
Wanganui-Manawatu	318,000	321,500	58 35	... ...	34 38	23 77
Napier-Waipukurau	220,000	240,400	45 22	18 13	27 9	... ...
Wellington-Masterton	388,500	447,500	44* 39	14 46	20 23	9 50
Foxton-Manawatu	60,000	84,000	24 73	... ...	24 73	... ...
Total, North Island ...	2,096,000	2,188,400	350 51	78 35	182 65	89 31
Nelson-Foxhill	101,500	114,500	20 10	... ...	19 10	1 0
Picton-Blenheim	126,000	151,000	17 68	... ...	17 10	... 58
Greymouth-Brunner	84,400	121,400	7 46	... ...	7 46	... ...
Westport-Mount Rochfort	120,500	120,500	18 25	... ...	11 17	7 8
Addington-Kowai	197,500	197,500	32 10	20 50	11 40	... ...
Canterbury Branches	283,000	318,000	103 56	83 31	15 67	4 38
Selwyn-Rakaia	88,000	81,533	12 61	12 61	... ...	... ...
Rakaia-Ashburton	89,000	78,048	18 8	18 8	... ...	... ...
Ashburton-Temuka	188,000	191,000	34 3	18 29	15 54	... ...
Temuka-Timaru	74,000	71,600	12 0	... ...	12 0	... ...
Timaru-Waitaki	220,000	205,500	38 2	... ...	38 2	... ...
Waitaki Bridge	75,000	76,600	... 66	... ...	... 66	... ...
Waitaki-Moeraki	261,000	298,400	39 21	... ...	39 21	... ...
Moeraki-Dunedin	430,000	427,000	47 67	... ...	12 17	35 50
Port Chalmers-Dunedin	210,000	221,000	8 0	8 0	... ...	... ...
Dunedin-Clutha	326,000	372,000	51 35	6 5	45 30	... ...
Tokomairiro-Lawrence	156,000	164,000	22 0	... ...	22 0	... ...
Clutha-Mataura	260,000	254,000	47 72	... ...	25 72	22 0
Invercargill-Mataura	148,000	187,500	39 56	32 10	7 46	... ...
Winton-Kingston	244,000	252,500	68 36	... ...	50 0	18 36
Total, South Island ...	3,681,900	3,903,581	640 2	199 34	351 18	89 30
„ North Island ...	2,096,000	2,188,400	350 51	78 35	182 65	89 31
Grand Total	5,777,900	6,091,981	990 53	277† 69	534 3	178 61

* The section from Featherston to Masterton is not included.

† Of this total length, 188 miles were opened during the current year.

It will be seen from this table that there are now opened for traffic 277 miles. By the end of September it is expected that further sections to the extent of 173 miles will be opened, making in all 450 miles, or nearly one-half the total length. One hundred and seventy-eight miles are not yet placed under contract. The plans and specifications for half of this latter distance are prepared, and tenders may be called for whenever it is considered desirable to do so.

South Island.

The works in the South Island are now so far advanced that their successful completion for £3,903,581 may be confidently reckoned on. This is £221,681, or 5·6 per cent., more than the original estimates; the extra cost being due almost entirely to works being done which were not at first intended.

In the original scheme it was always strongly urged that the lines were not to be fenced, and that the stations should be of the roughest character. It has been found impossible to keep strictly to this intention. The cost of land would in many cases have been much increased if a promise to fence had not been given, and it has been found necessary to expend in the South Island £113,000 for fencing, almost the whole of which is extra to the original estimates.

It has also been found necessary to increase the station accommodation and rolling stock beyond the original estimates, owing to the great increase in the trade of the country which has taken place since the works were begun. Exclusive of sidings, the stations have cost £239,000. Part of this is due to the increased cost of building, the prices for which have advanced from 50 to 70 per cent. within the last two years; but a great deal is due to increased accommodation which it has been found necessary to provide over and above that contemplated in the original estimates.

The rapid improvement in the traffic of the opened lines convinced me that I had under-estimated the probable revenue, and I therefore recommended that an order for further rolling stock should be sent to England, to meet a much larger traffic than I had provided for. The amount of this order was about £100,000 for both islands.

The extremely high price to which the cost of iron advanced was also not anticipated: part of the rails have cost as much as £14 12s. 6d. a ton f.o.b., a price which no one could have expected.

Shipping charges in New Zealand have been very much heavier than was looked for, being more than from Europe, and in the case of heavy articles like locomotives it has often cost two or three times as much to convey them a few miles by sea as the whole freight from England.

Deducting these items of increased cost, the South Island railways will be built within the original estimates.

There have been, other than the above, very few unforeseen expenses for works in New Zealand. An account of each of them will be found in the detailed reports on the several lines. Their total cost amounts to £85,000, which in proportion to the total cost of the lines, viz. £3,903,581, is a small sum.

The average cost per mile of the whole of the South Island lines is £6,099. There are, on the 550 miles now opened or under construction, eleven miles of bridging, and 2 miles 34 chains of tunnel, which sufficiently shows that the country passed through is not an easy one.

North Island.

In the North Island the cost of lines authorized will be £2,188,400, against an appropriation of £2,096,000; the excess being £92,400, or 4·4 per cent. The total length is 350 miles 51 chains, and the average cost per mile £6,241.

The remarks above made in reference to the cost of works in the South Island apply equally to those in the North. There are 3 miles 63 chains of bridging, and 1 mile 8 chains of tunnels, included in the 260 miles now completed or in course of construction.

General.

Taking the two islands together, the average cost per mile is £6,149, of which permanent way, rolling stock, and stations absorb £3,037. There are 812 miles either opened or now under construction, on which are 14 miles 57 chains of bridging, and 3 miles 42 chains of tunnels.

Taking into account the above-mentioned causes which have added to the cost of the works, it is satisfactory to find that the total excess over the appropriations will be only £314,081 or 5½ per cent., for which sum more rolling stock and better station accommodation have been provided, iron used for the more important parts of the bridges instead of wood, heavier rails supplied for many of the more difficult parts of the lines, and a great deal of fencing made beyond that provided for in the estimates.

The price of labour has maintained its high rate throughout the year; ordinary labourers have received from 7s. 6d. to 10s., and artizans from 10s. to 15s. per diem.

Opened Lines.

In the North Island, there are 78 miles open for public traffic, which are being worked by the General Government, with a financial result which is very encouraging.

The first section of the Wellington and Masterton Railway, which begins nearly a mile from the centre of the town of Wellington and runs only 8 miles, has paid 3·35 per cent. per annum on the average cost of all the lines. When opened to the Upper Hutt, which will be about the end of September, it will catch the traffic from the interior, most of which now goes by road, as it does not pay to load into the railway wagons for so short a distance as 8 miles.

The Napier and Waipukurau line is opened for 19 miles, and has paid 2·5 per cent. per annum on the average cost of New Zealand railways. The traffic will certainly much increase and be more profitable when the next section is opened.

The Onehunga branch of the Auckland and Mercer Railway has paid for the past year at the rate of 3¼ per cent. per annum on the average cost of New Zealand railways. Owing to its steep gradients this is an expensive line to work.

The main line to Mercer has just been opened, but sufficient time has not yet elapsed to show its earnings.

In the South Island there are, exclusive of those built by the Provincial Governments, 200 miles open, of which 154 are in Canterbury, and 46 in Otago. They are being worked by those Governments.

In Canterbury two of the branch railways are stated by Mr. Maude, the Secretary for Public Works for the Province, in his annual statement, to be earning less than their actual working expenses, although the maintenance of way and works and the junction and management expenses were not charged to them. The branches had only been opened four months, however.

There was a profit of £14,677 on the whole Canterbury system, but this includes the Christchurch and Lyttelton, and Christchurch to Selwyn Railways, which are the property of the province; and as the accounts of the different lines are not kept apart, the profit due to the General Government railways cannot be stated.

The Canterbury provincial lines, and 20 miles of the General Government lines, are broad gauge (5 ft. 3 in.).

In Otago (North) 14 miles are being worked by the Provincial Government—that is, from Dunedin to Port Chalmers, 8 miles, and from Dunedin to Green Island, 6 miles. The annual report by Mr. Conyers, the General Manager, states that a profit of £17,104 was earned during the last year, although the Green Island section was opened for only nine months. This is equal to 20 per cent. on the average cost of New Zealand railways.

In South Otago, 32 miles of the Invercargill and Mataura Railway are being worked by the Provincial Government in connection with their own lines, and the profits of the different sections cannot be separated.

The General Manager reports a profit on all the lines of £5,219, to which should be added £1,518 properly chargeable to capital, making £6,737. This is equal to 2·3 per cent. on the average cost of New Zealand railways.

As an average of all the railways—excluding the Dunedin and Port Chalmers, which is doing an exceptionally large traffic—it may be said that they are already paying from 2 to 3 per cent., although the opened portions are generally too short to catch the main part of the business they will eventually get. When we consider that they have been opened less than a year, this result must be considered as very favourable.

The Victorian railways paid less when they had been opened four years than the New Zealand railways are paying in their first year; the revenue of the former has now increased to 4 per cent. per annum on their cost. It is therefore reasonable to expect that the revenue of the New Zealand railways will also increase, and that they will very shortly pay the whole interest on their cost.

During the past year a portion of the Canterbury Press has re-opened the subject of gauge for railways, and so much has been said adverse to the narrow gauge, and impugning the wisdom of the Government in constructing cheap lines, that a few remarks on the subject may not be out of place.

We have in the Dunedin and Port Chalmers (narrow gauge), and the Christchurch and Lyttelton (broad gauge) Railways, examples which are so similar in many of their conditions, that the relative advantages of the two systems may be most instructively compared.

Both lines connect the capital of the province in which they are situated with its sea port; they are both very short, the broad gauge being 7 miles and the narrow gauge 8 miles long. The receipts for 1873 on the broad gauge were £44,426; for 1874-5 they were £32,592, on the narrow gauge. The difference in the receipts was due to higher rates charged on the broad gauge, the traffic on the two lines being nearly the same. Both lines are well and substantially built with heavy rails, and are managed by able and experienced men for the respective Provincial Governments.

Here the points of resemblance cease. The points of difference are that the broad gauge is nearly straight, with a ruling gradient of 1 in 140; the narrow gauge is a succession of reversing curves of from 8 to 10 chains radius, with a ruling gradient of 1 in 57.

The narrow-gauge sea terminal station is miserably insufficient; and the city terminus was, until quite lately, nearly as bad. On the broad gauge both stations are roomy and convenient.

On the whole, the facilities for working are immensely in favour of the broad gauge. The revenue returns, however, by no means show this advantage.

The one line is worked with low speed and light rolling stock; the other as a first-class line, with high speed, heavy rolling stock, and luxurious carriages, the result being shown in the relative cost of working.

In 1873 the working expenses of the broad gauge were 65·84 per cent. of the gross revenue. I am unable to use a later year for comparison, as the Christchurch and Lyttelton accounts are not now separated in the printed returns from those of the other Canterbury lines.

It is fair to assume, however, that no great change in the cost of working has taken place in the interval, as the percentage for all the Canterbury lines was in 1873, 74 per cent.; in 1874–5, it was 76 per cent., or rather would have been, had not a reduction of rates been made, which raised the actual ratio to 84 per cent. The change in the whole being so slight, there has probably been no great change in the Lyttelton section.

We may therefore fairly compare the narrow-gauge working for last year with the broad gauge for 1873.

In the first place the rates on the broad gauge are much higher than on the narrow gauge, as will be seen from the following table:—

Christchurch and Lyttelton Railway. 5 ft. 3 in. Gauge Rates.			Dunedin and Port Chalmers Railway. 3 ft. 6 in. Gauge Rates.			
11⅞d.	...	...	7d.	...	...	Per ton, per mile, ordinary merchandise.
9$_1$d.	...	...	4d.	...	...	Ditto ditto, farm produce and heavy goods.
2d.	...	...	1d.	...	...	Per 100 sup. ft. of timber.
3d.	...	...	1½d.	...	...	Per bale of wool.
4⅔d.	...	...	3d.	...	...	First-class passengers, per mile.
2 d.	...	...	2d.	...	...	Second-class ditto, ditto.

By taking the traffic returns for the year, the loss of revenue which would have followed had the rates on the Christchurch line been reduced to the Dunedin standard can easily be calculated. It amounts to £15,486, which would be sufficient to raise the working expenses to a little over the total receipts; there would have been an actual loss on working of £312, besides the whole interest on the cost of the line.

The narrow-gauge line, on the other hand, is being worked for 52 per cent. of its receipts, and has paid a profit of 20 per cent. on the average cost of construction of railways in New Zealand.

The broad-gauge advocates, pleased with the rapid rate of travelling and the smoothness with which the heavy carriages run on the heavy rails, wish, without counting the cost, to have all the New Zealand railways constructed and worked in the same manner as the Christchurch and Lyttelton line; but if that line can only pay its working expenses by levying rates double those which are sufficient to allow the narrow gauge to pay a very handsome profit, in what position would the other New Zealand railways be, where the traffic is so much smaller, and where the rates could not be raised to the broad-gauge standard?

There could be only one result of such a policy, and that is the absolute ruin of the colony. If, however, there is a wish to adopt it, the narrow gauge can be worked at speeds of 30 or 35 miles an hour quite as cheaply or cheaper than the broad; for higher speeds the cost would probably be greater. Of course heavy engines and heavy stock would be required. To get the smooth running of a first-class line, heavy rails and ballast are necessary: this means wider banks and cuttings. Easy curves and gradients are of course required for high speeds, and would have to be provided; in short, the cost of construction would be not very much less than for a first-class broad-gauge line, or in difficult country probably three times the cost of the present lines.

If the system now adopted for working the narrow gauge is adhered to, the railways of New Zealand will in a few years earn a net income equal to the interest on their cost, even with the present scale of charges, which is considerably lower than that charged on the lines worked by the Provincial Governments of Canterbury and Otago; but if the thoughtless agitation for high speeds is given way to, the colony will have to pay—out of taxation—the whole interest on the Public Works Loan, and a still larger sum in addition to meet the loss in working.

SURVEYS.

South Island.

Since my last report surveys and explorations have been made on the remaining links of the South Island railway system, as defined by the Hon. Sir Julius Vogel in his Financial Statement of last year. The present appropriations provide for a continuous trunk line from Kingston, on Lake Wakatipu, by way of Invercargill, Dunedin, and Christchurch, to near the northern boundary of Canterbury, the ultimate intention being to push it on northwards to Picton and Nelson, and at the same time to connect the West Coast with the main trunk line.

Nelson to the Grey.

A survey was made last year from Nelson to Greymouth, but was not completed in time to lay the results before you in my annual report. The cost of this line would be £1,254,152. It passes through a wild country, the greater part of which is barren rock and mountain. There are one or two small valleys fit for settlement, but unless minerals are discovered in large quantities along the route of the railway there can never be any local traffic. The western terminus is rich in coal and gold, but coal would never bear the cost of transport by rail to Nelson, especially as the Grey and Buller Rivers are both large enough to admit colliers. The Buller in particular is a very fair tidal port, with a depth of 19 feet on the bar at high water, and could be made safer for shipping at a not unreasonable cost. The curves and gradients on the railway would be very severe, and the working expenses high.

A copy of Mr. Rochfort's report on this survey is attached.

Nelson and Picton to North Canterbury.

A reconnaissance survey has also been made, by Mr. Foy, of the country between North Canterbury and Nelson and Picton. The most favourable lines, or rather the least unfavourable, are by way of Jollie's Pass, the Acheron River, and Top-house to Nelson; and by way of Jollie's Pass, the Acheron River, and the Wairau to Blenheim.

The former line appears from the report to be quite impracticable, and the latter nearly so, at any moderate cost; but I have not yet seen Mr. Foy since the completion of his survey, and will postpone any further remarks on his report until after his arrival in Wellington.

West Coast to Canterbury.

In my last report a description was given of the pass through the Southern Alps, at the head waters of the Rakaia. This pass is impracticable for a railway, or nearly so.

The next large river northwards is the Waimakariri; the pass at its head waters is well known, as the Christchurch and Hokitika Road passes over it. It is better than the Rakaia Pass, but still very unfavourable.

The two remaining rivers to the north, the Huranui and the Waiau-au, or Dillon, have been explored this season by Mr. Foy.

Of all the passes, that of the Hope Branch of the Waiau-au, is the least objectionable, and it has the advantage of making use of 40 miles of the trunk line between Canterbury and Nelson, or Picton.

After Mr. Foy's arrival in Wellington, I will report further on these lines.

Greymouth to Hokitika.

The survey between Greymouth and Hokitika has been completed; but the plans have not been received, and an estimate cannot yet be furnished.

North Island.

It has not been considered necessary to continue the surveys northwards from Featherston, on the Wellington and Masterton Railway, as the construction of the mountain section across the Rimutaka Range will still take nearly two years to complete, owing to the very heavy work to be done. An engineer will, however, be detached for this survey at once. The country is well known, and, with the exception of a few miles at the dividing ridge, is favourable as far as Woodville.

From Woodville northwards towards Napier, surveys and explorations are being made. The country for about 35 miles, to the end of the work now in hand, is very much broken by deep ravines cut by the Manawatu and its tributaries, entailing heavy viaducts. Otherwise, the work will be comparatively light.

From Woodville westwards to Bunnythorpe Junction, 3 miles through the Manawatu Gorge, will be very expensive. From the preliminary surveys which have been made, about 1 mile of tunnelling appears to be necessary. The remaining length of 10 miles is more favourable.

At Bunnythorpe, the line to Foxton meets that towards Wanganui. The Foxton line is opened as a horse tramway, but is being converted into a railway.

Between Bunnythorpe and Wanganui there is a gap of 5 miles, for which no appropriation has been made. The plans and surveys are however complete.

Thence to Wanganui all surveys are completed where the work has not actually been let.

Between Wanganui and New Plymouth the country has been partially surveyed. It is very unfavourable; both earthwork and bridging will be heavy.

Nothing can at present be done to complete the remaining link of the North Island system—that is, the line from New Plymouth northwards to Te Awamutu; but such scraps of information as are from time to time obtained regarding the intervening country tend to strengthen the opinion that a not unfavourable line will be eventually found.

PROPOSED NEW WORKS.

SOUTH ISLAND.

Station at Port Chalmers.

The present terminus at Port Chalmers of the Dunedin and Port Chalmers Railway is quite insufficient for the business of the line, and a sum of £10,000 will be required for its improvement.

Workshops at Dunedin.

A sum of £15,000 will be required for workshops at Dunedin.

Westport and Mount Rochfort Railway.

A sum of £30,500 will be required to complete the coal staiths and river protection works at the Buller. This sum was included in my original estimate of the cost of the works, but no appropriation for it was taken.

NORTH ISLAND.

Waitara to Wanganui.

A further appropriation on account, of say £30,000, will be required for this line if it is to be continued at present.

Wanganui to Manawatu.

As above stated, there is no appropriation for 5 miles of the length between Bunnythorpe and Wanganui. If this gap were closed there would be direct communication between Foxton, Bunnythorpe, and Wanganui. The cost of this length would be £30,500.

Extension—Napier to Waipukurau.

A sum of £30,000 has been appropriated for the construction of a tramway from Waipukurau to Takapau. The experience gained on the Foxton Tramway shows that a wooden tram is not sufficient for a large timber traffic, and that a railway would have to be eventually laid down, as is being done at Foxton.

A further sum of £27,000 would be required for this purpose.

Featherston to Masterton.

When the original appropriations for the Wellington and Masterton Railway were made, a traverse had been run through the Rimutaka, showing that a line was feasible. No trustworthy estimates could be made, however, from such information as was then obtained. An approximate estimate was made, which was all that could be done in the time given, for a line with three-chain curves and of the lightest description, so that its cost might be kept within an average of £5,000 a mile. It was laid out to run round every spur and to head all the gullies, and would have proved quite insufficient to meet the traffic. It would have limited the business with the interior so much that it would have been found necessary to re-build it with more favourable curves very shortly after its completion.

The work as now being constructed will form a substantial railway, with 52lb. rails, and curves of not less than 5 chains radius. The embankments are made wider on the mountain section than in the level country. Masonry has been used throughout for culverts, and for many of the bridge abutments. The bridges across the Pakuratahi have iron lower booms and vertical rods. A tunnel of 630 yards length has also been introduced at the summit, to reduce the height over which the traffic has to be hauled. Altogether, the line will be equal to a very heavy traffic.

The plans and sections have only been completed during the past year, and until they were made no trustworthy estimate of the cost could be arrived at in so rough a district.

The estimate now submitted will complete the line to Featherston, but a new appropriation of £120,000 will be required for the Masterton section of 24 miles.

Terminal Station at Wellington.

As the line is extended into the interior, the present temporary station at Wellington will be quite insufficient. It will cost £60,000 to make a convenient and roomy station, including £12,000 for reclamation of the land, and £25,000 for a new railway wharf, which will be required.

Workshops.

A sum of £20,000 will be required to meet the cost of workshops for the manufacture and repair of rolling stock at Wellington and Auckland.

The following Table shows the above new works, with their estimated cost:—

Name.	Appropriation as a Tramway.	Estimated Cost.	Total Length.	Under Construction.	Not yet Begun.
	£	£	Miles ch.	Miles ch.	Miles ch.
Extension—Waitara to Wanganui, on account	...	30,000	... ...	... ...	... ...
Extension—Wanganui-Manawatu	...	30,500	5 ...	... ...	5 ...
Extension—Napier-Waipukurau	30,000	57,000	13 14	13 14	... ...
Featherston-Masterton	...	120,000	24 ...	... ...	24 ...
Terminal Station at Wellington	...	35,000	... ...	... ...	... ...
Wharf at ditto ditto	...	25,000	... ...	... ...	... ...
Workshops at Auckland and Wellington	...	20,000	... ...	... ...	... ...
Total, North Island	30,000	317,500	42 14	13 14	29 ...
Station at Port Chalmers	...	10,000	... ...	... ...	... ...
Workshops at Dunedin	...	15,000	... ...	... ...	... ...
Coal Staiths and River Protection, Mount Rochfort ...	...	30,500	... ...	... ...	... ...
Total, South Island	...	55,500	... ...	... ...	... ...
„ North Island	30,000	317,500	42 14	13 14	29 ...
Grand Total	30,000	373,000	42 14	13 14	29 ...

I will now report briefly on the several works which have been sanctioned by the Legislature.

NORTH ISLAND.

Kawakawa Railway.

Work on this line has not been begun, pending the completion of the agreements to be entered into between the Government and the Coal Mine Company.

Kaipara to Riverhead.

The rails are laid over the whole line, but the ballasting is not completed. This line was commenced by the Provincial Government of Auckland, and no change in the original designs has been made.

Both the termini are very inconvenient, and will eventually have to be altered; the cost of making proper stations would be not less than from £20,000 to £25,000. I do not recommend that this outlay be incurred at present, until more is known of the probable traffic; but think it will be necessary within a year or two.

The fern and clay ballast has been tested to some extent by the late wet weather, and is answering pretty well; but should the traffic increase, it will have to be changed for proper ballast. This line may be expected to be opened, with present termini, by end of August.

Auckland to Riverhead.

No work has been done on this line, but the plans and specifications are prepared.

It has been proposed by some of those most interested in the line to change its direction, so as to keep it along the shore of Auckland Harbour.

The extra cost of doing so would be very great, and even the small amount of local traffic which may be expected on the present line would be lost. The through traffic would be benefited, but this will probably be very small for years to come. The whole traffic, indeed, will be so small, that I do not recommend any further expense in the construction of this line; and cannot, therefore, recommend the proposed change in its general direction.

Auckland to Mercer

Was opened for public traffic on the 20th May. The cost has exceeded the estimate by £20,000, or 5·8 per cent. The rolling stock has cost £38,000, the estimate having been £22,000. Permanent way in England has cost £50,226, the original estimate having been £47,200. The insufficiency of the estimate is confined to these two items.

There is much more rolling stock on the line than was estimated for, but the greater traffic of the district has rendered the increase necessary.

Mercer to Newcastle.

The first 10 miles are being done by contract, and fair progress has been made. The bridge work, which is also being done by contract, is well advanced.

The remaining 20 miles have been nearly finished by the Engineer Volunteer Militia. This force is now disbanded, and the completion of the work will be let by contract.

Rails will be conveyed by steamer to Taupiri, where a wharf has been built, and platelaying will be very shortly begun. The only ballast obtainable is at Taupiri, and the line will be ballasted in both directions from that place.

At the same time, in order to hasten the work as much as possible, platelaying will be carried on from the Mercer end as soon as the tunnel and heavy cuttings at Mercer are through. The line from Mercer to the north bank of the Waikato at Newcastle may be expected to be open by April next.

Newcastle Southwards.

The bridge over the Waikato consists of three spans of 120 feet, and a land span of 30 feet; it is in course of erection, and will be completed in March next.

The earthwork and culverts are finished for 10 miles, and the rest of the distance to Ohaupo is in hand. This work has been done by the Engineer Militia. From Newcastle to Hamilton the line may be ready for traffic by May next.

The direction of the line beyond Ohaupo will depend on whether the Waikato or Waipa Valley will be followed. For 30 miles on the Waipa line there would be very little work, but beyond that is almost unknown country, which for the present, at least, cannot be explored.

Waitara to New Plymouth.

This line should have been opened on 1st April last, but the unexpected necessity of importing all the timber required for sleepers and bridges has caused delay. It will probably be opened by the end of September.

New Plymouth to Patea.

The surveys for the first section of 13 miles 40 chains are completed.

An appropriation on account was taken for this line, which will be sufficient for 6 miles only.

Patea to Wanganui.

The first section from Wanganui of 8½ miles has been let. An appropriation of £50,000 on account was granted. This will not be sufficient to complete the first section, which will cost £60,500.

Wanganui to Manawatu.

The bridge over the Wanganui River, and 20 miles of the line, are under contract from the northern end. From the southern end 14 miles are in course of construction. The intervening sections, including a gap of 5 miles, for which no appropriation has been made, are ready to let at once.

The formation of the first contract from the northern end, about 10 miles in length, is completed for 6 miles, the remaining 4 being far advanced. An engine is being erected, and platelaying will begin as soon as it it ready.

The next section is also well advanced, so that it will be ready for platelaying by the time the engine can run over the first length.

From the southern end platelaying has been begun, but the wet weather has almost put a stop to work for the present.

A bridge, consisting of 5 spans of 40 and one span of 162 feet, suitable for both road and railway, has been completed across the Manawatu River at the Gorge.

The length from the Wanganui River to Turakina is expected to be ready for traffic by April, 1876, and from Palmerston to Feilding by the end of this year.

Napier to Waipukurau.

Nineteen miles are now opened for traffic, and the rest of the work is well advanced.

The most important works are the bridges across the Waipawa and Tukituki Rivers. They will be delayed on account of a ship-load of timber imported for them having been condemned.

The cost of this line will exceed the estimates by £20,400, or 9·2 per cent.; this is due to a general rise in prices, especially in timber and bridge work. The cost of the latter will exceed £44,000, for which only £27,500 was provided in the estimates. The latter were framed on the supposition that small-span bridges would be sufficient, but it is neither desirable nor safe to use very short spans for the New Zealand shingle-bearing rivers, and the original plans have been modified by using spans of 60 feet, which are more expensive. Iron has also been used for the lower booms, at an increase of cost, but with a more than corresponding increase of efficiency. The New Zealand timbers are all so short in the grain, that I have avoided as much as much as possible using them, where they would be subjected to a tensile strain, as in the lower booms of bridges.

The line from Pakipaki to Te Aute may be expected to be open for traffic in November, from Te Aute to Waipukurau in January, and from Waipukurau to Takapau in March next.

Wellington to Masterton.

Fourteen miles are now completed and opened, but, as there would be no traffic on the last section of 6 miles until the bridge across the Hutt is finished, trains are not at present run over it.

The bridge is nearly completed, and has been very creditably done by the contractor, Mr. McKirdy.

It is expected that the line to the 20th mile will be opened early in October.

From the 20th mile to the summit, at the 34th mile, the work is under contract, but the progress made has not been satisfactory, and steps will have to be taken to procure more energetic action on the part of the contractors. From the summit to Featherston plans and sections are ready, and tenders for contract will be invited at once.

The rails and stock for the Fell Incline from the summit to the Wairarapa Plains have been ordered, and are now under construction in England.

I have already explained about the financial position of this line, showing how the necessity for the large increase of appropriation has arisen, but may add that the cost of land, engineering, permanent way, rolling stock, stations, and fencing, amounts to £256,000.

The extra appropriation required to carry the line to Featherston is £59,000.

Foxton Tramway.

An appropriation having been granted for the substitution of iron for wooden rails, these are being gradually exchanged, as the wooden rails are getting used up, and unfit for traffic.

To complete this tramway as a railway will require a further appropriation of £24,000 to meet the cost of stations, rolling stock, &c.

The traffic will be liable to interruption for a day or two at a time when extraordinary floods occur, but the expense of raising the banks above flood level would be greater than I can recommend to be undertaken at present.

SOUTH ISLAND.

Nelson and Foxhill.

The contract time for completion is 23rd October, but there will probably be some delay beyond that date.

The cost will exceed the estimates by £13,000. This is caused by the erection of £6,600 worth of fencing, and the use of large spans, with iron lower booms, for the bridges.

The cost of land has also been very great, having cost £13,000.

A further sum of £5,000 will be eventually required to extend the line to the port.

Picton to Blenheim.

The contract date for the completion of this line was August last, but there have been so many delays from floods, that it will not be ready for two or three months yet.

The rails are laid to within a mile of the end, and the ballasting is being done.

A sum of £13,500 has been expended in unforeseen contingencies, to provide further bridges shown to be necessary to carry off the immense floods to which the district is liable, and to make good extensive slips which have taken place.

An expenditure of £4,000 has also been incurred to make the ballasting as heavy as on other lines, which was not provided for in the estimates.

The original intention was to make this little better than a tramway, with light rails and bridges; forty-pound rails were afterwards sanctioned, but no provision was made for any increase in the station accommodation, or in the quantity of ballast over that originally provided, as described in my report, printed during the session of 1872. The line, has, however, been constructed as substantially as the other New Zealand lines, and the excess of cost is £40,000, made up as follows:—

Extra works rendered necessary by floods and landslips	£13,500
Increased quantity of ballast	4,000
Increased rolling stock...	2,500
Increased station accommodation	9,000
Under estimate in cost of land and engineering	3,000
„ „ fencing	500
„ „ rails in England...	2,000
Sundries	500
	£35,000
Extension to Blenheim	5,000
	£40,000

The last item is an estimate of increased expenditure required to keep the line and terminal station at Blenheim high enough to be free from floods. The whole district through which the railway passes is subject to extensive floods, the full extent of which was not known until the railway embankments confined the flood waters and made them pass through defined openings, instead of spreading over the whole country.

The extension inte the centre of Blenheim will cost £15,000; if this is not at once carried out, the extra appropriation reqnired will only be £25,000. I do not think it judicious to incur this expense at present.

Westport to Mount Rochfort.

The first section of 7½ miles will be ready in August, when the protective works will be begun, plans and specifications for which have been prepared.

The second section of 3½ miles to the Waimangaroa is also under contract. This will bring the line within a mile of the coal seam lately discovered on this stream, and should the mine be worked coal may be exported from the Buller in a few months.

The remaining section to Ngakawa is under survey.

Greymouth to Brunnerton.

The formation of this line is finished, and tenders for laying the permanent way are now invited by advertisement.

At the Grey Gorge a suspension bridge of 300 feet clear span is being erected for conveyance of the coal from the mines to the railway. The contract date for the completion of the bridge is 5th September next, but it is scarcely possible that it will be ready to time.

At Greymouth a wharf 800 feet long is being built for the shipment of coal. This work should now have been completed, but will probably not be ready till October next.

Great delay has been caused on this line by landslips, which have also been the cause of an unexpected expenditure of about £15,000. An expensive viaduct had to be built to pass one slip, and a number of small works were rendered necessary by slips in cuttings and banks. Extra culverts have also been found necessary.

The bridge over the Grey, at the Gorge, was also built, instead of a wire tramway as originally intended. The increased cost is £5,500.

There is an excess of £9,000 in the cost of rolling stock over the estimate, due largely to increased quantity ordered; while the cost of rails has been exceptionally heavy, being £4,000 more than the estimate, and equal to more than £1,500 a mile.

The cost of land has been very high, being £3,000 more than was expected.

These items explain the excess of the cost over the estimates.

Addington to Kowai.

This line was opened before the date of my last report up to the Ashley Bridge. This structure is now opened for traffic, so that permanent-way materials can be conveyed across it for the line beyond which is under contract, and will probably be opened by the end of September. The difficulty of getting sleepers is the only likely cause of delay.

A length of two miles only has been opened this year, including the bridge, which consists of fifty spans of 60 ft. each, and four spans of 12 ft. each.

Canterbury Branch Lines.

These are now all open, except the Kaiapoi and Eyreton, which will be finished in September, a portion of the Rolleston to Malvern, which will be ready in August, and the Waimate branch, which is not yet begun, as the main line is not ready up to the junction.

It will be commenced very shortly.

The excess of cost over the estimates is due entirely to the very high prices paid for all the rails for these lines.

Selwyn to Rakaia and Rakaia to Ashburton.

Both opened before my last annual report.

Ashburton to Temuka.

The Ashburton Bridge, consisting of twenty-eight spans of 60 ft., and twenty spans of 13 ft., was opened on the 31st May, as well as the line to the north bank of the Rangitata River.

The Rangitata Bridge is under construction, and a temporary bridge is being made, which will carry the traffic until the main bridge is ready.

The temporary bridge is already carried across the north branch of the river, and will be across the south branch some time in August.

Temuka to Timaru.

The contractor for the section between the Rangitata and Temuka having failed to make proper progress with the Orari Bridge, that work was put into the hands of Mr. E. G. Wright, who has begun work. The earthwork and small bridges are nearly finished.

From Temuka southwards the principal works are the Temuka and Opihi Bridges, the former of which is finished, and the latter nearly so. The line from the Opihi to Timaru is completed.

Timaru to Waitaki.

The whole of this line is under contract, and will be completed in about a year.

Waitaki Bridge.

This important work is in a forward state. It consists of one hundred and ten spans of 33 ft. each, supported on cast-iron cylinders filled with concrete.

The whole of the piers are in place, and seventy-seven of the spans erected; each span consists of two wrought-iron plate girders.

The contract date for completion is 27th October next, and there is no reason to suppose there will be any delay.

Waitaki to Moeraki.

The first section from the Waitaki to Oamaru is nearly completed. From Oamaru southwards to Moeraki the work is under construction by Messrs. Brogden, whose contract time expires early next year.

On the port branch the line had to be changed owing to landslips, which has increased the cost of construction by £18,500.

For this line no estimates were prepared, as at the time the appropriations were granted for the general railway scheme new surveys had been begun, by which this line was very much changed in direction. An addition to the original estimate was made, to meet obviously too low prices, for bridging and permanent way, but there were no data on which to frame an estimate of the cost of earthworks.

The cost will exceed the appropriation by £37,400, of which £9,000 is for extra rolling stock, and the rest is due to the original insufficient estimates for formation having been adopted, while data for correcting them were not to hand.

Moeraki to Dunedin.

The most important work on this line is the Deborah Bay Tunnel, which is the key to the whole work. It is 63½ chains long, of which about one-half is finished.

Between the tunnel and the junction with the Port Chalmers Line is a short contract of about three miles in length of very heavy work. The contractor having failed, it will be re-let.

North of the tunnel, the Purakanui contract, of about eight miles, has been let.

The surveys of the rest of this line are nearly ready, and the work will be begun shortly.

Dunedin to Port Chalmers.

This line has been worked by the Provincial Government, and, as before stated, is paying over 20 per cent. on the average cost of New Zealand railways. The actual cost of construction of the line cannot be ascertained, as it was built by a private firm and purchased by the Government.

Dunedin and Clutha.

The first section to Green Island has been opened nearly a year, and the remainder will be opened in September.

The Chain Hills Tunnel has caused great trouble and expense. It was fully expected, from borings made, and from the nature of the cutting adjoining the tunnel, that solid rock would be found throughout. Instead of this, the rock has proved to be mica schist, so fractured and fissured that timber had to be employed throughout the whole length, and, with all precautions, the excavation has proved a very dangerous work. Brick lining has been found necessary throughout the whole length of the tunnel. At the entrances extensive slips have occurred, which have also added to the cost of the work. The total of these extras amounts to £25,000.

Fencing to the extent of £6,000 beyond the original estimate has been done. Extra culverts and bridges have cost £3,000.

Extra price of rails in England amounts to £11,000.

These items explain the excess of cost over estimate.

Tokomairiro and Lawrence.

The principal work remaining unfinished on this line is the Glenore Tunnel. The contractor having failed to carry out the work, his contract was determined by the Government and re-let.

The date for completion is now 1st May, 1876.

Clutha to Mataura.

The bridge over the Clutha River has not been carried on with proper energy, and the Government have determined the contract. It will be re-let as soon as possible. The north abutment is nearly finished, and the material has been nearly all conveyed to the site of the bridge.

From the bridge to Clinton is not yet let, but the surveys are finished, and work will be shortly begun.

From Clinton to the Mataura the work is in hand, and will be finished early next year.

Mataura to Invercargill.

The first section of this line was opened for traffic in February, 1874, and the second on 7th June, 1875, making 32 miles open out of 40 miles. The rest of the line will be finished shortly.

Great delay was caused by landslips in the Edendale cutting, at the twentieth mile from Invercargill. The slopes fell in several times, and had to be excavated again. A temporary loop line was made over the hill alongside the cutting, so as to allow the platelaying and ballasting to go on while the cutting was in progress.

The extra cost of these slips and of the loop line amounts to £7,500. Extra fencing to the amount of £6,500 has been done, and extra station accommodation to the amount of £9,500 provided.

When the estimates for this line were made the great rise in the cost of iron had only begun, and it was not expected to reach the height to which it afterwards attained. The cost of rails and rolling stock was under-estimated to the extent of £14,000.

Winton to Kingston.

Forty-six miles are under contract, on 22 miles of which the rails are being laid, and this length will be open for traffic in August.

The remaining length of 20 miles to Kingston will be placed under contract very shortly.

I have, &c.,

John Carruthers,
Engineer-in-Chief.

The Hon. the Minister for Public Works.

ENCLOSURES TO THE ENGINEER-IN-CHIEF'S ANNUAL REPORT.

Enclosure No. 1.

REPORT ON THE HARBOUR AT RIVERTON.

The Engineer-in-Chief to the Hon. the Minister for Public Works.

Having by your directions visited and examined the Port of Riverton, I have the honor to report thereon as follows:—

The port is situated at the mouth of the Jacob's River, and may be described as a small bar harbour. Vessels drawing from 9 to 10 feet can freely enter at high water.

Regarded as a small harbour, the port is in all respects very good indeed. The bar is protected from prevailing winds by Howard Point and several outlying islands, under the shelter of which vessels can anchor while waiting for water to take the bar. Once inside, there is a considerable basin where vessels can lie, but, as it is a short distance below the business part of the town, it is not much used; there is another smaller basin opposite the town, which is not large enough for more than one or two small craft to lie in without grounding at low water, and they have to swing on two anchors; still, this is, on account of its nearness to the town, the ground usually chosen for anchoring.

In its present state the port is capable of accommodating a very considerable trade, certainly very much larger than it has at present or is likely to have for some years. It was, when I visited it, very deficient in wharf accommodation, as there was only one small jetty, and this was placed at a part of the river which was nearly dry at low water, so that vessels could only come up to or leave the jetty on the top of the tide; a very serious inconvenience, which has, I believe, done more to injure the reputation of the port than all other causes combined. I believe the Provincial Government have since built a jetty in deep water.

There would be no engineering difficulty in considerably improving the port. A solid pier run out from the east bank of the river would be required so as to guide the flood and tide waters, and give them greater power to act on the bar than they have at present. In the absence of plans showing the depth of water in the roadstead outside the bar, any estimate of the additional depth of water which would be gained by this means must be taken as only approximate, but I believe 2½ feet to 3 feet would be gained.

There would be very little use in getting this extra depth on the bar unless at the same time the interior of the harbour were improved. The effect of the greater depth would be to increase the height of the waves which would enter the harbour, and the lower basin would become on this account less serviceable than it is at present, while the upper basin is too small even for ships of the size now using the port. A new basin would therefore have to be dredged, and this could only be done above the bridge on the west side of the lake, and out of the reach of shingle brought down by Jacob's River. There is already a considerable depth of water at this point, and the necessary amount of dredging would not be great. I have, however, no plans showing the depth of water. The cost of the improvements suggested would be about £25,000, as nearly as I can estimate in the absence of proper surveys.

JOHN CARRUTHERS,
Engineer-in-Chief.

The Hon. the Minister for Public Works.

Enclosure No. 2.

REPORT ON SURVEY OF RAILWAY LINE, FOXHILL TO BRUNNERTON, BY MR. J. ROCHFORT.

MR. J. ROCHFORT, Engineer, to the ENGINEER-IN-CHIEF.

SIR,— Wellington, 1st August, 1874.

I have the honor to report on the Foxhill and Brunnerton trial railway survey, plans and estimates of which I recently handed to you.

The line is 142¾ miles in length, and the whole distance from Nelson to Greymouth, including the two ends in course of construction, is about 168 miles. This line is unusually costly, owing partly to the difficulty of getting out of the Waimea into the Buller, and partly to the great height to which the floods rise in the latter river (60 feet); the effect of which is to magnify insignificant gullies into obstacles requiring high and costly viaducts, and many short tunnels. On a more detailed survey, doubtless these features may be lessened. Speaking roughly, one-half the distance is favourable for railway work.

On leaving the Waimea, Spooner's Range is crossed by a rather steep grade, and a tunnel 997 yards in length (through gravel); thence down Norris' Gully, and, crossing the Motueka about a mile above its confluence with the Motupiko River, follows up the last river to the Clarke; thence up the Clarke, and through the low range dividing it from the Hope by another tunnel (also through gravel), 663 yards long; thence down the Hope to the Buller. The line then follows down the north side of the Buller to a mile above the confluence of the Mangles. Here the Buller is crossed, and the line continued down the south side to the Inangahua River; thence up the eastern side of the latter nearly to Reefton. The Inangahua is crossed here, and the line runs through the valley now traversed by the coach road, and crosses the watershed by a tunnel 345 yards long (gravel) into a branch of the Mawhera-iti, and crosses the Grey River just above its junction with the Little Grey; thence along Totara Flat, and, skirting the high terrace beyond, crosses the Ahaura River near the present ferry. The line still runs along the lower flat, and skirts the terrace nearly to Nelson Creek, where it passes over a low terrace, and then follows near the present line of road to Brunnerton.

The route was chosen *viâ* the Hope for the following reasons:—The distance is about 19 miles shorter than by way of the Wai-iti, Roundell, and Upper Buller Valley. The proposed line falls into the Buller Valley at the mouth of the Hope, thereby avoiding 5 miles of extremely difficult and expensive country, known by the name of "The Devil's Grip." This portion consists of a steep hill face, with sharp bays and points, falling abruptly into the Buller; much of this would have to be put into tunnel. It has long been shunned, though badly wanted, for a dray road; excepting this the Buller Valley above is open, and favourable for railway construction.

A third objection is, that between the Wai-iti and Roundell the Motueka River has to be crossed. The line would first have to descend into it from the watershed of the Wai-iti, and then have to rise to the level of the country approaching the Roundell; the depth of the Motueka being about

500 feet. Two, if not three, tunnels would be required, besides a steep grade; the longest tunnel being through Kerr's Hill. In favour of this route most of the country is open.

If the present line is adopted, the following alternative lines should be tried:—Commencing at the Motueka River, at 31 miles, the alternative should quit the surveyed line and rise on to the high terrace at the junction of the Motueka and Motupiko Rivers; it should then follow along it, and descend to the valley level at Long Valley, and continue up the east side of the Motupiko; and crossing opposite, 36½ miles, re-join the original line. This line would have a heavy cutting and bank in descending from the high terrace; but once done, a level line would be obtained for about 4 miles, a large part of which would be open, and it would avoid at least 2 miles of bad sideling ground on the west side. The bridge across the Motupiko would also be shorter.

A second alternative might be tried to avoid crossing the Hope so many times. Quitting the present line at 53 miles 60 chains, the alternative would follow round the high-rock bluff, and the tunnel would begin 4 chains farther up the Hope, and emerge 2½ chains lower down (increasing the tunnel about 88 yards); here it should cross the river, and following down the same side rejoin the old line 54 miles 77 chains. The present road siding along the sand hill would have to be widened, to make room for the railway and road, and a retaining wall built up from the river. This alternative would save four bridges, in all 425 feet.

A third alternative might be tried at 80 miles, a little above the Marina River. This should re-cross the Buller here, and continue along the south side nearly to the Lyell, when the Buller should be crossed and the old line re-joined. In either case a bridge would be wanted at this point to connect the Lyell with the railway. This alternative may have less rock cutting, and most probably the number of high viaducts and tunnels would be lessened.

The last alternative I would recommend is at 119 miles, on the Inangahua River. This is a more central place for a principal station than Reefton, keeping in view the fact that Reefton is near the extreme end of the gold-bearing country now being worked, and that Boatman's, Larry's Creek, and the Landing are now coming into prominence as reefing country. These are all below the point indicated above. This alternative would cross the Inangahua River here, and pass through the watershed into the Mawhera-iti by the old track, and re-join the present railway line at 134 miles. It would save a bridge over the Waitui, 760 feet long, and shorten the line about half a mile. The watershed presents about the same section as the line surveyed.

Grades.—The first 3 miles are nearly level, and run through chiefly open land; there is then a rise of 1 in 35 for 3½ miles (through bush) to the tunnel at Spooner's Range; this however can be reduced to 1 in 40 by commencing the ascent a mile farther back. The tunnel is 997 yards long, through gravel, which stands in the road cutting nearly vertical. The worst feature in the tunnel is the great difference of level between the two ends, the Foxhill side being 115 feet higher than the Norris Gully side. From this point there is open for 6 miles, then the forest extends to the Mawhera-iti, excepting a few open patches, amounting in all to about 3 miles. Returning to the tunnel—the grade on the west side is also 1 in 35, but can be reduced to 1 in 43 by lengthening out the grade; the line then is level for 8½ miles to a bluff 150 feet high, near the confluence of the Clarke. This is graded up at an inclination of 1 in 40, and then the line runs nearly level for 1¼ miles, until it falls into the Clarke Valley. It then runs up to the Clarke at the valley level about 1½ miles; the ascent from this point to the watershed will work out to 1 in 41 for 4½ miles. Here there is a tunnel of 693 yards, and the flat of the Hope beyond can be reached by a short grade of 1 in 55, with a slight alteration of the present plans. The line then runs down the Hope Valley to the Buller at an easy grade; the total distance to this point is 35¾ miles, and 54⅓ from Nelson. If the line were taken by the Roundell and Upper Buller route it would be 74 miles from Nelson.

From the confluence of the Hope and Buller to where the latter river is crossed (17¾ miles) the line runs along alternate sidings and terraces, and a tolerably good line can be got; but many of the terraces are short, and the quick change of level causes a serious amount of earthwork. The Buller is crossed here to avoid a very ugly long rock bluff immediately below. The bridge is short (100 feet), and will have rock abutments, and must be in one span. The line now runs along level country to Doughboy Creek (6¾ miles), and is 3 miles shorter than if it was taken on the opposite side; the township of Hampden and the Matakitaki River lay in this flat. This last river will require a long bridge (730 feet), besides a high embankment 15 chains long on one side, and 13 on the other, to keep the line above the flood-water, which is backed up by the Buller.

At Doughboy Creek the true gorge of the Buller begins, and extends to a mile below the Lyell, and the line has to be kept 70 feet above the ordinary river level to be out of the way of floods. The distance is 18¾ miles; of this, the first 3¾ miles to the Marina are moderate, but the remainder, with a few small exceptions, is exceedingly rough, and contains many bare rock points and deep gullies, necessitating five high viaducts and seven short tunnels, and many deep cuttings through rock.

The following 6⅓ miles to opposite Christie's (Inangahua Junction) is much lighter, being about half flat and half siding; there are however two or three rock cuttings, and two small tunnels in this length. The average fall of the Buller is 23 feet per mile, which leaves a large margin for easing the grades in bad country. The next 5 miles, ending at the ferry (first landing), are flat, but broken by three high terraces, ending in bluffs on the river. Heavy through cuttings and one tunnel will be advisable, also a high viaduct over Coal Creek, which must be 154 feet in one span. A high cutting occurs just beyond, which however will be cutting only on one side, as the ground (soft rock) falls abruptly to the river.

From this point to the Waitui River, a distance of 11¾ miles, the country is flat, and presents no difficulty greater than two bridges, of a total length of 1,000 feet.

The next 3¼ miles are also flat, and bring us to Reefton; this portion includes one large bridge of 730 feet, which will be saved if the alternative I suggest is adopted.

The following 6 miles, ending at Square Town, include the watershed of the Grey and Buller, which is on an average 330 feet above the level country on either side; it is crossed with a short tunnel 345 yards long, through clay or gravel.

From Square Town to opposite McHardy's Station (6¾ miles) is nearly all open country and flat, the chief features being two bridges having a joint length of 840 feet.

The next 2 miles are also flat, but the ground lays so low that the two intervening rivers (Blackwater and Snowy Creek) are backed up from the Mawhera-iti, and flood much of the adjoining country; there is also a swamp crossed, but not of much importance. The line here will have to be kept in bank from a side cut in the near hills.

The succeeding 3½ miles bring us to south bank of the Grey, and the country is flat and nearly all open, the only important feature being the Grey River, which will require 830 feet of bridging, which should be of a strong character, with wide spans to resist the floods and let the timber through. The floods are occasionally very high and rapid, and the river rises very quickly. On one occasion I travelled 50 miles down the Grey in 4¼ hours in a canoe, in company with trees of all shapes and sizes, and, as far as I could see, on the south side the country was under water. During this flood the Native village at Greymouth was washed away. To return to the bridge—a strong embankment will be wanted on either side, and most probably some protective works, to be safe after crossing. I have continued the railway line to the hill, which is 14 chains distant; this flat is subject to floods.

The next 5 miles, to the crossing of the main road near Gilmer's Farm, are along Totara Flat, which is nearly all under cultivation, and is a dead flat with good hard ground. Here the public road goes over a terrace 110 feet high to the Ahaura, but the railway line follows round the base, keeping near in order to get material for raising the parts subject to floods; the base of the terrace is shingle and coarse gravel, from which the required embankments can be cheaply made. It is 4 miles from the crossing of the road to the Ahaura River; the whole of this length is flat, and the only expensive feature is the crossing of the Ahaura River, which is 200 feet. The overflow ought to be filled up and protected.

From the Ahaura River to Callaghan's Creek, 2½ miles, is good flat bush country; the line skirts the base of the high terrace, taking the shortest line across the bays.

From Callaghan's Creek to Nelson Creek (2¾ miles) the line is kept along the base of the high terrace (outside being swampy) to within half a mile of the latter creek, when the lower terrace is crossed with a heavy cutting, which will all be wanted for embankment near Nelson Creek. This creek floods from backwater from the Grey, and requires a long bridge (700 feet), but low bridging with short spans will be sufficient.

From Nelson Creek to the Arnould River (6¼ miles) the line is flat, and skirts the hills. Near the Twelve-Mile Township the land is flooded, but only requires a low embankment to be above. The line then follows round the high terrace to the Arnould River, and crosses near the present bridge: this bridge will be 220 feet long.

Between the Arnould and the point where the Upper Gorge begins (1¼ miles) is also flat. One terrace intervenes between the Arnould and Stillwater Rivers. It is crossed with a heavy cutting, which is wanted to form the embankments near to keep above extraordinary floods.

From this point to Brunnerton (about 1 mile) there is some heavy cutting along a steep siding, and one tunnel(263 yards long), to avoid the heavy retaining walls which would otherwise be required to obtain room for the road and railway. The grades throughout are easy.

Ballast can be found throughout the line. The timber (principally birch) in the first 30 miles from Foxhill is small, but I think enough may be found in the neighbourhood for sleepers and bridges, though in some parts it will have to be carried a considerable distance.

There is a good patch of timber at the Matakitaki, consisting of the several kinds of pine, totara, and birch. Along the Buller, the timber is birch, with occasional pine and rimu. There is a good patch of totara at the Inangahua, and patches of pine to about 8 miles up from its confluence. Above that the timber is generally birch, getting smaller up towards Reefton, and enlarging gradually down the Mawhera-iti, until at the lower part there is a good mixture of all sorts of pines, &c. Across the Grey there is another patch of totara, but the trees are small. From this point down enough timber will be found for all railway purposes.

The Upper Motueka and Motupiko Valleys would contribute a good deal of traffic, and many more settlers would go there if the difficulty of getting over Spooner's Range was done away with. Between the Motupiko and the Buller the country is uninviting, and would not yield much traffic; but if the Buller Valley was traversed by a railway, every terrace would be occupied by graziers and miners, even where the land is poor, as it mostly is as far as the Mangles. There is said to be coal of good quality near the Owen River. This may be considered the commencement of the great coal field which extends to the coast. At the Matakitaki there is a large block of good farming land, and as far as the Marina there are strips of good land on either side. A few settlers are located along the river, and they have some capital grass paddocks. A thin seam of good coal crops out in the river bed near the Marina.

Between the Marina and the Lyell there is very little land in cultivation, but miners are working all the way down. For 20 miles up the Inangahua there is an extensive flat on both sides, though good land exists only in patches; but eventually the whole will be in grass, and this valley would carry a large population. A reefing country probably extends all along a parallel line about 3 miles from the centre of the valley. Antimony also is found near Reefton. Coal also shows about 4 miles up the Inangahua River.

The dividing range between the Inangahua and Little Grey is rich in gold. The land in the Little Grey is flat and of very considerable width, but very poor in quality. Totara Flat is also extensive, and dotted over with several farm-houses, and the paddocks are well grassed, but the shingle is too near the surface for the soil to have much lasting quality. A parallel mining country extends all along.

I think Mr. Calcutt's estimate of the quantity of flat and terrace land is correct, though I should say there is not more than 50,000 acres of really good land. The remainder could be farmed or grazed when cleared; and, if a railway ran through, most likely would. There is but little good land between Foxhill and the Mangles; between the latter and the Newton there is a considerable amount; between

the Newton and the Lyell there is very little flat of value. There is a considerable amount of flat at a very high level which runs along a part of the gorge between Jacquelin's and the Lyell, but it is almost worthless for agriculture, and at almost too high a level (over 400 feet) to take advantage of for a railway to save the bad part of the gorge. Still, if this line were ever determined on, it should have a special trial.

Between the Lyell at Christie's (Inangahua Junction) there is a little good land in strips along the river. From Christie's up to Reefton there is a large flat block of land (estimated at 60,000 acres), the good lying in patches, and the best in the lower 10 miles. The best timber is about 8 miles up from the Buller (3 miles below Larry's). On my visit, some sawyers were located here, sawing timber for Reefton (about 12 miles off), which points to the fact that the timber is not much good above. The large open flats in the Mawhera-iti are very poor, excepting perhaps the lower 4 miles. From the Mawhera-iti to Brunnerton there are some wide strips of average land, and there is both good land and timber in the Arnould as far as Lake Brunner. The land up the Ahaura is very poor.

I have, &c.,
JOHN ROCHFORT.

The Engineer-in-Chief, Wellington.

APPROXIMATE ESTIMATE of FOXHILL and BRUNNER RAILWAY.—Length: 142 miles 63 chains, and 3½ miles of sidings.

Grading	£503,124
Bridging	114,055
Fencing	17,360
Permanent Way	306,492
Rolling Stock	92,787
Stations	28,550
Land, Engineering, and Contingencies	191,784
	£1,254,152

Enclosure No. 3.

REPORT ON SLUDGE CHANNEL, GABRIEL'S GULLY, BY THE ENGINEER-IN-CHIEF.

The ENGINEER-IN-CHIEF to the Hon. the MINISTER for PUBLIC WORKS.

SIR,— Public Works Office, Wellington, 18th June, 1875.

The object proposed to be obtained by constructing a sludge channel at Gabriel's Gully is to remove the vast mass of tailings which now fill the gully, to a depth of 60 feet in some places.

To attain this, it is proposed to sink a channel down to the bed-rock, and to continue it down stream by means of fluming, giving the least fall which would allow the tailings to be carried away. As soon as the fluming had got clear of the town of Lawrence, and had attained sufficient height above the bed of the river to commence operations, the old tailings as well as the original soil overlying the bed-rock would be washed and passed down the channel into the Tuapeka River. The channel would be extended along the top of the new tailings until the whole of the gully had been washed out to the bed-rock.

The lower part of the Blue Spur, which cannot now be worked on account of the tailings, would then be workable, and would also be washed down the channel.

It is proposed to form a company to carry out this work, who would expect to get their remuneration from the gold contained in the tailings. Those best competent to judge think the latter are rich enough to pay for washing out.

There are at present 2,000 inches of water brought to the Blue Spur, which after being used there, is allowed to run into Gabriel's to waste. It is expected that the company would be able to use this water, after it had done its work above, free of cost, and that the quantity might be increased to 3,000 inches, running for eight hours a day.

With this quantity of water, the inclination which it would be requisite to give the channel would be about 35 feet per mile. If only 2,000 inches were available, a fall of 40 feet per mile would be required.

This latter is greater than the average fall of the Tuapeka Creek, and if the flume were constructed so as to be 20 feet above the ground surface at the junction of the Tuapeka Creek with the Tuapeka River, with a rise of 40 feet per mile, it would not intersect the bed-rock until it had been carried close up to the Blue Spur. If the less inclination of 35 feet per mile were adopted, the bed-rock would be intersected about a mile and a quarter above the junction of Gabriel's with Wetherstone's Creek.

To carry out the latter scheme, there would be required a flume about 20 feet high and two miles long, and a cutting through tailings three-quarters of a mile long, and averaging about 15 feet deep. This would cost not less than about £17,000.

The effect of carrying so much *débris* into the Tuapeka River, and thence into the Clutha, would be, I think, injurious to land-owners on the banks of these rivers. The Tuapeka is a considerable stream during floods, and would carry the whole of the tailings into the Clutha, where shingle-banks would be formed, and the course of the river interfered with. The banks would be cut away in places, and the navigation probably much impeded.

If richer ground were discovered, which could be commanded by the water-races now brought into Gabriel's, the water-owners would of course divert their races to the new ground, and the sludge channel would become useless, as it could only be worked by bringing into it the whole of the water now available.

When I visited the district with the view of reporting on this subject, I was accompanied over the ground by Mr. Squires, the secretary, and Mr. Morrison, one of the committee. I addressed several queries to them, a copy of which, with their replies, is attached. Although these replies embody only these gentlemen's individual opinions, they are important as being probably representative of the opinions of all who are interested in the subject, or at least of the majority of them.

JOHN CARRUTHERS,
Engineer-in-Chief.

The Hon. the Minister for Public Works.

Sub-Enclosure to Enclosure No. 3.

SLUDGE CHANNEL, TUAPEKA.—3rd February, 1875.

Queries put to Mr. Squires, Secretary, and Mr. Morrison, one of the Committee—with Answers.

1. Should a sludge channel be formed, by whom and in what manner would it be used?—It would be used by a company formed of the miners of the district, who would sluice out the old tailings, and the original bottom of Gabriel's Gully, down to the bed rocks,—they reserving the right to the gold they find. For this purpose the bed of the gully now covered with tailings, and above the future sludge channel, will have to be reserved to the company; but miners may take up claims on the hillsides, throwing their tailings into the gully as at present. No auriferous ground would be interfered with, except that now covered with tailings.

2. Would the owners of water rights sign an agreement to allow the water brought by them into the gully to be used by the users of the channel free of charge, or at what charge (if any)?—Owners of rights would give an undertaking to give the water free of charge.

3. Would the owners of water rights sign an agreement not to divert their race into any other gully or stream than Gabriel's Gully?—The owners of more than 75 per cent. of the water are also owners of the Blue Spur, and would therefore not give up the washing of their ground. A guarantee that the water would in no case be diverted would not be given, but a guarantee would be given that would be satisfactory to the Government.

4. Would the company, or other users of the channel, be able to use the tailings without charge? If so, what security is there that charges would not be made hereafter?—Yes; and the present companies who have any claim to them would sign an agreement to transfer them to the company.

5. Is it proposed to pay anything for right to use the channel, or not? If so, how much?—This has not been considered by the proposers of the company, but they hope to be put on the same footing as miners elsewhere, for whose benefit works have been carried out.

6. What proposals are there for acquiring the mining claims already existing in the bed of the gully, both above and below the sludge channel?—The company will arrange for acquiring any such rights above the channel. For rights below the channel, the ordinary mining laws will give the right to the company to discharge tailings there.

7. Would the company take all responsibility in regard to injury to property, which would result from raising the bed of the creek below the sludge channel,—particularly in Lawrence, where freehold land would be buried, or rendered liable to injury from floods?—The works would have to be so designed as not to dam back water into the town, or to deposit tailings in such places as would do damage to private property. This would not be difficult; but if the works should fail to prevent injury to private property, the company would be responsible for all damages. The company would renew and repair the race, and take all the liabilities of proprietors.

8. How much water can be counted on?—The present quantity would be 2,000 inches, but it could be easily increased to 3,000 inches, running for eight hours. This is dependent on a dam being made to utilize Gabriel's Creek.

APPENDIX B.

REPORT ON WATER RACES BY THE ENGINEER-IN-CHIEF.

The Engineer-in-Chief to the Hon. the Minister for Public Works.

Public Works Office, Wellington, 1st July, 1875.

There are four important Water Races for Gold Fields now under construction, three of which are in the South Island and one in the North Island.

SOUTH ISLAND.

Waimea Race.

This race is 15 miles 75 chains long, and will carry 40 heads of water, or 40 cubic feet per second.

It is all under construction except the dam and headworks, the plans and specifications for which are prepared, and will be submitted to public tender very shortly.

The total cost of this work will be £130,000.

Nelson Creek Race

Will be 19 miles 15 chains in length, of which 16 miles 21 chains are now under contract; the remaining portion will be shortly begun.

The total cost will be £65,000.

Mount Ida Race.

This work has been constructed directly by the Provincial Government of Otago, and has not been under my charge. I cannot therefore report on it.

Susidized Races.

Money has been advanced to four private Companies, viz., the New River, the Hibernian, the Hohonu, and the Kanieri. It has been properly applied to the work for which it was intended.

Subsidies have also been granted to the Arrow, Beaumont and Tuapeka, Carrick Range, and Mount Pisgah Races, but these have been paid on the certificate of the Otago provincial authorities, in whose care the supervision of the expenditure has been left.

Survey.

Randall Creek Race (or Napoleon Hill).

The length of this race as proposed would be 47½ miles, and the cost is estimated by the District Engineer at £60,000, which, I am afraid, is too low. The probable revenue does not seem sufficient to promise a fair return on so large an expenditure, especially when the return and the cost are so speculative, as work on the gold fields always proves itself to be.

I attach a copy of Mr. O'Connor's report on this survey.

Mikonui Race.

The surveys are completed, and estimates will be prepared as soon as possible. The length of the race will be 15 miles; and the capacity, 60 heads of water, of one cubic foot per second.

NORTH ISLAND.

Thames Race.

The whole of this race is now under contract, except the distribution; plans and specifications for which are now being prepared, and will be ready in August, when tenders will be invited.

The total cost will be £60,000.

GENERAL.

The total cost of the three races under construction will be £255,000, which is £41,000 more than the former estimate.

One principal cause of this excess is the unexpected difficulty in getting foundations for the head-work dams of the Nelson and Waimea Creek Races, which have to be founded at a much greater depth than was at first thought necessary.

The whole of the estimates of the cost of water-races have proved to be very untrustworthy. The work is such that it is quite impossible for myself, and nearly so for the District Engineers, to check the information received from the surveyors who lay out the races, except in a general and far from satisfactory manner. Work of this sort can only be priced at so much per chain, and the judgment of the person making the estimate must, to a great extent, be trusted to.

I have, &c.,

John Carruthers,

Engineer-in-Chief.

The Hon. the Minister for Public Works.

APPENDIX C.

ANNUAL REPORT ON ROADS BY ASSISTANT ENGINEER-IN-CHIEF.

The Assistant Engineer-in-Chief to the Hon. the Minister for Public Works.

Sir,— Public Works Office, Wellington, 30th June, 1875.

I have the honor to forward my annual report on road work executed during the past year in New Zealand, under "The Public Works Act, 1870," up to the 31st May.

A great deal of very useful work has been accomplished, of which a large portion has been devoted to the improvement, completion, and extension of roads already described in former reports. It will be seen that in the Native districts very much more work might have been done had it been possible to induce the Natives to fulfil contracts already undertaken, or to engage in any new work prepared for their acceptance. In some districts their disinclination to work is readily accounted for, as they have been in receipt of considerable sums of money derived from the sale of their land; and in others, the excitement of attending Land Courts, and arranging amongst themselves the terms of further land sales, has been quite sufficient to make them regard with distaste the comparatively unexciting operations of road-making.

There is, however, very little doubt that the amount of resistance offered by the Natives in general to road-making is very much less than it was only a twelvemonth since, and that in a very short time we may expect that they will allow road work to be carried on by Europeans in purely Native districts with comparative indifference.

The expenditure on road works north of Auckland has already had a very beneficial effect, and the roads, even in their present imperfect state, offer great facilities for travelling and traffic, which, when compared with what existed only two or three years ago, indicate a real and substantial progress. It seems unnecessary to offer further general remarks, as the system of roads in progress has been before fully described, and the reports from each district show very clearly the amount of work executed in each.

The roads in the North Island, more especially those which do not lie within the boundaries of any highway district or Road Board, will need some special provision for their proper maintenance during the ensuing year, and this provision should be of a liberal character, as for want of such a fund last year several of the roads have not had that amount of attention which their importance demanded; besides it is better to attend to repairs promptly when they are required than to allow the roads to fall into disrepair by neglect, a course which certainly is the most expensive in the end.

In reference to the subject of road maintenance, will be found in a later part of this report some remarks by the District Engineer describing roads in Westland. Based on the information there given, and taking into account that the North Island roads have very much less traffic on them than those described, it may be assumed that they will require at least an average expenditure all round of £10 per mile per annum, or £17,140—say £20,000—to meet the necessary repairs and maintenance.

Below are the roads described under their several heads.

ROADS NORTH OF AUCKLAND.

(T. Heale in charge.)

In this district the surveys made and works executed during the last twelve months are as follow viz.:—

1. *Awanui Portage to Rangaunu and the West Coast.*—This is a proposed road line from Awanui portage to the point in the mouth of the river at Rangaunu to which steamers have access. The details of this line (formerly surveyed) have been perfected by Mr. Weetman, and a proposed branch surveyed from it to the West Coast, which would shorten the road to Parengarenga and the extreme north by 20 miles. These works will be really necessary whenever the Victoria Valley shall be occupied by settlers, but until that time is in immediate prospect they would evidently be premature, and therefore no work is being done to open them.

2. *Kaeo to Pupuke, and* (3) *its Continuation from Waihapa, about* $1\frac{3}{4}$ *miles.*—The road from Whangaroa towards Mongonui has been completed across the soft salt-water marshes of Pupuke; and a few small bridges and culverts necessary on its continuation from Waihapa to make it fairly passable throughout, are now authorised and will be executed immediately.

4. *Kaitaia to Ahipara.*—A branch road to Ahipara from the road made last year from Kaitaia to Awanui has been carried on by native labour, and is now about being finished by European sub-contractors.

5. *Mongonui, by Oruru, to Victoria Valley.*—The survey of the line from Mongonui to the Oruru and the Upper Victoria Valley, has been completed at its eastern end by Mr. Weetman, and shows that a fairly practicable road can be made to Oruru. The line surveyed thence by Mr. Fairburn would make an excellent road to the Upper Victoria Valley, but the expense would be very great.

The above works have been supervised by Mr. Weetman, who has also been employed on triangulation and supervising block surveys. One overseer has also been in immediate inspection of the works, but on the completion of the Waihapu work his services will not be required unless other works are commenced.

6. *Kawakawa to Black Bridge.*—An excellent line of road has been surveyed over difficult country from Kawakawa to join the Bay of Islands Main Road at the Black Bridge. This, essential as it may be as forming part of the through North Road, will be expensive in construction; and looking to the small population affected by it, as well as the last-described road, it has not been thought desirable to undertake the expense of opening them.

7. *Mahurangi and Port Albert.*—The completion of this difficult line has been unavoidably delayed by the failure of a contractor, but it has been fairly passable throughout for some months, and its value to the district and its effect in increasing the commerce of Mahurangi have already been shown. Section 2 has after many difficulties been completed. It was found necessary to make several alterations, which involved a large amount of extra work. The Hoteo Bridge is being proceeded with as quickly as the season will permit. The foundation rock has proved harder than anticipated, so as to prevent the piles of one pier being driven as designed; but proper sockets for the piles are being cut, so that an excellent foundation will still be secured. No. 1 section on this road has not yet been commenced, owing to difficulties with one of the landowners, which are not yet removed. The road as far as it has been made is being maintained by day labour. When the main road is completed it will inevitably be found necessary to extend it on the one hand to Albert Town (about two miles), and on the other to Kaiwaka and Waipu, as a means of helping the fortunes of the old but still struggling settlements of that tract of country. The first-named extension is of the most importance: the line will pass entirely through private lands, mostly in cultivation. The execution of this has been regarded as a provincial work, and two motions were lately passed in the Council urging its completion, or at least the acquisition of the land, the owner of which, it appears, is quite willing to sell what is necessary for a road on favourable terms. The construction of the road is considered necessary to the prosperity of the district, and as a fitting termination to the main road from Mahurangi.

It may be as well to note that the telegraph line has in some parts been cut over the hills nearly parallel to this line of road, leaving fringes of trees standing exposed to the wind on both sides. These will certainly be blown down, to the detriment of the road, and it is considered advisable to fell them. The cost would not exceed £20.

(H. Allright, Provincial Engineer, in charge.)

Mr. Allright reports that he has expended a sum of £815 19s., on behalf of the General Government, on sundry roads and surveys, north of Auckland.

Besides road works, the following were also carried out under Mr. Allright's supervision, the funds being found by the General Government, viz.:—

	£	s.	d.
Painting and repairing Quarantine Station, sinking wells, &c. ...	350	13	8
Erecting new hospital at Quarantine Station	620	0	0
Erecting sheds at Quarantine Station	123	0	0
Erecting jetty at Quarantine Station	373	0	0
Construction of fumigating oven	228	0	0
Repairs, painting, &c., Immigration Barracks, Auckland	122	6	6
Completion and metalling Shoal Bay Road	475	9	0
Construction and erection of Immigrants' Depôt cottages	12,915	16	7
	£15,208	5	9

(J. J. Wilson in charge.)

1. *Kawakawa to Whangarei.*—Upon this line of road, at the time of the last annual report, the works in hand were bridges over the Papauru and the branches of the Umuwhauku Stream, also some culverts being executed by European labour, and about 50 chains of side cutting and forming by Native labour. The cost of the three bridges and culverts was £373. The side cutting extended over 15 miles of road in patches, to make the steepest parts of the line available for horse traffic, in all amounting to 5,126 chains, with 2,970 cubic yards of earthwork, costing £176. Several smaller culverts have also been constructed by Native labour, and the crossings of streams fascined and improved. The cleared portions of the road have also been sown with grass seed, as a means of keeping them open and affording food for stock travelling.

2. *Wairoa and Kaikohe.*—On this line there has not been much progress, the Natives being so much engaged attending meetings connected with the sale of land. They have also been in receipt of considerable sums of money for land sold, which indisposes them for work. The bridges in hand are—The Mairi, 42 feet, nearly finished except the planking, rails, and approaches; the Waikopaui, 44 feet, timber all on the ground, piles in, headstocks on, and stringers laid across; the Waiwhakae, 20 feet, timber all on the ground; the Parakao, 30 feet, all done to the approaches and hand-rails. The iron-work for these bridges is also made, and the greater part stored at Whangarei. Grass seed has also been sown along portions of this road, but not in sufficient quantity.

3. *Mangapai to the Wairoa River.*—A survey of this proposed line of road, about 13 miles, has been made, and plans have been prepared with report and estimate. It is said that the Natives are desirous to undertake the work of felling and clearing the bush along this line.

4. *Whangarei and Wharekohe Road.*—A deviation from the originally-proposed line of this road was considered to be necessary, and has accordingly been surveyed and marked off. The expenditure in this district, under the Public Works scheme, has, although the amount has not been large, produced a marked improvement. It is possible now to ride nearly all through the district, where, before now, walking was attended with great toil and difficulty. The streams are nearly all bridged, and the ascents and descents of the worst hills improved by sideling roads. These are great benefits, although many of the works are necessarily of a temporary and imperfect character, and a considerable expenditure under good supervision will yet be required to carry out the remaining works, the necessity for which is more felt after the experience of what has already been done.

(M. Clarke in charge.)

1. *Kaikohe to Waitangi.*—Two sections of this road have been completed during the past year. The first, 2½ miles long, has been formed, and ten bridges constructed, varying from 6 to 30 feet span; also a number of small culverts.

The second section (being the fifth section of the road), 5¼ miles long, has been formed throughout; four bridges, varying from 20 to 25 feet span, and two culvert bridges have been built, also a number of small culverts. About one-half of this section lies through stony scoria land.

From the end of this section (a little beyond Waipekekaka) the Native work commences, and with the exception of a small section will shortly be completed to Ohaewai. All the bridges between Ohaewai and Kaikohe are finished—viz., three varying from 12 to 20 feet span, and one culvert bridge (these by European contractors), and one at Kaikohe by Native contractors—thus completing all the bridges from Waitangi to Kaikohe. Four more bridge culverts would complete the bridging to Taheke. All the small bridges are constrncted of good sound puriri, excepting the floors and wings, which in some cases are of kauri planking. A considerable amount of heavy drainage works will be required on this road, but no instructions have yet been sent as to their execution.

The road between Ohaewai and Waitangi is in a good state for traffic for two-thirds of the year, but during the winter it is at times almost impassable owing to the wet character of the soil. Part of it at least will require metalling to insure a good road.

2. *Whangaroa and Black Bridge.*—The only works extended on this line of road have been about a quarter of a mile of side cuttings and several small culverts. It is only used as a bridle road, and is in very fair condition excepting one section of low land which requires draining, and four of the rivers which require good fordways to be made. There is however not much traffic, as there is weekly steam communication between the Bay of Islands and Whangaroa.

3. *Mangakahia Road.*—Sixteen chains of side cuttings have been completed, and two bridges have been erected. Several of the original side cuttings have been widened, and landslips cleared away. Two sections are yet unfinished, owing to difficulties thrown in the way by the Natives; they have, however, lately begun work on one of these, and it is to be hoped will complete it, although this is doubtful, as work commenced by them twelve months ago on the Kotipu swamp still remains unfinished. The finished portions of this road are in good condition, and the traffic on it has increased at least fivefold.

4. *Waimate and Okaihu.*—The Provincial Government is spending £250 in forming the road through the Canadian settlement at Okaihu, but the remaining section of 2¾ miles at the Waimate is still untouched, and is the worst part of the road between Waitangi and Okaihu. It is very desirable on this account that this piece of work should be advertised for tenders as early as convenient.

5. *Waitangi and Ti.*—The Ti is the proper terminus of all the roads from the interior, and although this piece is very badly laid out it is a good deal used. It would be almost impossible to make a serviceable dray road on the present line, some of the grades being 1 in 5 or 1 in 6, but a better line could be found, reducing the grades to 1 in 10 or 12. The main part of the work already executed—viz., about 10 chains of embankment and two bridges—could still be made use of. Mr. Clarke estimates that an expenditure of £250 would make the required alterations.

In this district, as in the one last described, the influence of land sales is felt, and the Natives being in possession of money do not feel inclined to work. There is now considerable traffic on the main line of road, and some means must be devised for its proper maintenance, as there is no Highway Board, and the Natives use the road as much as the Europeans, and damage the bridges, water-tables, and culverts by their reckless manner of driving. What makes this worse is that there is no one in authority to prosecute for such damage.

The following is a general summary of the work done in this district under "The Public Works Act, 1870," viz.:—

Mangakahia and Kaikohe.—Nearly ten miles of clearing, three miles of side cutting, 29 chains formed, and almost all the small streams bridged.

Whangaroa and Black Bridge.—Four miles cleared, and one and a half miles of side cutting.

Waitangi and Ti.—Two miles cleared, half-mile side cutting, two bridges, and 10 chains of embankments.

Waitangi to Kaikohe.—Bridged, formed, and finished, 14½ miles.

Kaikohe to Taheke.—Three miles and three-quarters of clearing.

Junction of Kaikohe and Waimate Roads to Okaihu.—Formed and bridged and completed, three miles; cleared three miles, and all the bridges from Waimate to Okaihu completed. None of the roads in this district have yet been metalled.

Besides the above, the following is a close approximate statement of the works done, under the supervision of the Hon. Wi Katene, viz.:—

Okaihu and Mangamuka viâ Waihou.—Three miles of clearing, and three-quarters of a mile of side cutting, with several culverts and bridges.

Okaihu and Ohaewai Roads Connection.—Length, about three miles: culverts completed, and fences moved; the road good for traffic, and of great benefit to the western part of the district.

Okaihu and Toreke.—Eight miles cleared, with bridges, culverts, and side cuttings.

Taheke and Hokianga Heads.—About thirty miles of road opened up, and available for horse traffic.

MANGERE BRIDGE.

This work, described in last year's report, has been completed in a satisfactory manner.

WAIKATO DISTRICT, GREAT SOUTH ROAD.

(W. H. Clarke in charge.)

Mercer to Newcastle.—Clearing, 85 chains; forming, 89 chains; fascining, 18 chains; 9 new culverts; 5 culverts repaired; 14 chains, double row of willows planted at Taupiri, and 3 chains at other places on bank of river exposed to heavy wash.

Bridges have been repaired as follow, namely:—

Whangamarino: 41 new planks, 4 new stringers, 2 capsills strapped, 12 piles fished at heads, 2 backed at abutment.

Rangiriri, No. 1 and No. 2: A few new planks in each, and hand-rail repaired in latter.
Table Hill No. 2, and Henry's: Each a few planks repaired, and one abutment propped.
Taupiri (Karakas): A few new planks, and one pile fished.
Mangawara: A few new planks and joists.
No. 1, South Taupiri: A few new planks and stringer propped.
Hopuhopu: Planking repaired.

The length of this section of road is 36 miles, and three maintenance men have been kept on it constantly during the year. A large amount of work is necessary in repairs, and improvement of both road and bridges, to make it really serviceable.

Newcastle to Hamilton.—The following bridges have been replaced by new structures, or repaired so as to be temporarily serviceable, namely:—Waitawhiriwhiri, replaced; Mangaharakeke, replaced: culvert 10 feet span, replaced by one 18 feet at Beere's Creek; two bridges over Hall's Creek repaired.

Hamilton to Cambridge.—Bridge over Martyn's Creek lifted, secured, and handrailing erected. Stone has been provided to replace this by a culvert when the weather is more favourable for carting the stone.

Patrol Road, Cambridge to Alexandra.—Mangapiko Creek Bridge has been erected, and the creek diverted, and an embanked road, 7 chains long, including crossing of the old bed of creek, formed.

Paikuku Swamp Road, 7 chains long, has been covered with fascines 5,333 in number, laid by the Armed Constabulary, and these have been covered with clay, an average of 12 feet wide, and 18 inches thick.

A party of Armed Constabulary has been employed on this road in maintaining it from Rotorangi to Paikuku. A survey of the road from Pukekura to Orakau has been made for the purpose of enabling the Engineer to report upon its existing state. The report, with sections of gullies and plans showing proposed deviations between Orakau and Alexandra, has been received, but no further action has been taken.

The road from Pukekura to Rotorangi is in bad repair; it passes through the Moanatuatua Swamp close to the foot of the hills, and has been fascined, clayed, and drained. The drains do not act satisfactorily, and the fascines are being cut by the traffic for want of a proper covering. A few deviations from the present line would greatly improve it; but, besides this, all the gullies between Orakau and Alexandra require bridging. The crossing of the Mangahoi swamp and creek at Orakau was almost impossible last winter.

Cambridge to Rangiawhia.—A bridge has been erected across the Mangapiko Creek, with approaches, embanked and fascined for 3½ chains. This road crosses two bad portions of the Moanatuatua swamp, respectively two miles and one mile long. Both these have been side-drained and fascined, and on the former the fascines have been covered with clay, except for about half a mile in the centre; on the latter the fascines remain uncovered. On both they are being cut up with traffic, and manuka for fascines is becoming scarce, and the work of carting and laying them expensive.

Cambridge to Ohaupo.—The bridge over Walker's Gully has been repaired and secured, and a design and estimate for a culvert at Rich's Creek has been prepared; but no work has been done yet towards its erection. The bridge at this place has been down for some months. This road, and those across the Moanatuatua swamp, *viâ* Rotorangi, are important as being the means of access to Alexandra from Cambridge across the Delta.

Hamilton and Alexandra.—Plans, &c., have been prepared for repairs to Mystery Creek bridge, as well as plans of road diversions, to avoid the crossing of this deep gully. Road diversions have been laid out at Havelock's Leap, Paturangi Redoubt, and two near McKibbon's farm, all between Ohaupo and Alexandra. That at Paturangi has been finished by the Armed Constabulary, and that at Havelock's Leap is nearly finished. The length of road formed is 13·10 chains, with earthwork representing 1,176 cubic yards.

Te Awamutu to Alexandra.—Two bridges on this road, near Alexandra, require repairs. Report and estimate for replacing these with culverts have been prepared, also plan of road diversions to avoid necessity for these bridges. No work has yet been done.

Waipa Road—Newcastle to Alexandra.—With a view of utilizing the roads as laid off on the survey plans of the district, a survey has been made to fix their positions on the ground. The result shows that many deviations will be necessary, for which further surveys will be required.

Te Rore Bridge, to Harapipi.—Plans and sections were prepared of the site for a proposed bridge at Te Rore, but the work, which will apparently be a costly one, has not yet been authorized.

Whatawhata to Raglan.—From the foot of the hills on the eastern side to the Waitatuna Creek bridge, all the small culverts and bridges are out of repair, and in some instances broken down. From observations taken by Mr. Clarke during a rough compass traverse of the watershed, it is apparent that a much better line of road over the range than the present can be obtained, which would improve the grades from 1 in 8 or 9 to 1 in 13. The range to be crossed is about 600 feet high. Before any further expenditure is incurred on this road, it would be well to have a proper exploration and survey made of the best line obtainable.

Raglan and Aotea Road.—Plans and estimates of the cost of this road have been prepared.

Waihou and Piako Road to Confiscation Boundary.—Instructions were given to Mr. Clarke to proceed with the survey of this road, which progressed accordingly until the Natives interfered and stopped further progress. It appears that terms have since been arranged with them, and on receipt of official intimation of this fact from the Native Officer the survey will again be proceeded with. Apparently, the best and shortest line will be secured by crossing just below the junction of the Piako with the Waitakururu, thus rendering only one bridge necessary. This line of road, though swampy, can be made thoroughly good, as a hard bottom of clay exists at a depth of 2 or 3 feet.

Road Deviations are much required in many places, particularly at the Tamahere Gully, main Hamilton and Cambridge Road. The other hill roads will never be good, but appear to be too firmly established to be altered, unless under a comprehensive system of road management, backed by ample funds.

Other Works besides Roads.—33 chains of willow-planting along town belt, Newcastle. Whatawhata punt removed from Newcastle, repaired and replaced. Plans of Newcastle wharf prepared. Wharf at Waikato Heads repaired and inspected. Telegraph Office and Court House, Hamilton, inspected for Colonial Architect.

BAY OF PLENTY.

(A. C. Turner in charge.)

Tauranga to Taupo.—Works as below described have been executed during the last year, viz.:—39 chains of metalling, 13 chains fascining, 1,556 cubic yards of earthwork, 369 cubic yards of rock-cutting to reduce angles in side cuttings, 56½ chains corduroyed with fern-trees and covered with six inches of earth, 31 culverts in side cuttings, and other minor improvements.

This road was in good order until the winter rains set in. Since then the part which lies in the Mangorewa forest has been in a bad state, and will always be so in the winter, unless it be metalled, which will be an expensive operation, or unless the bush be cut wider say one chain extra on each side of the central chain, which would have a very beneficial effect.

Ohinemutu Branch Road.—Ten chains of this have been formed; one plain bridge 40 feet long has been completed over the Utuhina River, and one 6 feet over the Ngawha Creek; also two culverts, 18 inches and 12 inches, have been put in.

Tauranga and Katikati.—During the last twelve months improvements have been made on this road involving removal of 4,470 cubic yards of earth—viz., 1,060 by Armed Constabulary, 2,500 by Ngaiterangi natives by contract, and 910 by European contract. Six additional culverts have been built, also a wooden partition wall 40 feet long at foot of embankment west of Wainui bridge. The Wairoa bridge, in progress last year, has been completed, 425 feet in twelve spans, also a small bridge over the Wairoa mill-race. The second division of this road, Aongatete to Katikati, is 16 miles long, and a portion of it is now under construction—viz., forming embankments over the worst swamps and surveys and estimates have been made of the whole, so that the remainder of the work can be proceeded with at any time. The road at present is in very fair order.

Maketu and Rotorua.—On this road 10 culverts have been erected in the long side cutting at Waimakaretu, 450 cubic yards of earthwork moved in easing grades, and landslip on above cuttings removed 467 cubic yards. This line of road is in bad order throughout, owing to the disinclination of the Natives to work except at absurdly high prices, and their tribal feuds.

Rotorua and Tapapa Horse Road.—Survey of this, suspended in 1873, has not yet been completed, as Natives are still in opposition.

Horohoro and Te Whetu Horse Road.—No work has been done on this road during last year, and portions are still incomplete, although much used by travellers.

Galatea and Ahikereru Horse Road.—The survey of this is now being proceeded with, the Urewera Natives having withdrawn their opposition.

Matata and Te Teko Road.—Section 2, 4½ miles, has been widened from 8 to 12 feet to correspond with Section 1, 10½ miles, to fit it for cart traffic, and the whole is now in good order.

Opotiki and Otara Road.—This road, completed in 1873, has been handed over to the local Highway Board to maintain.

Matata and Whakatane Horse Road.—The deviation described in last year's report as being necessary is still untouched, owing to the exorbitant demands of the Natives.

Opotiki and Ohiwa Road.—Now being widened into a dray road. 1,700 cubic yards of earth have been excavated for embankment between the Waioeka bridges; 116 cubic yards of ditching and widening; and the two Waioeka bridges in progress last year have been completed, 370 feet in length. This line is in good order, and is much used in conveying goods from Ohiwa Harbour to Opotiki.

Ohiwa and Waimana Horse Road.—The swampy place reported last year as being bad is still untouched, as the Natives will not do the work. The rest of the road is in good order.

Tauranga and Tapapa Road.—No work has been done during last year; the section of 8¾ miles already formed is in good order.

Tauranga and Judea Road.—This is now being maintained by the Highway Board, who are improving the grades on the north side of the Kopurereroa swamp. It is in good order.

Opotiki and Waioeka Road, Five Miles.—On this, 24 chains of formation have been executed, 38 feet wide; earthwork, 781 cubic yards; and one box culvert erected by Armed Constabulary stationed at Opotiki. Total completed, 2 miles 61 chains, including 70 feet of truss and plain bridging. This part is in good order.

Whakatane and Ohape Horse Road.—One bridge, erected on this line some years ago by the military, became dangerous through decay of inferior timber. It has been replaced by another bridge built of heart of kauri, the work being done by Armed Constabulary stationed at Whakatane, who have also maintained the road.

Matapihi and Maketu.—Road generally in good repair.

Ohineroa Horse Road.—Projected over the ranges toward the Thames. No work has yet been done on this road, the Natives still maintaining their opposition.

Te Teko and Galatea Road.—Thirty-one and a half miles. During the year two miles have been properly formed, making the total length of improvements about twelve miles formed and graded, 18 feet wide, and 19½ miles roughly executed, including 89½ feet of plain bridging.

Earthwork 4,707 cubic yards, and 132 chains of formation, were executed by the Native Armed Constabulary, under Captain Preece.

This line is now being continued towards Taupo, under the name of

Galatea and Opepe Road, forty miles. This is being formed in such places only as are necessary. The work was begun in April by the Ngatimanu Natives, who have formed 4 miles 73½ chains, including 2,180 cubic yards of earth-work. This is in good order.

Whakatane and Te Teko Road.—This is being altered from a horse road into a dray road, but only 51 chains have been executed during past year, making 10 miles 10 chains, formed 20 eet wide; earth-

work in embankments in swamp, 4,966 cubic yards, and in side cuttings 8,600 yards. Timber for bridges, delivered at their sites, 8,600 feet.

Rotorua and Tarawera Road.—Total distance, 9½ miles. Of this only half a mile has been executed during last twelve months, making a total of six miles formed 18 feet wide, of which all is in good order, including one bridge, 12 feet, and six culverts.

This work has been done by Native Armed Constabulary, under Captain Mair, and latterly under Captain Way.

Opotiki Table Land Road remains in good order. It is proposed to continue this to the beach, and the line will shortly be laid off.

Cambridge and Taupo (Atiamuri).—The proposed survey of this line has been carried on so far as to run the line and drive marked pegs at every chain, but the levels have not yet been taken, as orders were given to discontinue the survey.

Kaitereria and Tarawera Horse Road.—This line remains in good order.

Opotiki and Torere, and on to East Cape.—During the year 52½ chains have been formed, 8 feet wide, between Te Kaha and Kaukokore, and four culverts erected; also 74 chains of side cutting to ease steep grade between Ohape and Torere. Earthwork, 4,532 cubic yards; rockwork, 160 cubic yards. 11 miles 65 chains of extension have been laid off beyond Te Kaha, but the Natives demand too much for the work. Total formed, 8 feet wide, 13 miles 10 chains, eight of which lie through dense forest.

This road can now be travelled four miles beyond Te Kaha, or about forty-four miles. It has been maintained by Natives, and is in good order.

Whakatane Valley Road.—During the year the Armed Constabulary have formed 60 chains, 18 feet wide, including earthwork 3,480 cubic yards, rock 376 cubic yards, one 4-feet bridge, and one culvert. The Urewera Natives have formed 157 chains, 8 feet wide. Total formed, 217 chains out of thirteen and a half miles.

Tauranga and Cambridge Road.—Survey, as proposed, was proceeded with in December last from the Cambridge end, and carried on as far as the junction of the Mangawera and Waitoa streams, about eleven miles, and there stopped by the Pirirakau Natives. Forty-four miles yet remain to be surveyed.

Road Work at Tauranga, joining Inland Roads to Beach.—172 chains, reported last year as having been begun, have since been completed, as follows:—Formed throughout 33 feet wide, including 2,850 cubic yards of earth in face cuttings; one 18-inch earthenware pipe culvert 70 feet long, one 12-inch 135 feet long; six wood box culverts.

The Highway Board contributes one-sixth of the cost of this work.

Grahamstown to Hikutaia.—About eighteen miles. The survey of this was ordered, but afterwards countermanded; no work has been done. The present bridle-track has been repaired by the Provincial Government.

Katikati to Grahamstown: Telegraph Line.—One new bridge has been built over a branch of the Hikutaia River, and four others repaired; an embankment has been formed across the Waiharakeke swamp, and other minor repairs executed, the expense being borne by the Telegraph Department. This line passes through very broken and precipitous country, about one-half in forest, and is in very bad condition, being in fact almost impassable for horses; should a good line of road be found and formed, it would be well to shift the wires alongside of it.

Maketu and Tauranga Telegraph Line.—One bridge, 18 feet, has been built over the stream at Hairine, and approaches made to it across the swamp on both sides, the cost being charged to the Telegraph Department. Other improvements are ordered, but the Natives cannot be induced to go to work upon them.

Explorations—Katikati to Mackaytown and Te Puke (Ohinemuri Goldfield), and on to Hamilton (Waikato crossing), the Thames and Piako Valley, with a view to Road Construction.—This country was examined by Mr. Turner in March last, and a special report made thereon, giving approximate cost of several lines.

Cemetery at Tauranga—Protection-wall.—This work is now being extended from both ends, for a total length of 190 feet, and its base strengthened to resist the action of the waves. The work will include about 500 cubic yards of stone masonry, and is being executed by artizans in the Armed Constabulary.

Opotiki and Poverty Bay Road.—Eighty miles. During the year about 4 miles 58 chains have been formed 8 feet wide at the Opotiki end, making a total of about 28 miles, including 17,270 cubic yards of earthwork, and 2,173 cubic yards of rock. The Poverty Bay end of this road was, as stated in last year's reports, badly executed, and required complete revision. For this purpose 27 miles 46 chains of deviation have been surveyed and laid off, 17 miles being in bush. Of these, 6 miles 17 chains of deviation have been formed in the bush, and 2 miles 55 chains in the open: total, about 9 miles, including 19,498 cubic yards of earthwork, and 370 cubic yards of rock. This makes a total of work at both ends for the year of 13 miles 58 chains. There has been considerable difficulty experienced in carrying on this work, owing to labour of any kind not being easily procurable. Mr. Turner suggests that to insure its completion next season, the Armed Constabulary be employed as soon as the weather is favourable for road work.

Public Buildings, &c.—Besides the above-described road works, Mr. Turner has supervised the construction of the following, viz.:—Government Buildings, Tauranga; Telegraph, Post Office, and Court House, Opotiki; Telegraph and Post Office, Ohinemutu; wharf extension, Opotiki (Provincial Government); repairing grist mill at Tarawera; erecting grist mill at Wairoa.

NAPIER TO TAUPO, TAUPO TO ATIAMURI (WAIKATO): ALSO WAIROA, POVERTY BAY, AND EAST COAST DISTRICT.

Napier to Taupo.—Section 1, *Taradale to Pohui* (*viâ* Glengarry), 23 miles.—The survey of this section, reported last year as being in progress, has been completed to within three miles of Rangimaipapa, where it will join the present road to Taupo, the length of survey completed being 11½ miles, levelled and pegged off, and cross-sections taken, besides trial levels for 20 miles.

Section 2, Kaiwhaka to Taupo, 80 miles (stated in error as 95 miles in last report).—This was maintained by contract up to 9th January last in a very unsatisfactory manner; since then, by day-labour, in a more efficient manner. Narrow parts have been widened, and sharp turns improved, and parapet-fences have been erected at the most dangerous places.

At Tohuawaka, near Runanga, a deviation has been made to avoid a steep hill, and improvements have been made near Opepe. A few of the worst parts have been metalled, but much more work of this kind is yet required, as well as improved drainage and formation on the Taupo plains, where the road is very soft and heavy for traffic in winter.

On this section a contract has been let for the erection of a cart bridge over the Mohaka River, but slow progress is being made with the work, owing to the difficulty of obtaining transport of material to the site. Considering the season the state of this road is not bad for traffic; it is maintained partly by day labour and partly by the Armed Constabulary. The amounts of work executed are:—By day labour: 230 lineal feet of bridges tarred and painted; 75 chains of metalling 12 feet wide (2,380 cubic yards of metal); 14 chains of parapet wall; 6,200 feet of timber (sawn) for culverts, 3,800 feet for fence rails; 200 fencing posts; 1,450 cubic yards of rock; and 2,400 cubic yards of earthwork. By Armed Constabulary: 295 chains road improved, 18 feet wide; 20,459 cubic yards of earthwork.

Section 3, Taupo to Atiamuri.—This has been fairly maintained under Native contracts, assisted by Armed Constabulary, and is in very good condition. Works executed by day labour, 270 feet of box culverts, 16 × 16 inches, and about 110 feet of wing fences at Tapuaeharuru bridge. By contract, 30,748 cubic yards of earthwork. By Armed Constabulary, 6,154 cubic yards of earthwork.

Bridle Track—Tapuaeharuru to Tokaanu.—Thirty-three miles. Surveyed and prepared for contract, but no work done yet.

Napier to Patea, inland, 90 miles.—Section Mangawhare–Rangitikei.—Thirty-six miles. The levels and cross-sections of this line have been taken, and are now complete, and the line is staked and pegged. Estimates and full report are being prepared. A portion of this line passes over very difficult ground for about two miles, near Kuripapanga, where the best grades obtainable will be about 1 in 10.

Wairoa District.

Wairoa to Opoiti.—This road has been improved during the year by draining and formation, and the bridges have been tarred and painted. The road is in good order. Work executed: Tarring and painting, 180 lineal feet; ditching, 199 chains; widening road 50 chains, 2,180 cubic yards earthwork; formation, 82 chains 25 feet wide; clearing scrub, 30 square chains; fascining, 15 feet wide, 3 chains; 2 box culverts, 24-inch, 40 feet; slips removed, 500 cubic yards.

Bridle Road, Te Kapu to Waikaremoana.—This has been maintained by contract. A bridge or punt is much needed at the crossing of the Waikare-Taheke, which is difficult and dangerous. Plans have been prepared for approval, but the work has not yet been authorised.

Bridle Road, Wairoa to Poverty Bay (inland): Section, Opoiti–Poverty Bay.—The work reported last year as having been let to Natives has proceeded very slowly; works executed are—172 chains side-cutting, 7 feet wide, 8,282 cubic yards; 10 chains ditto, in rock, 684 cubic yards; 31 chains, clearing scrub, 14 feet wide; 14 culverts, 140 feet, 20 inches in clear; fern-clearing, 73 chains; also, in detached portions between Te Konaki and Patutahi, 777½ chains of road formation, 7 feet wide.

Wairoa to Gisborne, viâ Mahia and Sea Beach.—This has been kept clear for traffic by native labour. The deviation at Ureti is now open for traffic, but not quite complete; the horse-bridge over the Waimauna Creek has been completed, and the road improved near Mahia. The clearing for the telegraph line through the bush has also much improved the track. Works executed: 163 chains bridle track, 1,500 cubic yards of earthwork; 13 culverts, 124 feet by 24 inches; 90 chains bush clearing, 14 feet wide; Karawa Bridge, 70 feet tarred and painted; 56 chains ditching.

Roads, Poverty Bay District.

Gisborne to Ormond.—This is in the hands of the local Road Board, and, not being metalled, is in a very bad state during the winter. Tenders for metalling were invited, but were so high that they were all declined, and fresh tenders are now being called for. A hill of limestone, near Ormond, has been purchased from the Natives to afford a supply of road metal.

Makaraka to Te Arai.—No work has been done on this road, but sections of the Waipaoa River and Te Arai were taken for the purpose of preparing bridge designs. Tenders were called for a bridge over the former, but being very high were declined.

Ormond to Mangatu.—Twenty-one miles. This is a proposed road northwards in the direction of the oil springs. The country through which it would pass embraces a large extent of rich alluvial land, is generally flat and open, and favourable for road-making. Survey work performed: Main road surveyed, and road reserve pegged off, 17½ miles; deviations and trial lines, 10½ miles; levelled and sectioned, 2½. An approximate estimate of the cost of forming this road, exclusive of bridges, is £3,500.

Bridle Road, Gisborne to Hicks's Bay.—This line is in a very unsatisfactory state, the Native contracts having been in most cases badly fulfilled. The ferries, however, have been well kept with the exception of that at Waiapu, about which there are tribal disputes, which have also delayed the proposed improvements on certain parts of the road. A site has been selected for a bridge across the Turanganui, at Gisborne, and a section and plan submitted with report on same.

Surveys.

Patutahi Survey.—The survey of this block is now being proceeded with in a satisfactory manner. The subdivision of the flat land by Mr. H. G. Ford is now about complete, and plans will shortly be ready for inspection. The summary of work is as follows:—Under Mr. Winter: Traverse of boundaries, 61 miles; fern lines cleared, 31 miles 15 chains; scrub ditto, 7 miles 66 chains; bush ditto, 19 miles

70 chains. By Mr. Ford: Road lines cut and traversed, 18 miles; ditto, cut but not traversed, 2 miles 50 chains; boundary lines cut and traversed, 5 miles 35 chains; ditto, cut but not traversed, 47 chains; 1,463 acres cut up into sections varying from 33 to 100 acres; trial levels taken for drainage of swamp, 9¾ miles; and 7 miles line cut for levels through bush and scrub.

Survey of Reserves in Waikare-Mohaka Block.—Waitara Reserve, 40,000 acres. This work was begun in April, and is all but complete; the country is very rough and broken towards Mohaka. Summary of work is,—Road traversed, 4½ miles; Mohaka River, 16 miles; south-east boundary on Maungaharuru Range, 12 miles; reduction of eight-mile sides of major triangulation to smaller triangles of one-mile to three-mile sides over 10 miles of the reserve.

Public Buildings, &c.—Mr. Bold has supervised the following, in addition to his duties on roads, &c.:—Napier Court House; Napier Post and Telegraph Office; Waipawa Court House; Post and Telegraph Office at Porangahau; School House at Tauranga, Taupo; Flour Mill at Tokaanu (restoration and repairs); compilation and preparation of map Wairoa district for Commissioner of Confiscated Lands; re-survey of Ormond Settlement, and erection of telegraph line Napier to Gisborne, now complete.

MANAWATU DISTRICT.

(J. T. Stewart in charge.)

No new works have been undertaken in this district during the year.

Foxton to Manawatu Gorge.—This has been maintained chiefly by day labour. The widening of the road alongside the tramway between Oroua and Palmerston was finished early in the year. New culverts to extent of 412 lineal feet have been put in. On that part of the road within the Gorge many of the sharp turns have been cut off and widened, and hand-rails erected on the bridges to the extent of 560 lineal feet.

Surveys have been made of the low-lying country below Palmerston, with the view of taking off more rapidly the large amount of flood-water. The road and railway bridge over the Manawatu River in the Gorge has been completed and opened for traffic. Its full length is 428 feet, made up of one main central span of 162 feet, five spans of 40 feet each, and four spans of 16½ feet each; the two main piers, of rubble masonry in cement, are 50 feet high from their rock foundations. The river in flood at this point sometimes rises as much as 40 feet.

Road Seventy-Mile Bush, Manawatu Gorge to Takapau, in Hawke's Bay.—The metalling contracts laid aside last winter have been completed, and the road maintained throughout.

The cartage of sleepers from Danevirke to Takapau in wet weather has cut up the road and rendered considerable repairs necessary, and the travelling of stock has damaged several of the embanked approaches to the bridges, and necessitated their being repaired and widened. Some of the wing-walls of the bridges have proved to be rather slight, and will need strengthening: this is now being done.

Road, Gorge towards Opaki.—Extending from Woodville to the Manawatu river, 3 miles 70 chains. The formation, culverts, and bridges were completed satisfactorily under contract during the year, but the metalling has not yet been begun.

Surveys.—A complete section and traverse of the two last described roads has been made, showing all bridges, culverts, and other works, and the work is now being plotted.

Summary of Work—Takapau to Gorge.—Road-forming, 36 chains; road-trimming for metalling, 4 miles 8 chains; metalling, 8 miles.

Gorge, towards Opaki.—Formation 3 miles 70 chains. Bridges, two of 12 feet, one of 15 feet, one of 16 feet, one of 30 feet, one of 36 feet, one of 74 feet (51 feet truss), total 195 feet; 12 culverts, average 18 inches by 24 inches by 20 feet.

MASTERTON, TOWARDS MANAWATU GORGE (about 42 Miles).

(Alex. Munro in charge.)

During the past year good progress has been made on this line of road, more than 26 miles having been formed and bridged, the greater portion of which lies through very difficult country, in which much of the work consisted of heavy side and through cuttings, and forming over swampy flats. Fifty-three bridges, representing a total length of 1,797 feet, have been built during the year; three of these being framed or trussed, and the rest plain, varying in span from 20 to 30 feet, some of the larger consisting of three such spans. These are all built of the best material and well put together.

Two hundred and thirty-nine culverts have been built, varying from 2 feet square and 22 feet long, to 5 feet square and 35 feet long. Several bridges and culverts yet remain to be built, and for these sawyers are employed in cutting the necessary timber by contract. Of the larger streams, sections have been taken and forwarded to the head office, where plans have been prepared for bridges: these are—Makakaki, 1st crossing; ditto, 2nd crossing, and Mangatainoko River. The two latter bridges will be advertised for public tender without delay, and the former on the completion of the road formation, probably in August next. The contracts for formation work yet in hand are three in number, extending over a total length of 122 chains, besides which 7 chains are being formed by day labour. A great length of outfall drains has also been found necessary and executed, as well as retaining walls built in several places.

The construction of this road has hitherto absorbed all the labour available in the district, and it is therefore very doubtful if tenders for metalling would have been received, except at prohibitory prices.

WANGANUI TO CARLYLE (PATEA), AND WANGANUI TO TAUPO.

(J. R. Rees in charge.)

Main North Road.—In last year's report certain works were described as being in progress, and as being the last items of work needed to complete the road, as a whole, between Wanganui and Carlyle. These have since all been completed, and are as follow—viz., Patea bridge, with 20 chains of road formation and metalling; Whenuakura bridge, with 6 chains of formation and metalling; as also

4 chains of metalled road in connection with the Waitotara bridge, previously completed. These bridges are all well and substantially built, and the road throughout is in fair condition considering the indifferent quality of metal obtainable in the district.

Wanganui and Taupo Horse Road.—The work on this has been extended about 450 chains during last year, making a total of about 29 miles now open. The line has also been cut and surveyed through the bush to the open country, a total of about 50 miles.

The distance of this work from settled districts, and the inclement weather experienced, have delayed the work considerably; but it is hoped that the track will be cut through to Taupo before the close of next season.

WEST COAST ROAD, PATEA TO PUKEARUHE; ALSO, MOUNTAIN ROAD (SOUTHERN PORTION).

(O. Carrington in charge.)

Pukearuhe to New Plymouth.—No road work has been done on this section. The repairs to the Urenui bridge, in progress last year, were completed in June, and the bridge re-opened for traffic.

Inland Road.—Between New Plymouth and the Mountain Road, which it joins at Inglewood. Four bridges, in hand last year, have been constructed on this line—viz., at Upland Road, Mangonaia. Waiongona, and Waiongona-iti; and the bridge over the Upper Waiwakaiho, also reported to be in, progress last year, has been completed. 246½ chains of road formation, 10 feet wide, have been executed. The Manutahi bridge has also been built over the Waiongona, near the township of Manutahi, between New Plymouth and Waitara inland.

Omata to Stony River.—Ninety-three chains of road have been gravelled.

Stony River to Waiorongomai.—115 chains have been formed, and 80 chains gravelled, the Natives allowing the work to proceed without interruption.

Waiorongomai to Umuroa.—No actual road-making has been executed, but the worst parts of the track have been repaired by Native labour from time to time. On this section a site for a lighthouse has been selected at Cape Egmont, and a sketch showing the site and the adjoining coast prepared for the Marine Department.

Umuroa to Waingongoro.—266½ chains of road have been formed, principally heavy through-cuttings, and 34 chains have been gravelled. The approaches to the Punehu and Otakeho bridges, in hand last year, have also been completed.

It is satisfactory to be able to report that the Natives during the past year have offered much less opposition to public works than formerly, and that they are becoming alive to the advantages of roads and bridges, more especially as they are increasing the number of their teams. Judging from their present temper, there would be no difficulty in carrying out any contract works required in their districts.

Painting Bridges.—All the bridges between Kaihihi and Waihi, nineteen in number, have been screwed up, and painted under contract, by Mr. T. B. Louisson, of Nelson, who has used throughout under approval, his Nelson hematite paint, which as far as our experience shows will answer for such purposes admirably.

Waingongoro to Patea.—109 chains of road have been gravelled, and a small party of men have been kept employed on maintenance.

The line of road throughout has been in good order until recently, but since the rains have set in the lately formed portions have become very soft and heavy for traffic. The gravelled portions are in good condition. Tenders have been accepted for gravelling 94 chains of road north of Carlyle, but most probably the work will be delayed until finer weather.

Mountain Road, Southern Portion.—After this road had been felled and cleared as reported last year, it was discovered that, to make the line serviceable for railway purposes, some deviations would be necessary, particularly between the third and tenth mile from Hawera. Mr. Carrington was accordingly instructed to have a new line selected and surveyed, and this work is now in progress.

Tenders have been accepted for the formation of 209 chains of road between Hawera and the edge of the bush, but until more favourable weather should prevail not much progress will be made.

Tenders are also invited for the formation of the road through the Hawera township, towards which work the Hawera Road Commissioners will contribute the sum of £180 according to agreement.

ROADS IN WESTLAND.

(F. H. Gerrow in charge until May, 1875; C. Y. O'Connor in charge after that date.)

Christchurch Road.—The works on this road, although being executed at the charge of the General Governmen, thave for greater convenience been immediately under the superintendence of the Provincial Engineer of Westland, G. Mueller, Esq. They consist of deviations from the original line so laid out that the road in future will not suffer from the effects of floods, and are numbered and described as follow, viz.:—Deviation No. 3, Rangariri to Taipo: No. 6, near 35-mile post; No. 7, near 40-mile post; No. 8, near 42-mile post; No. 11, Otira Gorge, in all 11 miles 13·84 chains. No. 3 is 5 miles 62 chains long. The work consists of clearing, forming (involving the removal of many large boulders), and metalling. No. 6 is 1 mile 4 chains long, the work on which is of the same character as No. 3. No. 7 is 57½ chains long. The eastern portion is of the same description of work, but the western portion comprised 8 chains of rock-blasting. This section was completed on March 7, and was then opened for traffic. No. 8 is 1 mile 37 chains long, and for its whole length is on steep sideling ground, with rock in many places. No. 11 is 2 miles 12 chains long. The annexed plan shows their position on the road. The actual work has proved of a less formidable character than anticipated, but several heavy slips have given great trouble to the contractors. It is expected that all the above works will be completed by about the middle of August, and the road once more opened for coach traffic.

Horse Road, Still-Water to Maori Gully.—Six miles fifteen chains. This work was completed and handed over to the province in August, 1874. It is formed 9½ feet wide, and metalled 5 feet wide and 8 inches thick, and includes 471 chains clearing, 495 chains forming, 16 chains drains; one plain bridge, 24 feet; two ditto, 20 feet; one ditto, 15 feet; and 167 lineal feet of culvert covering. Total cost, £1,800, or about £291 per mile.

Dray Road, Greymouth to Marsden.—Ten miles two chains. Ninety-two chains of this road has been maintained by the Borough of Greymouth since its completion in January, 1874; the rest by the General Government, by contract, to 23rd June, 1875. It is in fair condition throughout.

Dray Road, Marsden to Maori Creek.—Five miles 50·65 chains, widened to 11½ feet with metal 8 feet wide and 8 inches thick; practically completed at date of last annual report, but some heavy slips delayed opening and final completion till July, 1874.

Horse Road, Pounamu to Lake Brunner.—Eight miles four chains. Formed 10 feet wide, with metal 5 feet wide and 8 inches thick; completed in March, 1875. Work includes 622 chains clearing, 644 chains of forming, 29 chains drains, 163 lineal feet culvert covering, 13 fords across creeks, 9 box-culverts, 644 chains metalling, 23 turnouts. Cost £2,657 0s. 6d., or about £330 per mile.

Horse Road, Waimea, Right-hand Branch.—Bridge 113 feet long and 8 feet wide. This is a plain bridge of four spans, erected near the township called Big Dam on the horse road leading from Goldsborough to the Christchurch Road; completed in September, 1874. Cost £194 9s.

Dray Road, Hokitika to Blue Spur.—Four miles forty-six chains. Formed 12½ feet wide, and metalled 8 feet wide and 8 inches thick. Work let in two contracts, No. 1 completed July, 1874, and No. 2 in December, 1874; both being handed over to the province a month after their completion. Work consists of 296 chains clearing, 11,051 cubic yards earthwork, 98 chains of drains, one lattice bridge 58 feet span, 308 lineal feet culvert covering, 24 box culverts, 366 chains metalling, and 27 turnouts. Cost £2,242 15s., or about £518 per mile.

Horse Road, Kanieri Forks to Lake.—Four miles fifty-four chains. Formed 10 feet wide, and metalled 5 feet wide and 8 inches thick; completed and handed over to province June, 1875. Work includes 374 chains clearing, 374 chains forming, 31 chains drains; one bridge, 41 feet span truss; 61 lineal feet culvert covering, 13 fords over creeks, 20 box culverts, 374 chains metalling, 10 turnouts. Cost £1,431 15s., or about £306 per mile.

Horse Road, Bowen to Okarito.—The position of this road was generally described in last annual report. Its length will be about 53 miles, of which, at the north end, 13 miles 15 chains have been completed, formed 10 feet wide, metalled 5 feet wide and 8 inches thick; and at the south end, 12 miles 37 chains, formed 10 feet wide, metalled 8 feet wide and 8 inches thick for 7 miles 39 chains; and the remainder the same as the north end; with a branch road to the Mapourika Lake of 3 miles 76 chains long; formed 12 feet wide, and metalled 8 feet wide and 8 inches thick.

The intervening portion, of about 27¼ miles, has been explored, and a line has been cut throughout, of which about 12 miles have been surveyed.

It is desirable that this road should be opened throughout as soon as possible, as the parts already formed offer little real advantage to the general travelling public. The cost of completion might be estimated as follows:—Survey, 15¼ miles at £24, £366; construction, 27¼ miles at £460, £12,262 10s.; bridge and embankment at Okarito, £350; supervision and contingencies, £1,321; total, £14,300. The work done and cost already incurred are as follow, viz.:—At north end, 1,055 chains clearing, 1,055 chains forming, 204 chains drains, one plain bridge 45 feet, 889 lineal feet culvert covering, 13 fords over creeks, 7 box-culverts, 1,055 chains metalling, and 45 turnouts; cost £3,747 15s. 6d., or about £284 a mile. At the south end, 599 chains clearing, 599 chains forming, 601 chains drains, 81 lineal feet culvert covering, 4 fords over creeks, 29 box-culverts, 599 chains metalling, 30 turnouts; cost £4030 9s. 3d., or about £537 a mile.

On Branch Dray Road to Mapourika Lake.—Work completed: 714 chains of clearing, 20,493 cubic yards earthwork, 50 chains formation sideling, 274 chains formation flat, 134 chains drains; one plain bridge, 61 feet; one ditto, 38 feet; two ditto, 20 feet; 126 feet culvert covering, 15 fords, 12 box culverts, 714 chains metalling, 56 turnouts. Cost, £6,568 9s., or about £738 a mile.

In connection with the Westland District, Mr. O'Connor sends the following valuable information as to the comparative cost to make and maintain certain different classes of roads, being the result of actual experience of each, as follows:—Class 1 (in use before road-work was begun under "The Public Works Act, 1870," by General Government), with 10 feet formation, and metal 8 feet wide and 8 inches thick, costing about £650 a mile; maintenance per mile per annum, £120. Class 2 (introduced by General Government), with 17 feet formation, and metal 12 feet wide and 12 inches thick, costing about £1,050 per mile; maintenance per mile per annum, £27,—showing a difference of £93 per mile, and that the extra cost of the more expensive road will be saved in less than five years, the saving beyond that time becoming a clear gain.

Further statistics given in report of Provincial Engineer for 1874 show that seven of the first-named class of roads, afterwards widened to 12 feet, still cost as much as 33 per cent. more to maintain than those constructed 12 feet wide at first: attributed to the fact that the class of work obtained upon the more expensive roads was superior to that obtained on the cheaper roads, which probably had not such care bestowed on them as regards survey and levels and the general requirements of a first-class road. Whatever may be the reasons for the difference in the cost of maintenance, the low cost of it on the wider roads under very heavy traffic speaks well for the manner in which they have been laid out and executed.

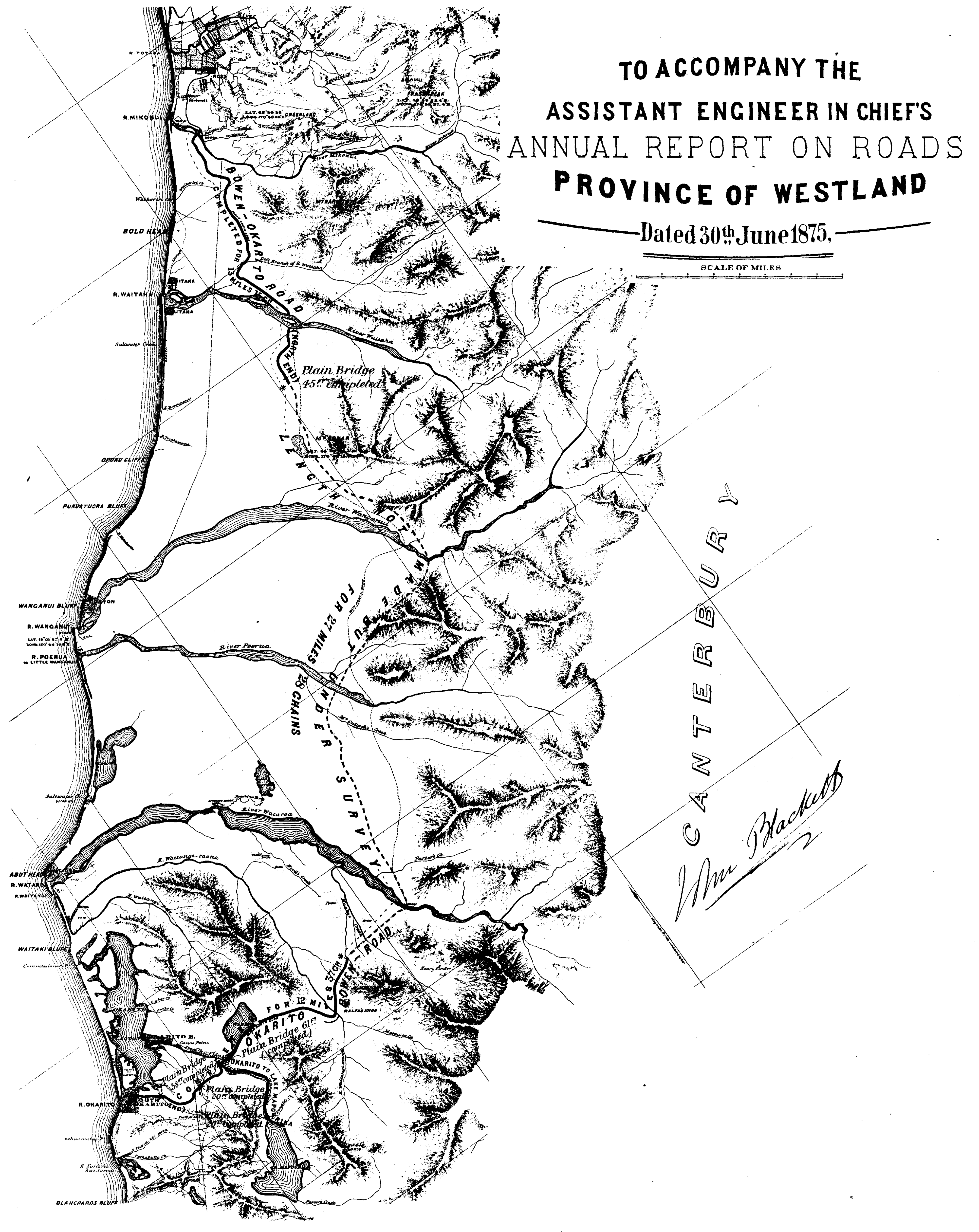
NELSON SOUTH-WEST GOLD FIELDS.

(A. D. Dobson in charge.)

The works completed and in progress during the year are as follow, viz.:—Dray road completed in Buller Valley, Christie's to Hughie's, 7 miles 20 chains; horse road, completed widening rock cutting at Hawk's Crag, on Buller Valley Road, 15 chains. The former of these works is a narrow dray road made almost entirely in sideling ground which is of a very slippery nature, and was difficult to make, and maintain when made. No other works have been completed during the year.

TO ACCOMPANY THE
ASSISTANT ENGINEER IN CHIEF'S
ANNUAL REPORT ON ROADS
WAIKATO DISTRICT
PROVINCE OF AUCKLAND

Dated 30th June 1875.

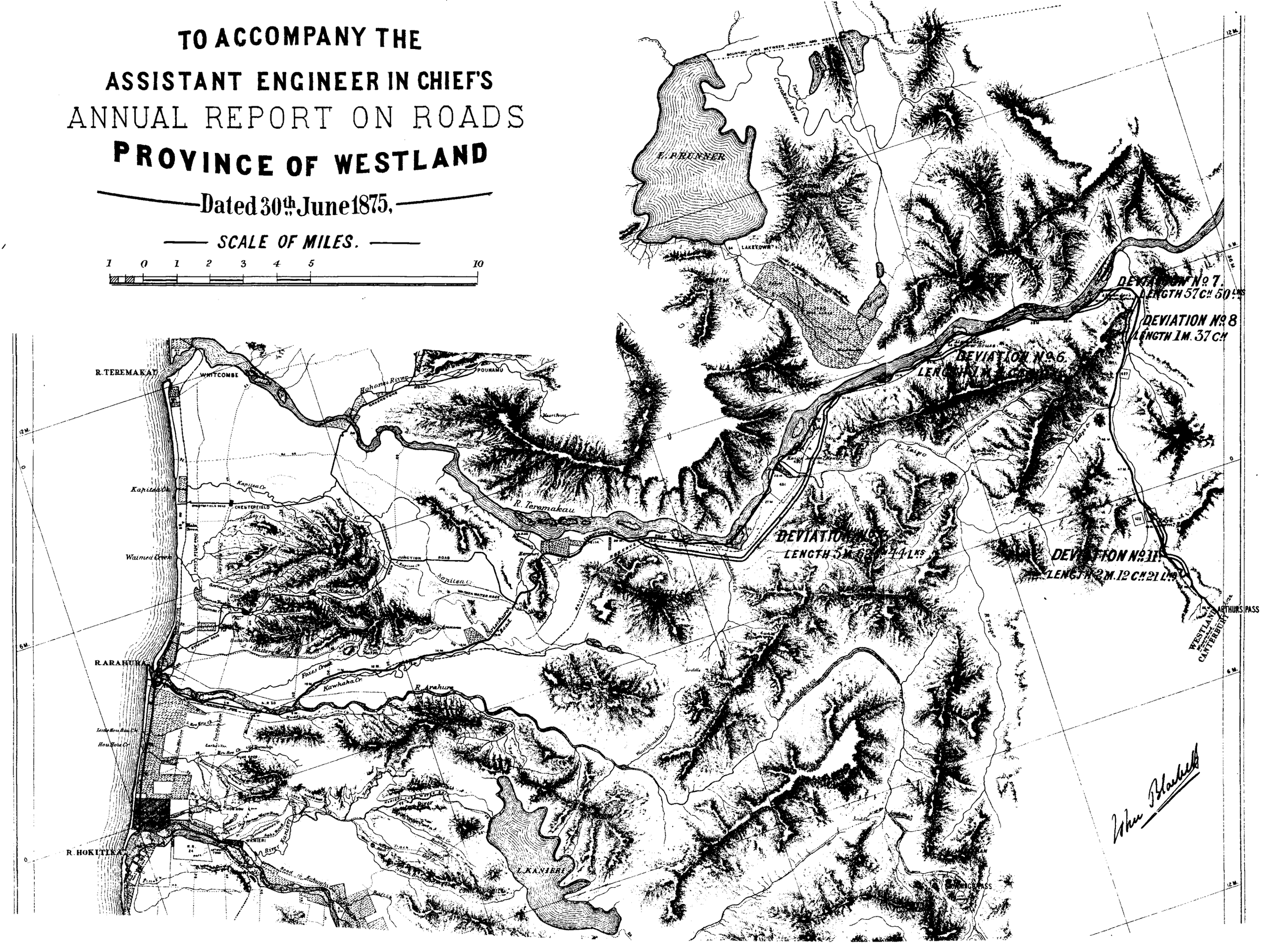

TO ACCOMPANY THE
ASSISTANT ENGINEER IN CHIEF'S
ANNUAL REPORT ON ROADS
PROVINCE OF WESTLAND
Dated 30th June 1875,
SCALE OF MILES
CANTERBURY
BOWEN–OKARITO ROAD
COMPLETED FOR 13 MILES
NORTH END
Plain Bridge 45ft completed
LENGTH NOT MADE BUT UNDER SURVEY
FOR 27 MILES 28 CHAINS
BOWEN ROAD
FOR 12 MILES
OKARITO
Plain Bridge 61ft (completed)
Plain Bridge 38ft completed
Plain Bridge 20ft completed
OKARITO TO LAKE MAPOURIKA
SOUTH OKARITO END
R. MIKONUI
BOLD HEAD
R. WAITAHA
OPUKU CLIFFS
PUKUATUORA BLUFF
WANGANUI BLUFF
R. WANGANUI
R. POERUA
River Waitaha
River Wanganui
River Poerua
River Wataroa
R. Waitangi-taona
ABUT HEAD
R. WATARO
R. WAITANGI
WAITAKI BLUFF
R. OKARITO
BLANCHARDS BLUFF
Wm Blackett

TO ACCOMPANY THE
ASSISTANT ENGINEER IN CHIEF'S
ANNUAL REPORT ON ROADS
PROVINCE OF WESTLAND

Dated 30th June 1875.

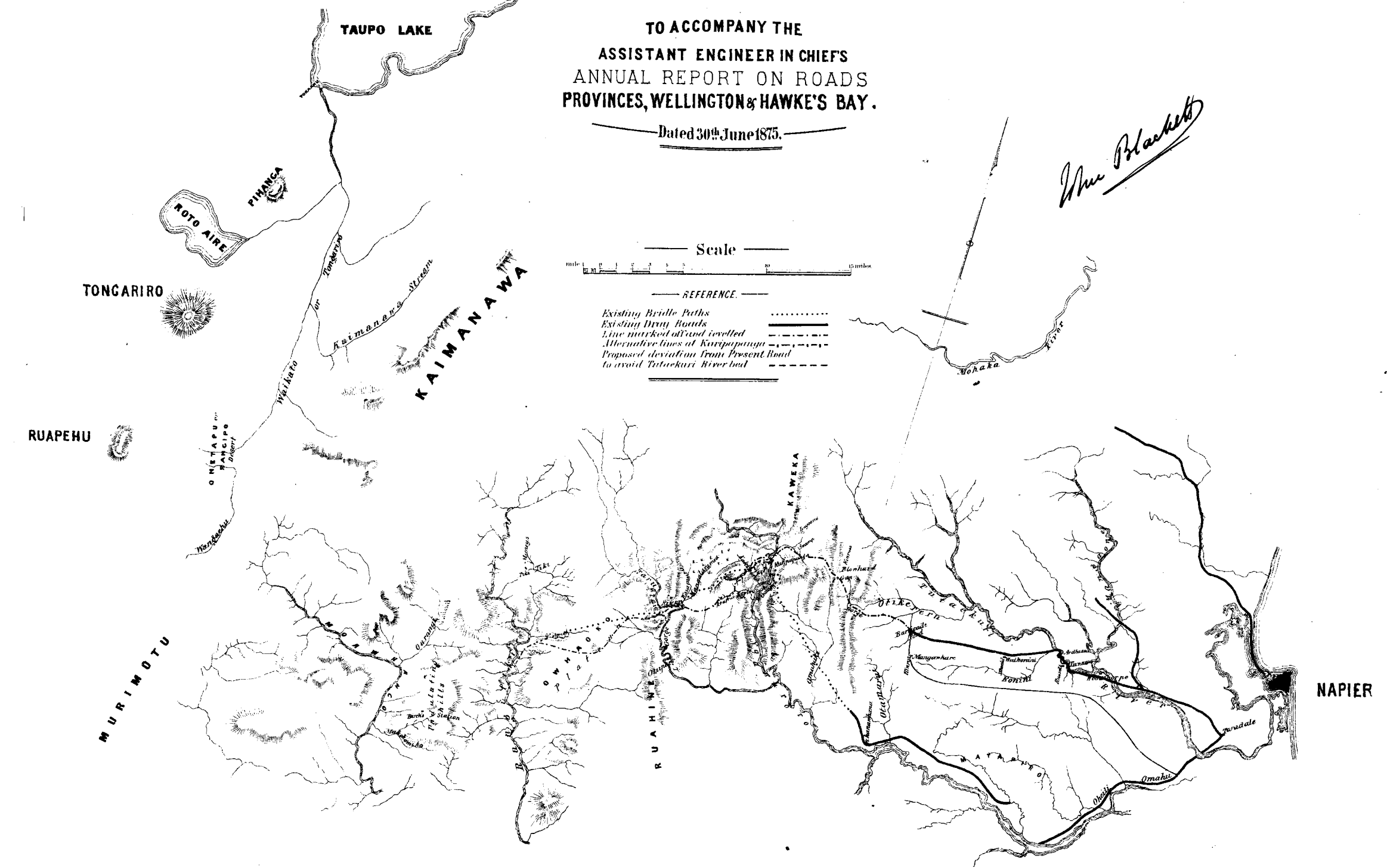
SCALE OF MILES.

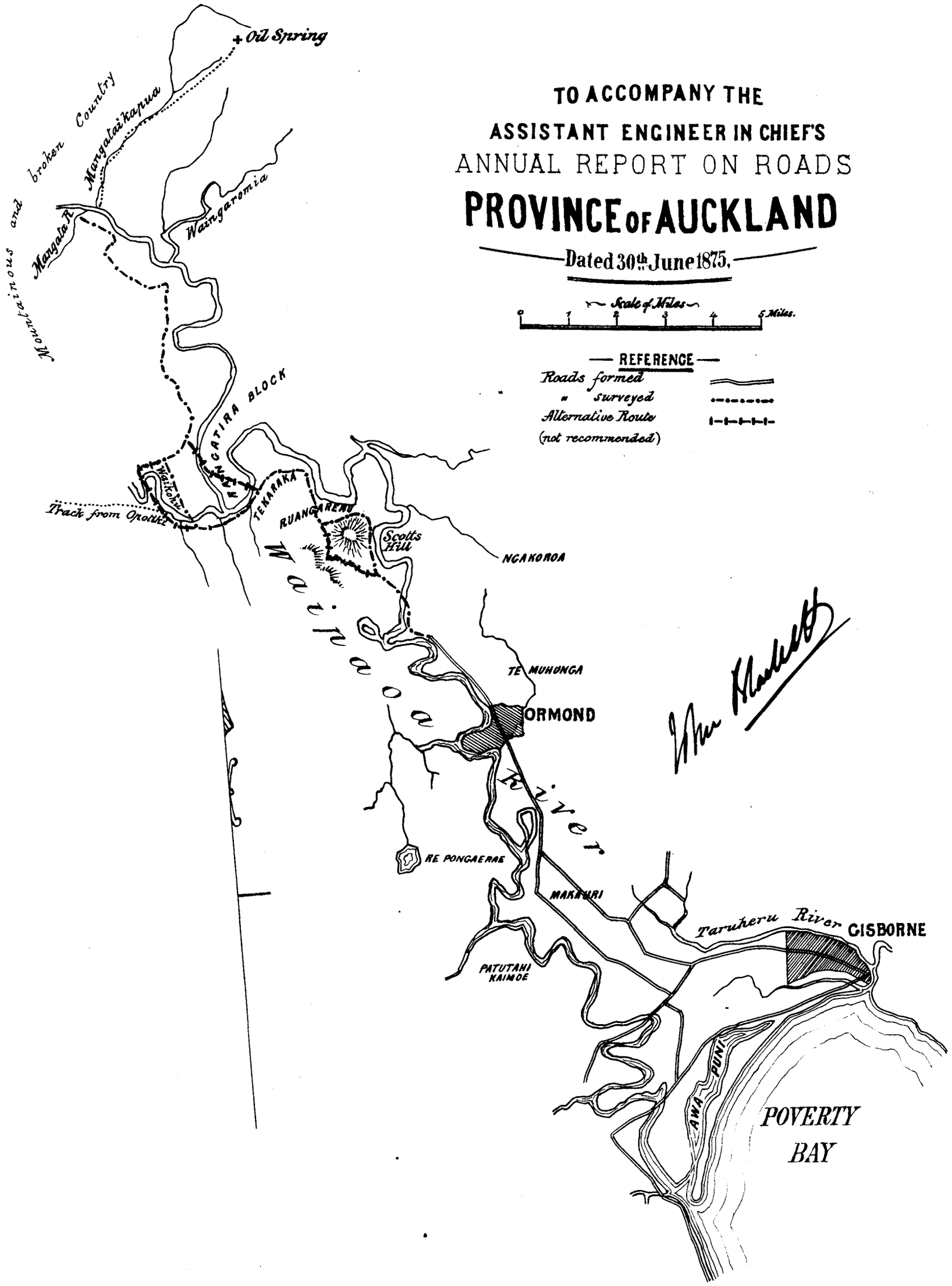
1 0 1 2 3 4 5 10



TO ACCOMPANY THE
ASSISTANT ENGINEER IN CHIEF'S
ANNUAL REPORT ON ROADS
PROVINCES, WELLINGTON & HAWKE'S BAY.

Dated 30th June 1875.




TO ACCOMPANY THE
ASSISTANT ENGINEER IN CHIEF'S
ANNUAL REPORT ON ROADS
PROVINCE OF AUCKLAND
Dated 30th June 1875.
Scale of Miles
0 1 2 3 4 5 Miles.
REFERENCE
Roads formed
" surveyed
Alternative Route
(not recommended)
+ Oil Spring
Mountainous and broken Country
Mangatainkapua
Mangata R.
Waingaromia
CATIRA BLOCK
Waitohui
Track from Opotiki
TEKARAKA
RUANGAREHU
Scotts Hill
NGAKOROA
Waiaoa River
TE MUHUNGA
ORMOND
RE PONGAERAE
MAKAURI
Taruheru River
GISBORNE
PATUTAHI
KAIMOE
AWA PUNI
POVERTY BAY

Works in Progress.—Dray road in Buller Valley, between the two Ohika rivers, about one mile. This is very nearly completed. Horse road, Amuri Saddle, and between the Ahaura township and the Saddle. The works for improving this road have lately been begun, and will consist in part of new tracks cut through the bush to avoid the stony river bed, and those near the Saddle to improve the grades and avoid dangerous places.

Works Authorized.—Dray road, Squaretown, to Deveny's Terrace, in Little Grey Valley; Boatman's to Larry's Road (half cost); Nile Bridge, Charleston (half cost). These works have only been taken in hand, and no money has yet been paid on them.

Maintenance.—Road, Christie's to Hughie's, has been maintained in good order. Amuri stock road has also been repaired from time to time.

The expenditure on roads has been as follows:—

	£ s. d.	£ s. d.
Contracts—Christie's to Hughie's	5,910 0 0	
„ Hawk's Crag	396 16 0	
„ Supervision	87 16 8	
		6,394 12 8
Maintenance—Buller Road	604 11 0	
„ Amuri	378 12 0	
		983 3 0
Setting out Works for Contract on Buller Road		208 17 0
Total		£7,586 12 8

The total of works executed on Nelson South-West Gold Fields under "The Public Works Act, 1870," is as follows, viz.:—

	Miles.	Ch.
Dray Roads complete	56	70
Dray Roads improved	9	0
Dray Roads in progress	1	0
Horse Roads completed	6	23
Horse Roads improved	30	0
Roads Surveyed	119	40

In last year's report was given a "summary of dray roads and horse roads completed or in progress" in both islands, showing the total mileage. This needs no material alteration for this year, as much of the work described in the present report has been executed on sections included in the mileage given.

The Summary was as follows, viz.:—

In North Island, 1,714 miles: that is, 1,188 miles of dray road and 526 miles of horse road opened or in progress.

In Nelson South-West Gold Fields, 66 miles of metalled dray road completed, and 9 miles improved; also 36 miles of horse road.

In Westland, 50 miles of metalled dray road completed, and 104 (mis-stated last year, should have been 75) miles of horse roads in progress.

Totals for both islands, 1,304 miles of dray road and 637 miles of horse road, or 1,941 miles in all.

Attached to this report are five maps, viz.:—

1. Waikato district.
2. Westland district—Bowen to Okarito, and Okarito to Lake Mapourika.
3. Westland district—Christchurch Road, alterations.
4. Hawke's Bay, showing road survey to Patea, inland.
5. Road line from Ormond northwards to Mangatu.

I have, &c.,
JOHN BLACKETT,
Assistant Engineer-in-Chief.

The Hon. the Minister for Public Works.

APPENDIX D.

REPORT ON CONSTRUCTED RAILWAYS BY THE SUPERINTENDING ENGINEER.

THE SUPERINTENDING ENGINEER TO THE ENGINEER-IN-CHIEF.

Public Works Office (Constructed Railways),
Wellington, 20th July, 1875.

SIR,—

I have the honor to report on the progress and position of the various railways under my control up to the end of the financial year ending 30th June, 1875.

As this is my first report, it will be necessary to state that I entered on the duties of Superintending-Engineer for Constructed Railways in Auckland, on the 11th December, 1873. In January, 1874, in accordance with arrangements made on entering the service, I went to England on private business, and immediately on my arrival from Home in July last I resumed my duties, in compliance with the arrangement made before leaving the colony.

It is only due to myself that I should state I paid my own passage to England, and did not receive salary during my absence.

Although my short stay in England was necessarily chiefly occupied with my private affairs, I was nevertheless able to visit some of the largest railway workshops in the country, and to obtain much valuable information as to recent improvements in the management of railways. In passing through America, I also took the opportunity of inspecting some of the works, and more particularly such of the labour-saving machinery as I thought might with advantage be introduced into this colony.

This information I found extremely valuable, supplementing the thorough knowledge of the subject a connection of 15 years with railways at Home and abroad had enabled me to acquire.

The lines open for traffic, under my management, are the—

I.—Auckland to Mercer, and Branch to Onehunga.
II.—Napier (Spit) to Pakipaki.
III.—Wellington to Hutt.
IV.—Foxton and Palmerston Tramway.

The other lines, or portions of lines, expected to be opened at an early date, and intended, I believe, to be placed under my management, are the—

I.—Riverhead to Kaipara.
II.—Pakipaki towards Waipukurau.
III.—Hutt to Upper Hutt.
IV.—Wanganui and Manawatu, joining Foxton Tramway.
V.—Wanganui and Manawatu.
VI.—New Plymouth and Waitara.
VII.—Picton and Blenheim.
VIII.—Nelson and Foxhill.
IX.—Brunner Railway.

With a view to avail myself of the services of qualified men for managers of some of the above lines, I advertised extensively all over the colony, as follows:—

New Zealand Railways.

Public Works Office, Wellington, 9th September, 1874.

APPLICATIONS will be received by the undersigned up to Thursday, the 15th day of October, 1874, from persons capable of undertaking the management of a line of railway. Original testimonials and copies of same (the former will be returned) must be sent with applications. No person not having had previous experience need apply.

FRANK B. PASSMORE,
Superintending-Engineer for Constructed Railways.

To my regret, however, there were only 12 responses, and those were chiefly of a character wholly unsuitable. The services of colonial men were, however, secured for the railways at Auckland, Napier, and Wellington.

Finding such difficulty in obtaining suitable persons, it was decided to engage three managers in England. These gentlemen have now arrived, and have entered on the duties assigned to them.

AUCKLAND AND MERCER, AND BRANCH TO ONEHUNGA (46 Miles).

The portion of this line, Auckland to Onehunga, was opened on 20th December, 1873, while I was in Auckland, and was worked through the summer until the 1st May, 1874, by Messrs. Brogden and Sons, on a system inaugurated by me (part of the present system).

During this time Messrs. Brogden's receipts were £3,502 5s. 4d., and expenses £2,514 16s. 10d., showing a net earning of £987 8s. 6d. Of this amount the sum of £487 was taken during the race

days, leaving £500 8s. 6d. as ordinary profit. It must be borne in mind that then the railway was a novelty to a very large portion of the population, and that by the end of the term not only had the novelty worn off, but the winter months necessarily caused the traffic to decline; while the rolling stock began to require repairs, thereby increasing the expenditure.

When I returned to the colony in July, 1874, my attention was immediately directed to this falling off in the receipts, with a view to restore the line to its former paying position.

I was, however, busily engaged in getting the printing done that was required on the various lines of railway (a very lengthy process, as every printing office in town was busy during session), and I was not able to go to Auckland and start the present system until 30th October, 1874; but in the meantime Mr. Knorpp, while inspecting the general work at Auckland, found it necessary to recommend a reduction in the staff, which was sanctioned, and the expenses were somewhat reduced.

On my arrival I found matters in a very unsatisfactory state. One great cause of the confusion resulted from the fact that Mr. W. J. Smith, who had in the meanwhile been appointed traffic manager, had set aside my system and introduced a new plan of his own; and the financial state of the railway had been getting worse and worse, until in the week ending 25th July, 1874, the expenses were 152·24 per cent. of the receipts, large outstandings being even then unpaid.

After very considerable difficulty I succeeded in putting the accounts straight, and at the end of December, 1874, the expenses showed as 85·64 per cent. of the receipts for the half-year; but as, on comparing with the Treasury, I find that some accounts which were chargeable against this half-year were not paid until the half-year ending 30th June, 1875, the above figures will show too favourable an account, while the expenses of last half-year are increased on that account. The total, however, to date, will be correct.

The cost of haulage and the wear and tear on this line is very heavy, owing to the severe grades, and the rates charged for passengers and goods are necessarily higher than are charged on lines more favourable to cheap working.

On the 20th May ultimo, the line Penrose Junction to Mercer was taken over from the the contractors, and, as is always the case on a new line, the expenses were increased through getting everything ready for opening while there were no corresponding receipts.

Goods were not taken until a week after.

I refer you to the Appendices A, B, C, D, and E for complete information as to receipts and expenditure on these and other lines.

During the year the rolling stock handed over for working the line has been kept in an efficient state of repair, and the permanent way has also been kept in order.

A great portion of the rolling stock was until last month, and some is still, in the hands of the contractors for ballasting and other purposes, and will require very considerable repairs when returned to the Government.

There was only one accident on the line during the year. This occurred on the evening of 24th May, when the train ran over a drunken man near Ellerslie.

Workshops, capable of doing all railway repairs likely to be required for the present, have been fitted up in Auckland, and are now in working order. In these shops a great deal of work is being done for the Construction Department, and at rates that compare favourably with the prices charged by private firms. Iron castings cannot be made at these workshops, as the demand was not considered sufficient to warrant the erection of a cupola. Tenders have been called for the supply of iron castings, and the result of this experiment will decide as to the desirability of erecting an iron foundry next year.

The erection of a store is absolutely necessary; but this matter has been postponed pending the acquisition of a piece of land at Newmarket from the Provincial Government, and the settlement of the question of the respective eligibility of the sites at Newmarket and Ellerslie.

Napier and Waipukurau (Spit to Pakipaki, 19 Miles).

The portion of this line, Napier to Hastings, was opened 13th October, 1874; Spit to Napier, 26th November, 1874; Hastings to Pakipaki, 1st January, 1875.

This line has been kept in very good repair; and in addition to the ordinary repairs to permanent way, the banks have, in many cases, been widened.

The rolling stock has been kept in good repair. The expenses on this line have been smaller than at Auckland, owing to its being nearly level the whole way, there has consequently been less wear and tear on the rolling stock, and the cost of haulage has been less; but, on the other hand, coals and all stores are far higher.

The result of the income and expenditure for the portion of the half-year ending 31st December, 1874, showed expenditure at 35·99 per cent. of revenue, but this satisfactory result was occasioned by the fact that the maintenance formed no portion of the expense, the contractor having to maintain the line, as usual, at his own cost.

The expenditure up to 30th June, 1875, shows 65 per cent. of receipts; and considering the great cost of labour and stores, and the smallness of the traffic I consider the result very satisfactory. It must be borne in mind that we carried very little wool last season, owing to the fact that during the greater portion of the wool season the line only extended to Hastings, which is two miles from the public road, without a good road leading to it; and also, in some measure, to the want of goods sheds wherein to store it. In fact, the goods sheds are not yet all complete, owing to the want of labour and timber, which latter has chiefly to be imported from Auckland.

A siding has been put in for the convenience of the Gasworks at Napier.

There have been no accidents on the line during the year.

The traffic appears steady.

I would refer you to Appendices A, B, C, D, and E, for a full statement of receipts and expenditure.

Wellington and Masterton (Wellington to Hutt, 8 Miles).

This line was opened on the 14th April, 1874, and is now in good order, as is also the rolling stock.

For the first three months after the line was taken over from the contractor, the permanent way was allowed to get into very bad condition, and expenses had to be incurred to rectify this, which showed very heavy increase in the percentage of expenses on receipts; but at the end of half-year ending 31st December the expenses were reduced to 70 per cent. of receipts.

It is not to be expected that any line situated as this is could command much goods traffic. In many instances it is found cheaper for the drays to take the loads the extra 8 miles, and get return loads, than to unload at the Hutt and pay the cartage from Pipitea Point to the stores in town. When the line is open to the Upper Hutt, a considerable increase may be expected, as the timber and other wagons will unload there, and I think our passenger traffic will be very materially increased when the terminus is in its ultimate position in the centre of the city.

The line being short, the general charges are heavy.

There has been no accident on the line during the year.

For the statement of receipts and expenditure during the year, I refer you to Appendices A, B, C, D, and E.

Foxton Tramway.

This tramway was taken over from the lessee, Mr. Cook, on the 18th May, and has hitherto been worked by horses.

Three small locomotives are being built for this line by Mr. E. W. Mills.

The delay in getting these locomotives seriously affects the facility for working the tramway.

In a small place like either Foxton or Palmerston it was scarcely to be expected that the taking of the working of the line out of the hands of a local contractor would be done without meeting with more or less of local opposition, and to this cause is owing the temporary difficulty that occurred for a few days at the time of transfer. This difficulty has now ceased.

Considerable delay in the delivery of goods at Palmerston was for a short time occasioned by the system of collecting sea freights, until Messrs. Turnbull and Co. were able to make other arrangements. The new arrangements will, I think, work satisfactorily to all parties.

A contract has been entered into with Mr. Andrew Young, of Wellington, to run the passenger car three times a week, instead of twice, as formerly; and I have every reason to believe that the service will now be worked in a manner satisfactory both to the Government and to the public.

The locomotives are only intended for goods traffic at slow speeds, to obviate the difficulty of keeping up regular communication in bad weather with teams; nor is it safe for the locomotives to travel on the wooden rails at the speed of seven miles an hour, which is the speed fixed for the conveyance of passengers.

The substitution of iron for wooden rails is gradually being proceeded with.

The shed accommodation at Foxton was found to be quite inadequate for the requirements of the traffic. Tenders have been called for suitable additions, and the work will be proceeded with at once.

Other station buildings have also been contracted for at Foxton and Palmerston.

The importance of Foxton as a shipping port for a large tract of country, compels me to draw your attention to the very insufficient wharf accommodation at present existing, and I would recommend that an addition be made to this wharf without delay, and that a suitable crane be fixed on it. I have prepared a plan which will, I think, meet the present requirements at the least cost.

The short time the line has been under my management has not enabled me to obtain as much information concerning the details as I should like to have placed before you, but the receipts up to 30th June were £706 19s. 7d., and the expenses £486 19s. 3d. from the commencement of the working of the tramway.

In reference to all the opened lines, letters have occasionally been received relative to reductions in passenger fares and goods rates, but I think, if the matter is inquired into, it will be found that the fares and rates are remarkably low, especially when the nature of the country through which most of these lines pass, and the cost of labour, are taken into consideration.

The New Zealand fares on such lines as are free from very heavy gradients will, I think, bear favourable comparison with those on English railways (excepting those in the immediate neighbourhood of large centres of population), where labour and all stores are so much cheaper. I have selected the following as being similar to some of our lines now open and expected to be opened shortly. For example:—

	First Class.	Second Class.
Carmarthen to Aberystwyth—55¾ miles:—		
Fares	12/5	8/3
New Zealand fares for corresponding distance	11/11	7/3
Aberystwyth to Pencader—41½ miles:—		
Fares	9/9	6/3
New Zealand fares for corresponding distance	9/	5/6
Peterborough to Manea (Great Eastern)—20 miles:—		
Fares	4/2	3/4
New Zealand fares for corresponding distance	4/5	2/9
London to Boston (Great Northern)—107 miles:—		
Fares	19/	14/6
New Zealand fares for corresponding distance	22/7	13/8
Grantham to Boston (Great Northern)—32 miles:—		
Fares	6/	4/6
New Zealand fares for corresponding distance	6/11	4/3

London to Bletchley (London and North-Western Railway)—46¾ miles:—		
Fares	8/6	6/3
New Zealand fares for corresponding distance	10/	6/
London to Rugby (London and North-Western Railway)—82¾ miles:—		
Fares	15/6	11/6
New Zealand fares for corresponding distance	17/7	10/8
Brecon to Swansea—40 miles:—		
Fares	8/6	6/
New Zealand fares for corresponding distance	8/7	5/3
Brecon to Merthyr, 24 miles:—		
Fares	5/	3/6
New Zealand fares for corresponding distance	5/3	3/3
Waterford to Kilkenny Junction (Ireland)—31 miles:—		
Fares	6/4	4/6
New Zealand fares for corresponding distance	6/9	4/2

On account of the heavy gradients on the Auckland and Mercer Railway, the single-journey fare charged for first class is 11/, and for second class 7/6; being an addition of 1/ in the case of first-class fare, and 1/6 in that of the second class, to the rates quoted above.

After the lines have been working sufficiently long to enable trustworthy experience to be formed, the question of fares will be taken into consideration, with a view to reductions if it should be considered advisable.

Our labour costs us 75 per cent. to 100 per cent. more than similar labour in England, and, as all our stores have to be imported, the cost of working is considerably increased.

The cost of coal is an important item, and while costing in England in no or very rare cases more than 15s. per ton, varies in the colony from 37s. to 64s. per ton.

I believe there are no railways where such facilities are given to school children, who can now travel on any of our lines *for any distance* for £3 per annum. And I believe I am right in saying that our season tickets are also lower than on many English lines.

I have fixed the speed of our trains at 15 miles an hour as being quite sufficient to meet the present requirements of the traffic, and also as being the most economical speed.

Stopping places will be provided from time to time as the exigencies of traffic may require, as has been done during the past year at the Toll-gate and Boiling-down Establishment on Napier and Waipukurau Railway, and at Petone, on the Wellington and Hutt Railway.

I have prepared tabulated statements giving all the information that can, I think, be required, marked as under:—

Statement of Expenses on each Line of Railway. Appendix A.
Statement showing Mileage, and Expenditure and Receipts, and Proportion of each Class of Expenses to Mileage and Receipts, &c. Appendix B.
Statement of Passenger Receipts, &c. Appendix C.
Statement of Goods Earnings. Appendix D.
Statement of Accounts. Appendix E.
Estimate of probable Receipts on each Line of Railway. Appendix F.
Statement showing Quantity and Condition of Rolling Stock on Opened Railways. Appendix G.
Statement of Accidents and Injuries to Life and Limb. Appendix H.

The other railways expected to be opened during the next financial year are:—

KAIPARA RAILWAY (Riverhead to Helensville, 16¼ Miles).

This railway connects the Kaipara River on the west side of the island with Riverhead on the east. The country through which this line passes does not justify the expectation of much local traffic, but it is hoped that a considerable amount of timber will pass over the line, to be rafted down from Riverhead to Auckland.

PAKIPAKI towards WAIPUKURAU (8 Miles).

It is expected that shortly another 8 miles of this railway will be open for traffic. I do not anticipate that this will add very much to the prosperity of the line, as it is not far enough to tap a large area of productive country, and is too far from the Seventy-Mile Bush to cause timber required in Napier to go that way.

HUTT TO UPPER HUTT (11 Miles).

It is expected that the opening of this portion of the line will create a considerable timber traffic; but I do not look for satisfactory results from this railway until it touches the interior.

WANGANUI AND MANAWATU—Portion of this line joining the FOXTON TRAMWAY (14 Miles).

It is hoped that the opening of this line will create a large timber traffic, and prove of great advantage to the large district round Feilding.

This place is now a thriving town; but is often difficult of access, owing to the bad state of the roads, so that the railway will be the highway for all passengers and goods. It is intended to place this section of the line under the same management as the Foxton Tramway.

WANGANUI AND MANAWATU—Portion of (22 Miles).

I have not had an opportunity of visiting this railway, and am therefore not in a position to give any reliable estimate as to its prospects; but from all I can gather after careful inquiry I am of opinion that the railway will pay even while this short length is opened. There will be a considerable timber traffic when the railway reaches the extensive and valuable bush near Feilding and Bunnythorpe.

NEW PLYMOUTH AND WAITARA (11½ Miles).

I have not had an opportunity of visiting this railway, but I am informed by persons of local experience that the receipts will be in excess of the working expenses.

PICTON AND BLENHEIM (18 Miles).

It is probable that the line will be opened in August. Considerable timber traffic is expected on this railway, and also a fair amount of goods traffic.

NELSON AND FOXHILL (20 Miles).

This line will be opened shortly, and as it passes through numerous villages and small holdings, it is hoped that the line will be found to pay. There is no *special* traffic on which the success of the line depends.

GREYMOUTH AND BRUNNER (7½ Miles).

This is entirely a coal railway. The traffic looked for will be sufficient to show a good return.

I have prepared estimates for the working expenses of all the above-mentioned railways. In most cases these estimates must of necessity be but vague; but I have considered the matter with becoming care, and have given figures which the experience on other of our lines pointed out as nearly correct.

My estimate of probable receipts is also vague, as the statistics of traffic (on the roads corresponding with these lines) available appear to be very unreliable.

The estimates of expenditure are calculated on the basis of the existence of the amount of traffic as estimated for the probable receipts.

Stores for the use of the Railways opened for traffic have been ordered through the Agent-General in England to the value of £16,000.

Great difficulty has been experienced in obtaining suitable persons to fill the various posts on the railways, and, as it was an entirely new business, everybody had to learn his duties. This has thrown much extra work on my office. I hope, however, to be able to report more favourably next year.

Arrangements have been made for the establishment of a Railway Audit Office, under the control of the Commissioners of Audit. By this means both the departmental audit and the audit of revenue are carried on at the same time by one staff of officers, thereby effecting a great saving of time and labour. A most important matter connected with the audit has been the establishment of a thorough check on all railway tickets, whereby they can now be traced from the hands of the printer to their sale to passengers. This improved system of audit has been working for a fortnight, and bids fair to be a success.

FRANK B. PASSMORE,
Superintending Engineer for Constructed Railways.

The Engineer-in-Chief.

Appendix A.

STATEMENT of Classified Expenditure on Railways open for Traffic to 30th June, 1875.

	Auckland and Mercer.			Napier and Waipukurau.			Wellington and Masterton.		
	From 1 July, 1874, to 31 Dec., 1874.	From 1 Jan., 1875, to 30 June, 1875.	Total.	From 12 Oct., 1874, to 31 Dec., 1874.	From 1 Jan., 1875, to 30 June, 1875.	Total.	From 11 July, 1874, to 31 Dec., 1874.	From 1 Jan., 1875, to 30 une, 1875.	
A.—MAINTENANCE OF WAY AND WORKS:—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Permanent Way,—									
1. Wages	984 17 0	1,025 6 2	2,010 3 2	...	879 0 1	879 0 1	878 4 2	685 17 0	1,564 1 2
2. Materials	7 0 1	22 12 7	29 12 8	...	76 1 6	76 1 6	...	74 3 4	74 3 4
3. Repairs of Roads, Bridges, Signals, and Works	2 9 1	...	2 9 1	...	...	...	...	0 16 11	0 16 11
4. Repairs of Stations and Buildings	0 10 0	1 8 1	1 18 1	...	1 13 5	1 13 5	...	1 3 2	1 3 2
Total	994 16 2	1,049 6 10	2,044 3 0	...	956 15 0	956 15 0	878 4 2	762 0 5	1,640 4 7
B.—LOCOMOTIVE POWER:—									
Running Expenses,—									
1. Wages for Working Locomotives	602 2 7	605 12 2	1,207 14 9	96 14 0	311 2 0	407 16 0	326 19 3	259 3 9	586 3 0
2. Fuel and Water Supply	425 17 4	406 7 0	832 4 4	100 10 6	290 18 8	391 9 2	186 13 6	183 9 2	370 2 8
3. Oil, Tallow, and other Stores	31 5 4	78 1 3	109 6 7	20 5 0	100 12 2	120 17 2	64 19 6	59 11 4	124 10 10
Renewals and Repairs,—									
4. Wages	29 1 4	113 11 10	142 13 2	10 9 11	0 3 0	10 12 11	118 1 3	171 12 4	289 13 7
5. Materials	...	52 19 4	52 19 4	...	4 5 0	4 5 0	...	56 3 1	56 3 1
Total	1,088 6 7	1,256 11 7	2,344 18 2	227 19 5	707 0 10	935 0 3	696 13 6	729 19 8	1,426 13 2
C.—REPAIRS AND RENEWALS OF CARRIAGES AND WAGONS:—									
Carriages,—									
1. Salaries and Wages	243 13 0	191 9 6	435 2 6	...	54 15 0	54 15 0	...	...	...
2. Materials	32 2 11	52 3 7	84 6 6	...	15 3 5	15 3 5	...	155 14 2	155 14 2
Wagons,—									
3. Salaries and Wages	15 11 9	87 8 1	102 19 10	...	...	...	...	...	...
4. Materials	...	13 18 8	13 18 8	...	1 18 7	1 18 7	...	...	...
Total	291 7 8	344 19 10	636 7 6	...	71 17 0	71 17 0	...	155 14 2	155 14 2
D.—TRAFFIC EXPENSES:—									
1. Salaries and Wages	1,326 6 10	1,175 13 7	2,502 0 5	162 8 7	599 9 3	761 17 10	504 6 6	528 10 5	1,032 16 11
2. Fuel, Lighting, and General Stores	9 0 0	78 1 11	87 1 11	4 9 10	99 8 5	103 18 3	7 16 9	44 3 4	52 0 1
3. Printing, Stationery, and Tickets	13 7 6	234 6 10	247 14 4	1 6 6	107 3 8	108 10 2	...	78 15 2	78 15 2
4. Miscellaneous Expenses	4 15 6	62 6 7	67 2 1	3 15 3	...	3 15 3	...	1 7 9	1 7 9
Total	1,353 9 10	1,550 8 11	2,903 18 9	172 0 2	806 1 4	978 1 6	512 3 3	652 16 8	1,164 19 11
E.—GENERAL CHARGES:—									
1. General Government Expenses	...	617 11 2	617 11 2	...	467 3 8	467 3 8	...	374 3 0	374 3 0
2. Salaries of Manager, Accountant, &c.	...	135 14 10	135 14 10	...	148 6 4	148 6 4	...	...	...
3. Office and Incidental Expenses	...	21 16 7	21 16 7	1 1 6	...	1 1 6	...	...	...
4. Special Expenditure	...	...	...	...	...	...	...	...	...
Total	...	775 2 7	775 2 7	1 1 6	615 10 0	616 11 6	...	374 3 0	374 3 0
F.—SUNDRIES:—									
Compensation	...	...	...	...	0 15 0	0 15 0	...	...	...
Total	...	...	...	...	0 15 0	0 15 0	...	...	...
Grand Total	3,728 0 3	4,976 9 9	8,704 10 0	401 1 1	3,157 19 2	3,559 0 3	2,087 0 11	2,674 13 11	4,761 14 10

Appendix B.

CLASSIFIED STATEMENT showing RECEIPTS and EXPENDITURE, and Proportion of each Class of EXPENDITURE to MILEAGE and RECEIPTS, for period ending 30th JUNE, 1875.

NAME OF RAILWAY.	DATE.	TOTAL TRAIN MILEAGE.	RECEIPTS.			CLASSIFIED EXPENDITURE.							PROPORTION OF EACH CLASS OF EXPENDITURE TO MILEAGE AND GROSS RECEIPTS.																				
			Total Receipts.	Receipts per Mile of Railway per Annum.	Receipts per Train Mile.	Maintenance of Way.	Locomotive Power.	Repairs of Carriages and Wagons.	Traffic Expenses.	General Charges.	Sundries.	Total.	Maintenance of Way.			Locomotive Power.			Carriage and Wagon Repairs.			Traffic Expenses.			General Charges.			Sundries.			Total.		
													Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.	Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.	Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.	Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.	Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.	Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.	Per Cent. of Receipts.	Per Mile of Railway.	Per Train Mile.
			£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.			D.			D.			D.			D.			D.			D.			D.
Auckland and Mercer	From 1st July to 31st Dec., 1874	15,943	4,352 18 9	1,047 18 7	5 5½	994 16 2	1,088 6 7	291 7 8	1,353 9 10	...	...	3,728 0 3	22·86	239·49	14·98	25·00	262·00	16·38	6·69	70·15	4·39	31·09	325·84	20·38	...	...	...	...	...	...	85·64	897·48	56·13
	From 1st Jan. to 30th June, 1875	22,230	5,805 7 11	666 8 1	5 2½	1,049 6 10	1,256 11 7	344 19 10	1,550 8 11	775 2 7	...	4,976 9 9	18·08	120·46	11·33	21·65	144·24	13·56	5·94	39·60	3·73	26·70	177·98	16·73	13·35	88·97	8·37	...	...	...	85·72	571·25	53·72
	Recoveries ...	...	10,158 6 8 695 8 5																													
	Total	38,173	10,853 15 1	859 17 3	5 8½	2,044 3 0	2,344 18 2	636 7 6	2,903 18 9	775 2 7	...	8,704 10 0	18·83	161·95	12·85	21·61	185·77	14·74	5·86	50·41	4·00	26·75	230·06	18·26	7·14	61·40	4·87	...	...	...	80·19	689·59	54·72
Napier and Waipukurau	From 10th Oct. to 31st Dec., 1874	6,460	1,114 7 3	254 2 1	3 5	*	227 19 5	...	172 0 2	1 1 6	...	401 1 1	...	...	...	20·46	51·99	8·46	...	...	...	15·43	39·23	6·39	·010	·24	·04	...	...	...	35·99	91·46	14·89
	From 1st Jan. to 30th June, 1875	17,854	4,277 8 3	450 5 0	4 9½	956 15 0	707 0 10	71 17 0	806 1 4	615 10 0	15 0	3,157 19 2	22·37	100·72	12·86	16·54	74·43	9·51	1·68	7·56	·96	18·84	84·84	10·84	14·38	64·79	8·27	·01	·07	·01	73·82	332·41	42·45
	Recoveries ...	...	5,391 15 6 82 13 1																													
	Total	24,314	5,474 8 7	434 12 3	4 6	956 15 0	935 0 3	71 17 0	978 1 6	616 11 6	15 0	3,559 0 3	17·48	75·96	9·45	17·08	74·23	9·23	1·30	5·70	·71	17·87	77·66	9·65	11·27	48·94	6·08	·01	·06	·01	65·01	282·55	35·13
Wellington and Masterton	From 11th July to 31st Dec., 1874	12,112	2,982 19 10	775 11 6	4 11	878 4 2	696 13 6	...	512 3 3	...	...	2,087 0 11	29·44	228·33	17·40	23·35	181·13	13·80	...	...	...	17·17	133·16	10·14	...	...	...	...	...	...	69·96	542·63	41·35
	From 1st Jan. to 30th June, 1875	12,970	2,722 12 2	680 13 0	4 2½	762 0 5	729 19 8	155 14 2	652 16 8	374 3 0	...	2,674 13 11	27·99	190·51	14·11	26·83	182·49	13·50	5·72	38·93	2·88	23·95	163·21	12·08	13·75	93·53	6·92	...	...	...	98·24	668·67	49·49
	Total	25,082	5,705 12 0	686 15 7	4 6½	1,640 4 7	1,426 13 2	155 14 2	1,164 19 11	374 3 0	...	4,761 14 10	28·74	197·42	15·69	25·00	171·71	13·65	2·73	18·74	1·49	20·42	140·22	11·14	6·56	45·08	3·59	...	...	...	83·45	573·17	45·56

* This line was in the Contractors' hands for maintenance.

NOTE.—The General Government Management Expenses are all included in the last half-year instead of being spread over the whole year, thereby showing a onsiderable increase in the percentage of Working Expenses on Receipts.

Appendix C.

STATEMENT of PASSENGER TRAFFIC for period ending 30th June, 1875.

Name of Railway.	Date.	Number of Passengers.				Amount.	Parcels, Dogs, &c.	Season Tickets.	Advertising.	Total.
		Single.		Return.						
		1st.	2nd.	1st.	2nd.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland and Mercer	From 7th November to 31st December, 1874	1,193	5,080	9,854	20,390	1,323 17 3	22 15 9	12 19 9	...	1,359 12 9
	From 1st January to 30th June, 1875 ...	5,344	22,743	11,110	45,216	3,900 7 4	82 11 1	147 6 6	12 18 8	4,143 3 7
	Totals	6,537	27,823	20,964	65,606	5,224 4 7	105 6 10	160 6 3	12 18 8	5,502 16 4
Napier and Waipukurau	From 10th October to 31st December, 1874...	1,165	2,799	1,688	8,018	943 10 5	13 5 0	6 6 11	...	963 2 4
	From 1st January to 30th June, 1875 ...	4,121	11,150	5,420	14,336	2,790 17 8	40 4 7	24 15 0	26 15 4	2,882 12 7
	Totals	5,286	13,949	7,108	22,354	3,734 8 1	53 9 7	31 1 11	26 15 4	3,845 14 11
Wellington and Masterton ...	From 12th September to 31st December, 1874	3,739	8,434	9,370	17,718	1,648 9 6	26 19 0	32 6 11	...	1,707 15 5
	From 1st January to 30th June, 1875 ...	4,549	12,836	10,258	23,827	2,161 7 6	41 3 3	59 19 7	34 1 2	2,296 11 6
	Totals	8,288	21,270	19,628	41,545	3,809 17 0	68 2 3	92 6 6	34 1 2	4,004 6 11

Appendix D.

SUMMARY of GOODS and CATTLE carried and amount earned for period ending 30th June, 1875.

Name of Railway.	Date.	Weight.			Horses.	Carriages.	Cattle.	Sheep.	Pigs.	Bales Wool.	Bushels Grain.	Wagons Coal.	Feet Timber	Amount.
		Tons.	cwt.	qr.										£ s. d.
Auckland and Mercer	From 7th November to 31st December, 1874...	1,225	0	1	...	...	...	...	...	123½	2,343	6	391,200	324 8 0
	From 1st January to 30th June, 1875 ...	6,062	6	1	...	1	...	201	229	246	15,148	48	1,529,624	1,890 15 11
	Total	7,287	6	2	...	1	...	201	229	369½	17,491	54	1,920,824	2,215 3 11
Napier and Waipukurau	From 10th October to 31st December, 1874 ...	439	5	2	...	1	...	52	...	937	...	1	24,834	151 4 11
	From 1st January to 30th June, 1875 ...	4,090	8	0	...	10	3	533	85	1,321	...	...	310,136	1,507 16 4
	Total	4,529	13	2	...	11	3	585	85	2,258	...	1	334,970	1,659 1 3
Wellington and Masterton	From 12th September to 31st December, 1874	1,328	17	1	...	...	...	...	...	...	2,380	...	100,181	266 9 11
	From 1st January to 30th June, 1875 ...	1,926	13	2	...	...	1	196	...	...	...	...	144,272	411 2 1
	Total	3,255	10	3	...	...	1	196	...	...	2,380	...	244,453	677 12 0

Appendix E.

STATEMENT of ACCOUNT.

AUCKLAND AND MERCER RAILWAY.

Dr.	£ s. d.	Cr.	£ s. d.
To Gross Earnings,—		By amount paid into Public Account to 30th June, 1874	1,356 4 0
From 1st May to 30th June, 1874	1,690 10 0	amount paid into Public Account to 30th June, 1875	10,135 15 5
From 1st July, 1874, to 7th November, 1874	2,440 6 5	amount in hands of Manager	128 5 8
Passengers, Parcels, &c., from 7th November, 1874, to 30th June, 1875 ...	5,502 16 4	amount outstanding on goods	228 11 7
Goods and Cattle, from 7th November, 1874, to 30th June, 1875	2,215 3 11		
	£11,848 16 8		£11,848 16 8
Amount paid into Public Account to 30th June, 1874	£1,356 4 0	By Expenditure to 30th June, 1874	£1,834 7 9
Amount paid into public Account to 30th June, 1875	10,135 15 5	Expenditure to 30th June, 1875*	8,704 10 0
Amount in hands of Manager	128 5 8	Balance towards payment of Interest on Capital	†2,005 7 4
Amount outstanding on Goods	228 11 7	† Note.—This amount of £2,005 7s. 4d. is the net yield over the whole period from 1st May, 1874; but the net yield for the year, from 1st July, 1874, to 30th June, 1875, is £2,149 5s. 1d.	
Recoveries	695 8 5		
	£12,544 5 1		£12,544 5 1

NAPIER AND WAIPUKURAU RAILWAY.

	£ s. d.		£ s. d.
To Gross Earnings,—		By amount paid into Public Account to 30th June, 1875	5,370 13 2
Passenger Parcels, &c., from 10th October, 1874, to 30th June, 1875 ...	3,845 14 11	amount in hands of Manager	21 2 4
Goods and Cattle do. do. ...	1,659 1 3	amount outstanding on Goods	113 0 8
	£5,504 16 2		£5,504 16 2
Amount paid into Public Account to 30th June, 1875	£5,370 13 2		
Amount in hands of Manager	21 2 4	By Expenditure to 30th June, 1875*	£3,559 0 3
Amount outstanding on Goods	113 0 8	Balance towards payment of Interest on Capital	2,028 9 0
Recoveries	82 13 1		
	£5,587 9 3		£5,587 9 3

WELLINGTON AND MASTERTON RAILWAY.

	£ s. d.		£ s. d.
To Gross Earnings,—		By amount paid into Public Account to 30th June, 1875	6,892 14 9
From 14th April to 12th September, 1874	2,242 1 10	amount in hands of Manager	9 16 5
Passengers, Parcels, &c., from 12th September, 1874, to 30th June, 1875 ...	4,004 6 11	amount outstanding on Goods	21 9 7
Goods and Cattle, from 12th September, 1874, to 30th June, 1875 ...	677 12 0		
	£6,924 0 9		£6,924 0 9
Amount paid into Public Account to 30th June, 1875	£6,892 14 9	By Expenditure to 30th June, 1875 *	£5,032 7 8
Amount in hands of Manager	9 16 5	Balance towards payment of Interest on Capital	1,891 13 1
Amount outstanding on Goods	21 9 7		
	£6,924 0 9		£6,924 0 9

* The above expenditure will not be found to agree with the Treasury books. The expenditure in this statement is larger than that shown by the Treasury, owing to the fact that the advances on Imprest for payment of wages, &c., during last month have not been received from the Imprestees and passed through the Treasury before the annual accounts of the colony were closed.

Note.—If it is decided that the ordinary Depreciation Fund, at the rate of 5 per cent. on gross earnings, be set aside, the amounts of such Depreciation Funds will be as under:—
Auckland and Mercer, £592 8s. 10d. Napier and Waipukurau, £275 4s. 10d. Wellington and Masterton, £346 4s.

Appendix F.

ESTIMATE OF RECEIPTS on the various Railways now open and expected to be opened during the next Financial Year.

	£	£
AUCKLAND AND MERCER,—		
Passengers, parcels, &c.	16,036	
Goods and cattle	11,544	
		27,580
* KAIPARA RAILWAY,—		
Passengers, parcels, &c.	2,880	
Goods and cattle	4,001	
		6,881
NAPIER AND WAIPUKURAU,—		
Passengers, parcels, &c.	9,352	
Goods and cattle	6,084	
		15,436
WELLINGTON AND MASTERTON,—		
Passengers, parcels, &c.	9,702	
Goods and cattle	3,115	
		12,817
FOXTON TRAMWAY,—		
Passengers, parcels, &c.	1,040	
Goods and cattle	11,908	
		12,948
WANGANUI AND MANAWATU,—		
Passengers, parcels, &c.	4,500	
Goods and cattle	1,275	
		5,775
* NEW PLYMOUTH AND WAITARA,—		
Passengers, parcels, &c.	5,280	
Goods and cattle	1,296	
		6,576
PICTON AND BLENHEIM,—		
Passengers, parcels, &c.	6,240	
Goods and cattle	3,578	
		9,818
* NELSON AND FOXHILL,—		
Passengers, parcels, &c.	6,825	
Goods and cattle	624	
		7,449
* BRUNNER RAILWAY,—		
Passengers, parcels, &c.	293	
Coal and goods	7,500	
		7,793
		£113,073

* These estimates are based on the best information obtainable, and on them the working expenses of the Railways have been calculated.

Appendix G.

STATEMENT showing DISTRIBUTION of ROLLING STOCK on the Railways open for Traffic on 30th June, 1875.

—	Engines.				Carriages.						Brakes.		Wagons.							
					1st Class.		Composite.		2nd Class.											
	23 tons. 9-in. cyl. Fairlie, 8 wheels.	12 tons. 9½-in. cyl. 4 wheels, coupled.	12 tons. 9½-in. cyl. 6 wheels, Bogie.	17 tons. 10½-in. cyl. 6 wheels, coupled.	6 wheels.	4 wheels.	6 wheels.	4 wheels.	6 wheels.	4 wheels.	Passenger, 4 wheels.	Goods, 4 wheels.	Horse Box.	Cattle Truck.	Sheep Truck.	Covered Goods.	High-sided.	Low-sided.	Timber Truck.	Mineral.
AUCKLAND AND MERCER:—																				
In good order	1	...	...	2	3	3	4	...	5	7	3	2	...	9	...	10	34	...	12	...
Undergoing heavy repairs	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	20	...	...	...
„ light „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...
In course of erection ...	...	...	...	...	2	...	3	...	3	...	...	2	...	...	...	...	...	...	...	...
In hands of contractors ...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	20	4	...
Total	1	...	...	6	5	3	7	...	8	7	3	4	...	10	...	10	66	20	16	...
NAPIER AND WAIPUKURAU:—																				
In good order	...	2	1	...	...	...	2	...	1	...	2	...	...	...	...	3	21	25	...	...
Undergoing heavy repairs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ light „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	...
In course of erection ...	...	...	...	...	1	...	2	...	2	...	...	2	...	2	...	...	10	...	...	...
In hands of contractors ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	2	1	...	1	...	4	...	3	...	2	2	...	2	...	3	34	26	...	...
WELLINGTON AND MASTERTON:—																				
In good order	...	...	2	...	...	...	1	2	1	2	1	...	...	...	...	3	22	3	4	...
Undergoing heavy repairs	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
„ light „	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	5	...	...	...
In course of erection ...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
In hands of contractor ...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...
Total	...	2	2	...	...	...	2	2	2	2	2	1	...	...	...	3	27	6	4	
Grand totals ...	1	4	3	6	6	3	13	2	13	9	7	7	...	12	...	16	127	52	20	...

Appendix H.

RETURN of the NUMBER and NATURE of the ACCIDENTS and INJURIES to LIFE and LIMB which have occured on each of the several LINES of NEW ZEALAND RAILWAYS, from 1st July, 1874, to 30th June, 1875.

NAME OF RAILWAY.	Date of Accident.	Passengers killed or injured.				Servants of the Department, or of the Contractors, killed or injured.				Persons killed or injured while crossing at Level Crossings.		Trespassers.		Workshops.		Miscellaneous.		Nature and Cause of Accident.
		From causes beyond their own control.		From their own misconduct or want of caution.		From causes beyond their own control.		From their own misconduct or want of caution.										
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
Auckland and Mercer	24th May, 1875	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	Man drunk on line after dark—Run over.
	Total ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	

APPENDIX E.

ANNUAL REPORT ON PUBLIC BUILDINGS, AND OTHER WORKS, BY THE COLONIAL ARCHITECT.

The COLONIAL ARCHITECT to the Hon. the MINISTER for PUBLIC WORKS.

SIR,— Colonial Architect's Office, Wellington, 26th July, 1875.

I have the honor to report for your information relative to the buildings and other works which have been designed, commenced, or finished, during the financial year 1874–75, in connection with the Colonial Architect's branch of the Public Works Department.

Of the numerous buildings decided upon, the new departmental offices were the most important.

It will be remembered that in the year 1873–74 the sum of £15,000 was voted for the purpose; but for various reasons, explained in my last report, the amount proved to be insufficient, and the erection of the buildings was postponed; but the site was reclaimed, and other preliminary matters arranged, which reduced the vote to £10,210 14s. 8d. in 1874–75, when a further vote of £21,500 was taken.

The original contract, plans, and specifications needed so many alterations, necessitated by fresh requirements, that, rather than make alterations in the plans and specifications for so important a contract, I thought it better to commence *de novo*.

It was decided to erect the buildings in wood, notwithstanding my recommendation to build them in brick or concrete.

The new drawings and specifications were prepared, consisting of no less than twenty sheets.

All labour and materials in connection with the building trade had been steadily rising during the preparation of the plans, and timber had reached such a price here that, after much anxious consideration, I recommended you to procure a large portion of the timber from Tasmania, by which a considerable saving was made. Great delays have, however, taken place in the delivery, and corresponding delay in the completion of the work must necessarily follow.

It was not possible to invite tenders for the labour until the material was arranged for, because, in order to make the labour contractor responsible, I considered it necessary to hand the materials over on certain conditions, one being that the timber specified should be supplied to him at cost price. Any deficiency was to be made good by the contractor, while any surplus would be his.

Five tenders were received for the labour, including certain specified materials. That of Messrs. Scoular and Archibald, being the lowest, at £24,685, was accepted.

All these contractors are bound to time under heavy penalties and deposits, but in consequence of the non-delivery of the Tasmanian hardwood the building is scarcely likely to be finished for three months after contract time.

Many additions to last year's design were necessary, and this, with the high price of labour and materials, will cause an increase to the estimated cost. About £5,000 will be required during the present financial year.

Throughout the year very heavy work has devolved on myself and staff. Numerous additions have been made to public buildings in various parts of the colony, and thirty-eight buildings have been completed, twenty-seven commenced and are in course of completion, while thirty-two additional have been estimated for. Many are imposing structures, and amongst them are the new public offices at Lyttelton and Auckland (the latter having been erected by a private architect at a cost of £19,495 15s. 9d.), Court-houses, Immigration Depôts, Quarantine Stations, Telegraph Stations, Native Schools, &c., &c. A very complete set of fifteen drawings for the proposed new Telegraph Office at Dunedin was prepared, and tenders invited. The lowest tender was under £10,000, which included fittings and a spacious basement, the foundation walls being utilised because the nature of the sites necessitated great depth. These plans are now being altered to reduce the cost.

Since my last report I have, by your direction, visited and reported on the Government buildings and sites in Nelson, Auckland, Tauranga, Napier, Gisborne, and inland between Napier and Wellington. I have found the local knowledge thus gained of great advantage in carrying out my work, and would suggest that in the future some portion of the colony should be visited by the Colonial Architect during each recess, and the Government buildings inspected. In addition to other advantages, the local knowledge attained would more than counterbalance the cost of the inspection, if not result in a saving of money.

My department continues to derive great benefit from the supervision of works by the district engineers or members of their staff.

As mentioned in my report of last year, it became absolutely necessary to increase the professional staff by an assistant draftsman, and now the chief and assistant draftsmen, with one cadet, perform all the office duties, by working long hours when required.

The accountant's branch was getting into arrear, notwithstanding the long hours that officer devoted to his duties; but, with the assistance of a cadet, the work is now kept under.

The work in connection with the domains has greatly increased, chiefly in consequence of the addition of two ministerial residences. Hitherto, however, by systematically moving the small staff (head gardener, two assistants, and one labourer) from place to place, the domains have been kept in fair order.

The employment of plumbers and carpenters on the staff has proved, as I expected it would do, a

great improvement upon the contract system. With wooden buildings of such magnitude and so numerous as those belonging to Government in Wellington, there is always full work for three carpenters and two plumbers. A considerable saving is effected by having such labour direct, rather than through a contractor.

I am glad to be able to report that my department has never been in better working order than at the present time.

I have, &c.,
W. H. Clayton,
Colonial Architect.

The Hon. the Minister for Public Works.

Enclosure.

Buildings and Other Works Finished since 1st July, 1874.—Post and Telegraph Offices at Roxburgh, Newcastle, Opotiki, Upper Hutt, Palmerston North, Lyell, Southbridge, Geraldine, Herbert, Tapanui, Waikaia, Russell, Kawakawa, Hokianga, Wangarei, Waipu, Warkworth, Onehunga, Pukorokoro, Carterton, Oamaru, Balclutha, and Christchurch (Telegraph additions). Court Houses at Lawrence, Opotiki, Mercer, Waipawa, Oamaru, Hamilton, and Napier. Departmental Offices at Tauranga and Auckland. Speaker's Chair, Legislative Council Chamber. Repairs to Mount Cook Immigration Barracks; Collector of Custom's House, Greymouth; Immigration Depôts at Patea, Greymouth, and Hokitika.

Contracts Entered into for Works now in Progress.—Post and Telegraph Offices at Masterton, Ohaewae, Helensville, Riverhead, Napier, Wairoa, Turakina, Hokitika, Greymouth, St. Bathan's, Ohinemutu, Porangahua, and Ashburton. Additions to Wanganui Post and Telegraph Office. Court House at Mangapai. Departmental Offices at Wellington, Lyttelton, and Invercargill. Seating, &c., House of Representatives. Additions to the Colonial Museum. Fire-proof safe at Court House and Survey Office, Carlyle. Westport Immigration Depôt. New Lodge at entrance to Government House, and Hospital at Mount Cook Immigration Depôt.

W. H. Clayton,
Colonial Architect.

27th July, 1875.

APPENDIX F.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF MACHINERY,

The Chief Inspector to the Minister for Public Works.

Office of the Chief Inspector of Machinery,
Wellington, 16th July, 1875.

Sir,—

I have the honor to submit the following report on the working of "The Inspection of Machinery Act, 1874:"—

At the request of the Superintendents of the Provinces of Auckland, Taranaki, Wellington Marlborough, Westland, Canterbury, Otago and Nelson, the Act was, by Proclamations dated 6th November, and 10th March, brought into force in these provinces; Hawke's Bay being now the only province in which the Act is not in operation. Each of these provinces has been constituted a district, with the exception of Nelson, which, for convenience of working, has been divided into two.

Four Inspectors were appointed in January, one of whom resigned in March, and another has been appointed in his place. The Inspectors stationed at Auckland and Dunedin work the Auckland and Otago Districts respectively; the Inspector stationed at Wellington works the Wellington, Taranaki, Marlborough, and Nelson North Districts; and the Inspector stationed at Christchurch works the Canterbury, Westland, and Nelson South Districts.

As the appointment of Inspectors was only made in January last, the whole of the boilers and machinery liable to inspection have not yet been visited. The machinery is so scattered over the country, that a great deal of time is occupied in inspecting it. When the next inspections take place, the Inspectors will be better acquainted with the localities where machinery is situated, and so will be able to execute their work in a more expeditious manner than at present.

I forward herewith returns showing the number of boilers and different kinds of machinery inspected, the amount of fees collected, and the cost of working the Act.

A considerable number of the boilers inspected were found to be in a defective, and some in a highly dangerous state, and orders were given by the Inspectors to have them repaired, and also to have any dangerous machinery fenced. It is to be remarked that all such orders have, almost without exception, been readily complied with by the owners.

The only boiler accident which this office has cognizance of, as having taken place since the bringing into operation of the Act, is one that occurred in Auckland. The following are the particulars of the case:—On the 23rd of March, at 10.30 a.m., a small round, flat-ended boiler, fired externally, about 9 feet long and 20 inches in diameter, used in connection with a firewood-cutting establishment, exploded. The back end was blown out, having parted in the neck of the angle iron. The explosion is believed to have been caused by excessive pressure. Fortunately no one was injured, although the boiler passed through a stable, a bedroom in which were a woman and child, and then crossed a main street, traversing altogether a distance of about 250 feet.

Numerous instances having occurred in which signs of weakness appeared round the man-holes and similar openings in boilers, instructions have been given to the Inspectors not to pass any new boilers without their having a strengthening ring fixed round these openings.

Certain defects having been discovered in the Act, more particularly in there being no penalty provided for carrying a greater pressure than that allowed by the Inspector, an Amending Bill has, in accordance with your instructions, been prepared for submission to Parliament.

I have, &c.,
J. Nancarrow,
Chief Inspector.

The Hon. the Minister for Public Works, Wellington.

Enclosure No. 1.

Return showing the Number of Boilers Inspected during the Financial Year ended 30th June, 1875, (Six Months only.)

Name of District.	No. of Portable Boilers.		No. of Stationary Boilers.		Totals.
	10 H.P. and under.	Over 10 H.P.	10 H.P. and under.	Over 10 H.P.	
Auckland	16	5	43	68	132
Wellington	13	4	30	21	68
Marlborough	14	3	1	15	33
Canterbury	34	4	39	18	95
Westland	4	2	9	7	22
Nelson South	2	3	1	3	9
Otago...	77	12	35	30	154
Totals...	160	33	158	162	513

No. 2.

RETURN showing MACHINERY INSPECTED during the Financial Year ended 30th June, 1875, (Six Months only.)

NAME OF DISTRICT.	DESCRIPTION OF MACHINERY.																		TOTALS.
	Steam Phormium Dressing.	Water Phormium Dressing.	Steam Printing.	Steam Flour Mills.	Steam and Water Flour Mills.	Water Flour Mills.	team Saw Mills.	Steam and Water Saw Mills.	Water Saw Mills.	Steam Bone Crushing Mills.	Steam Woollen Mills.	Steam Distilleries.	Steam Foundries.	Steam Planing Machines.	Steam Quartz Crushing Mills.	Steam and Water Quartz Crushing Mills.	Water Quartz Crushing Mills.	Steam Threshing Machines.	
Auckland	1	...	4	2	2	...	22	1	1	1	...	1	9	2	13	2	...	2	63
Wellington	...	...	2	1	1	2	21	1	...	...	...	...	3	...	...	...	...	2	33
Marlborough	...	1	...	...	...	1	16	1	...	...	...	...	...	...	1	...	...	7	27
Canterbury	1	...	2	2	1	10	27	...	...	...	1	...	9	4	...	...	...	18	75
Westland	...	...	1	...	...	...	8	...	4	...	...	...	1	...	...	...	...	...	14
Nelson South	...	...	...	...	...	...	4	...	1	...	...	...	...	...	3	...	2	...	10
Otago	...	...	...	6	...	10	41	...	2	1	...	1	6	6	3	...	3	50	129
Totals ...	2	1	9	11	4	23	139	3	8	2	1	2	28	12	20	2	5	79	351

Enclosure No. 3.

RETURN showing the AMOUNT of FEES collected under "The Inspection of Machinery Act, 1874," during the Financial Year ended 30th June, 1875, (Six Months only.)

Name of District.	Amount Collected.
Auckland	£266
Wellington	111
Marlborough	71
Canterbury	139
Westland	40
Nelson South	24
Otago	252
Total	£903

Enclosure No. 4.

RETURN showing the COST of WORKING "The Inspection of Machinery Act, 1874," during the Financial Year ended 30th June, 1875, (Six Months only.)

Nature of Expendi ure.	Amount Expended.
Salaries	£502 15 11
Travelling Expenses	210 5 2
Advertising	54 8 6
Sundries	57 3 2
Total	£824 12 9

APPENDIX G.

CONTRACTS FOR CONSTRUCTION OF RAILWAYS.

RETURN MADE IN COMPLIANCE WITH CLAUSE 96, "IMMIGRATION AND PUBLIC WORKS ACT, 1870."

SCHEDULE of CONTRACTS for the CONSTRUCTION of RAILWAYS under "The Immigration and Public Works Act, 1870," from 1st July, 1874, to 30th June, 1875.

PROVINCE OF AUCKLAND.

	£ s. d.	£ s. d.
AUCKLAND—MERCER:—		
Cousins and Atkin, constructing 40 high-side wagons, and 10 timber trucks	1,820 0 0	
Thomas D. Warfolk, constructing 12 smoke funnels	96 0 0	
		1,916 0 0
MERCER—NEWCASTLE:—		
Martin and Briton, Taupiri Bridges contract	£2,218 12 8	
John Taylor, Waikato Bridge contract	12,789 0 0	
Martin and Briton, coal mines contract	2,141 0 0	
		17,148 12 8
NEWCASTLE—SOUTHWARDS:—		
John Briton, constructing timber wharf at Newcastle ...	£1,373 5 3	
		1,373 5 3

PROVINCE OF HAWKE'S BAY.

NAPIER—WAIPUKURAU:—		
Chas. McKirdy, Pakipaki contract, 13 m. 35 ch. 54 lks., sidings 20 ch.	£19,532 15 0	
Justin McSweeney, station at Kaikora	350 0 0	
Justin McSweeney, goods shed at Pakipaki	650 0 0	
Edward Ashton, goods shed at Hastings	525 0 0	
Allen and Kingstreet, 4th-class station at Waipukurau ...	445 12 7	
Anderson and Jeffaries, two 5th-class station-master's houses ...	374 0 0	
Allen and Kingstreet, station-master's house at Waipukurau...	444 14 2	
J. Lowry, erecting station at Te Aute	195 0 0	
George Faulknor, constructing 50 high-side wagons	1,850 0 0	
Chas. McKirdy, stop-bank at Roys Hill	1,200 0 0	
Chas. McKirdy, reclamation at Gough Island station yard ...	1,872 11 8	
Neil Bradley, conveyance of sleepers from Dannevirk to Takapau	3,830 0 0	
		31,269 13 5

PROVINCE OF WELLINGTON.

WELLINGTON—MASTERTON:—		
W. F. Oakes, Pakuratahi contract, 6 m. 50 ch., including 330 yds. tunnels	£61,979 19 0	
Fraser and Lyon, Pakuratahi station and road	1,514 18 8	
Chas. McKirdy, 4th-class station near Criterion Hotel ...	305 0 0	
Samuel Brown, two 6th-class stations, Kaiwarra and Ngahauranga	160 0 0	
Samuel Brown, 5th-class station-master's house	278 0 0	
Ridler and Ames, two 6th-class stations (6th and 10th miles) ...	291 10 0	
Rowntree and Russell, additional office, Pipitea Station ...	169 0 0	
Chas. McKirdy, alteration to house, Upper Hutt	84 0 0	
Thomas Robson, 30 ch. fencing	65 14 11	
J. Instone, erection of two locomotive engines	46 0 0	
Leech Bros., erecting 2 composite carriages and 1 brake van ...	31 16 0	
Leech Bros., constructing 21 high-side wagons and 4 timber trucks	958 9 0	
Edward O'Malley, reclamation at Pipitea station yard ...	180 0 0	
		66,064 7 7

PATEA—WANGANUI:—					
Pierce Lanigan, Brunswick contract, 8 m. 30 ch. 55 lks., sidings 50 ch.	£31,552	0	0		
				31,552	0 0
WANGANUI—MANAWATU:—					
Emigrant and Colonist's Aid Corporation—Oroua contract, 4 m. 69 ch., sidings 36 ch.; Junction contract, 4 m. 15 ch., sidings 20 ch. (schedule rates); estimated amount ...	£14,000	0	0		
Calman and Richardson, constructing Wanganui Wharf ...	1,788	16	0		
James Bull, constructing Oroua Bridge	4,344	5	0		
Johan Andressan, erecting office at Palmerston	105	0	0		
Johan Andressan, erecting goods shed at Palmerston ...	84	16	0		
Joseph Mitchell, 5th-class station at Turakina	244	0	0		
J. M. Edwards, 2-stall engine shed	547	0	0		
D. McIntyre and Co., conveyance of railway material ex "Hindostan" and "Omega"	143	9	0		
D. McIntyre and Co., conveyance of railway iron ex "Howrah"	424	5	8		
D. McIntyre and Co., conveyance of railway iron ex "Soukar"	375	16	8		
T. W. Pilcher, conveyance of rails ex "Carnatic" and "Avalanche"	325	5	6		
Plimmer, Reeves, and Co., conveyance of rails ex "Langstone"	171	15	0		
Plimmer, Reeves, and Co., conveyance of carriages ex "Dallam Tower"	194	10	0		
Plimmer, Reeves, and Co., conveyance of rails and joints to Foxton	105	19	10		
Logan and McIntyre, erection of 16 low-side wagons and 4 timber trucks	705	0	0		
F. Baker, erection of 6th-class station at Matarawa	104	0	0		
Wilkie and Denby, Wanganui contract, permanent way, length 9 m. 60 ch., sidings 67 ch.	3,895	0	0		
				27,558	18 8
MANAWATU—FOXTON:—					
T. W. Pilcher, conveyance of rails to Foxton	£128	0	2		
E. W. Mills, constructing 3 locomotive engines	1,648	10	0		
Sparrow and Co., making 8 sets points and crossings... ...	176	0	0		
George Thomas, conveyance of fastenings and points and crossings to Foxton	52	0	0		
Friz and Easton, erecting goods shed at Foxton	322	10	0		
				2,327	0 2

PROVINCE OF TARANAKI.

PATEA—WAITARA:—					
R. S. Sparrow and Co., 7 sets points and crossings	£154	0	0		
				154	0 0

PROVINCE OF WESTLAND.

BRUNNER—GREYMOUTH:—					
Edward Butler, constructing Greymouth Wharf	£10,709	19	6		
T. W. Hungerford, Greymouth Wharf protective works ...	555	0	0		
D. McMillan, deviation of Arnold Road contract	401	3	6		
McIntyre and Co., conveyance of railway iron to Greymouth ...	280	0	11		
McIntyre and Co., conveyance of rolling stock to Greymouth...	1,149	0	0		
Plimmer, Reeves, and Co., conveyance of railway iron ex "La Hogue"	409	18	8		
Plimmer, Reeves, and Co., conveyance of crane ex "Dallam Tower"	101	4	0		
Cuff and Graham, conveyance of crane to Greymouth ...	125	10	0		
				13,731	16 7

PROVINCE OF NELSON.

NELSON—FOXHILL:—					
John Scott, Nelson—Foxhill permanent way contract, 19 m. 10 ch., sidings 1 m. 14 ch.	£14,921	19	6		
John Scott, No. 1 Station buildings contract, Nelson—Foxhill Railway	7,370	7	6		
Reid and Gray, making 25 sets switches and crossings ...	329	10	0		
Campbell Brothers, constructing 4 timber trucks, 10 low and 10 high-side wagons	817	10	0		
Geo. Thomas, conveyance of railway material ex "Hindostan" and "Omega" to Nelson	316	16	0		
				23,756	3 0

WESTPORT—MOUNT ROCHFORT:—

Kirkpatrick and McDonnell, Waimangaroa contract, formation only, 3 m. 60 ch., sidings 10 ch.	£9,005	12	0		
John McLean, Westport contract, 7 m. 37 ch., sidings 20 ch. ...	16,795	12	11		
John Maher and Co., constructing stop-bank at overflow, Buller River, length 55 ch....	3,388	15	0		
A. Pearson, Buller protective works	306	15	10		
Peter Ferguson, stone for repairs to groin	75	0	0		
Walter Bull, station-master's house at Westport	556	16	0		
Plimmer, Reeves, and Co., conveyance of railway material ex "Strathnaver"	889	4	6		
Plimmer, Reeves, and Co., conveyance of railway material ex "Cartvale," "Douglas," and "Star of India"	1,457	8	2		
McIntyre and Co., conveyance of rails ex "Helen Denny" ...	306	19	4		
George Thomas, conveyance of wagonwork ex "Leonilda Semino," from Nelson to Westport	394	14	6		
Mixner and Mears, supply of fascines for Buller River stop-bank	326	14	0		
John Maher and Co., fixing fascines for Buller River stop-bank	520	0	0		
				34,023	12	3

PROVINCE OF MARLBOROUGH.

PICTON—BLENHEIM:—

Reid and Gray, 20 sets switches and crossings	£263	12	0		
Davidson and Conyers, 10 sets points and crossings	200	0	0		
Campbell Bros., 14 low-side wagons, and 4 timber trucks ...	716	0	0		
				1,179	12	0

PROVINCE OF CANTERBURY.

ADDINGTON—KOWAI:—

England Bros., No. 1 station buildings	£1,822	0	0		
England Bros., No. 2 station buildings	4,955	0	0		
				6,777	0	0

RANGIORA—OXFORD:—

Davidson and Conyers, making 12 sets points and crossings ...	£240	0	0		
				240	0	0

ROLLESTON—MALVERN:—

E. G. Wright, Little Racecourse Hill contract, 24 m., sidings 60 ch.	£8,147	0	0		
Geo. Holden, White Cliffs plate-laying contract, 11 m. 40 ch., sidings 68 ch. 60 l.	4,112	15	0		
R. S. Sparrow and Co., making 13 sets points and crossings ...	286	0	0		
Davidson and Conyers, making 2 sets points and crossings ...	40	0	0		
				12,585	15	0

KAIAPOI—EYRETON:—

Davidson and Conyers, making 22 sets points and crossings ...	£440	0	0		
England Bros., erection of station buildings	4,867	0	0		
				5,307	0	0

RACECOURSE—SOUTHBRIDGE:—

W. White, jun., plate-laying contract, Racecourse—Southbridge line, 25 m. 28 ch. 22 l., sidings 2 m. 40 ch.	£9,449	14	3		
Cuff and McNamara, Selwyn River Bridge protective works ...	354	5	4		
R. S. Sparrow and Co., making 22 sets points and crossings ...	484	0	0		
				10,287	19	7

RAKAIA—ASHBURTON:—

E. G. Wright, approaches and protective works to Ashburton Bridge, 26 ch. 17 l.	£7,964	10	3		
D. Reese, Rakaia platform extension	387	10	0		
W. Gilmore, road to goods and passenger station	110	0	0		
W. Langdown, construction of 100 high-side wagons ...	2,350	0	0		
				10,812	0	3

ASHBURTON—TEMUKA:—

Walter Fuller, Orari contract, 13 m. 45 ch., sidings 1 m., £11,471 17s. less Orari Bridge, transferred to E. G. Wright ...	£6,870	17	8		
E. G. Wright, Orari revised contract, 16 m., including Orari Bridge, at schedule rates (estimated amount)	12,798	8	4		
Geo. Parkin, No. 1 Station buildings	2,106	7	6		
Thos. Greig, No. 2 Station buildings	2,550	15	0		
Ogilvie and Jones, No. 3 Station buildings	2,100	0	0		
				26,426	8	6

	£ s. d.	£ s. d.
TEMUKA—TIMARU :—		
Rutland and Wyatt, 1st-class station-master's house at Temuka	575 13 9	
Mills and Guthrie, conveyance of railway material from Temuka to Timaru	1,200 0 0	
Ogilvie and Jones, No. 2 Station buildings, £4,632 (one-half Timaru to Waitaki)	2,316 0 0	
Derby and Philps, No. 5 Station buildings	909 10 0	
		5,001 3 9
TIMARU—WAITAKI :—		
Allan and Stumbles, Pareora contract, 6 m. 65 ch. 6 l., sidings 20 ch.	£23,911 5 3	
Geo. Pratt, Southern contract, 16 m. 18 ch. 66 l.	18,544 7 8	
D. Proudfoot, Hook contract, 14 m. 78 ch. 55 l., sidings 60 ch.	35,852 0 0	
Ogilvie and Jones, No. 2 Station buildings, £4,632 (one-half Temuka–Timaru)	2,316 0 0	
		80,623 12 11

* PROVINCE OF CANTERBURY AND OTAGO.

WAITAKI BRIDGE :—		
James Mills, conveyance of bridge material ex "Oberon" ...	£900 0 0	
Keith Ramsay, conveyance of cylinders, ex "Corona," "Tweed," and "C. McAusland"	354 14 11	
Thomas Shalders, carting cylinders to Waitaki Bridge ...	330 0 0	
Fraser, Wishart, and Buchanan, constructing 4 cylinders ...	235 0 0	
		1,819 14 11

PROVINCE OF OTAGO.

WAITAKI—MOERAKI :—		
J. Brogden and Sons, Moeraki deviation contract	£18,566 0 0	
W. Middleditch and Co., Waitaki plate-laying contract, 13 m. 13 ch. 80 l., sidings 10 ch.	2,609 11 9	
Samuel Wates, erection of Station buildings	990 16 3	
G. F. Reid, conveyance of rails ex "Hindostan," "Caroline," "Sussex," and "Dunedin"	2,578 0 4	
Keith Ramsay, conveyance of rails, &c., ex "Corona," "Tweed," and "C. McAusland"	979 4 0	
Alex. Mollison, conveyance overland of rolling stock ...	1,043 16 1	
Reid and Gray, making 25 sets switches and crossings ...	329 10 0	
Fraser, Wishart, and Buchanan, constructing 24 tipping wagons	720 0 0	
McNab and Aimers, constructing 4 cattle wagons, 20 low-side and 34 high-side wagons	1,727 6 0	
		29,544 4 5
MOERAKI—DUNEDIN :—		
W. Strachan, Port Chalmers contract, 2 m. 70 ch. (including 100 yds. tunnels, sidings 4 ch. 44 l.	£47,968 0 11	
Job Wain, jun., Purakanui contract, 7 m. 67 ch., sidings 9 ch. 9 l.	68,384 13 0	
Bateman and Stait, erecting Inspector's cottage at Blueskin ...	420 0 0	
		116,772 13 11
DUNEDIN—PORT CHALMERS :—		
D. Proudfoot, extension of Port Chalmers Wharf	£835 13 2	
Kincaid, McQueen, and Co., alteration of rolling stock couplings	2,513 8 0	
		3,349 1 2
DUNEDIN—CLUTHA :—		
J. Brogden and Sons, Chain Hills slips contract, at schedule rates (estimated amount)	£15,717 8 5	
Hector Reid, drainage of Dunedin station yard	232 2 11	
Thos. Brenchley, supply of 2,000 cubic yards of road metal ...	625 0 0	
Meikle and Campbell, erecting Dunedin passenger station ...	3,368 10 0	
G. O. Clayton, erecting stable and harness-room at Dunedin station	225 0 0	
Peter Day, erecting passenger station at Lovell's Flat ...	302 17 6	
George Nilsen, erecting station-master's house at Stirling ...	427 0 0	
G. O. Clayton, erecting station-master's house at Green Island	325 13 6	
Peter Gunn, erecting export goods shed at Dunedin	5,286 0 0	
Meikle and Campbell, erecting coal shed at Dunedin ...	508 18 4	
Davidson and Conyers, making and erecting water tank at Dunedin station	168 0 0	
Davidson and Conyers, constructing 4 turntables	500 0 0	
Black and Buchan, constructing 200 sets malleable iron brake hangers	300 0 0	
J. Brogden and Sons, constructing 30 ballast wagons ...	1,064 0 0	

* The cost of the Waitaki Bridge is to be equally divided between Canterbury and Otago.

	£ s. d.	£ s. d.
DUNEDIN—CLUTHA—*continued.*		
John Campbell, constructing 100 high-side wagons, £2,462 10s. (one-third Tokomairiro—Lawrence)	1,641 13 4	
R. S. Sparrow, constructing 9 funnels for Dunedin engine shed	128 0 0	
Moyse and Vale, erecting 9 railway carriages	257 5 0	
Findlay and Co., supply of 23,000 ft. of timber for pattern shops, Dunedin	3,368 10 0	
		34,445 19 0
CLUTHA—MATAURA :—		
McMenamin and Co., Mataura contract, 25 m. 32 ch. 30 l. ...	£19,588 16 9	
Burns and Whiteford, station-master's house at Clinton ...	576 0 0	
Robert Burns, 4th-class station at Clinton	490 0 0	
G. F. Reid, conveyance of rails ex "Oamaru," "Wellington," and "Mallowdale," to Bluff	686 5 0	
		21,341 1 9
TOKOMAIRIRO—LAWRENCE :—		
John Campbell, constructing 100 high-side wagons, £2,462 10s. (two-thirds to Dunedin—Clutha)	£880 16 8	
A. J. Smythe and Co., completion of Glenore contract, taken out of former contractor's hands	13,513 2 0	
		14,393 18 8
WINTON—KINGSTON :—		
M. H. L. Bennett, Winton—Kingston No. 2 Contract, 27 m. 62 ch. 70 l.	£27,835 16 8	
Proctor and Whittaker, plate-laying on No. 1 Contract, Winton–Kingston, 22 m. 17 ch. 30 l., sidings, 40 ch.	6,516 18 4	
Campbell Bros., construction of 25 low-side wagons	675 0 0	
Robert Burns, erection of station buildings at McKellar's crossing	570 0 0	
		35,597 15 0

GENERAL RAILWAY ACCOUNT.

Davidson and Conyers, making 4 sets points and crossings ...	£80 0 0	
Alfred and George Price, making 50 sets points and crossings...	850 0 0	
R. S. Sparrow and Co., making 50 sets points and crossings ...	950 0 0	
Mitchell and Ryley, filling in land at workshops, Dunedin ...	695 4 3	
R. S. Sparrow and Co., making 5 sets three-throw switches ...	190 0 0	
Davidson and Conyers, making 50 sets points and crossings ...	1,100 0 0	
R. S. Sparrow and Co., making 29 sets points and crossings ...	551 0 0	
John Duff, making 30 ticket presses	210 0 0	
Scott Bros., erecting 100 wagons	2,275 0 0	
Kincaid McQueen, casting 50 valves and 150 connections ...	100 0 0	
		7,001 4 3
		£674,381 14 8

SLEEPERS.

PROVINCE OF HAWKE'S BAY.

	£ s. d.	£ s. d.
Steer and Finlay, 7,000, at 3s. each	1,050 0 0	
Beck and Tonks, 5,000 blue gum or peppermint, at 3s. 6d. each	875 0 0	
R. O. Maney, 20,000 totara, at 3s. each	3,000 0 0	
Ross, 3,000 red gum, at 3s. 6d. each	525 0 0	
H. R. Russell, for Natives, 10,000, at 3s. 3d. each	1,625 0 0	
		7,075 0 0

PROVINCE OF WELLINGTON.

Beck and Tonks, 2,000 Tasmanian, at 3s. 6d. each	£350 0 0	
Morgan and Robinson, 27,000, at 2s. 9½d. each	3,768 15 0	
William Strachan, 12,000, at 2s. 6d. each	1,500 0 0	
Richten Nannestad, 7,000, at 3s. 11d. each	1,370 16 8	
		6,989 11 8

PROVINCE OF NELSON.

H. J. Tunnicliff, 2,000, at 3s. each	£300 0 0	
William Hastilow, 3,000, at 3s. each	450 0 0	
J. and W. Marris, 1,000, at 3s. 6d. each	175 0 0	
J. and W. Marris, 4,000, at 3s. 8d. each	733 6 8	
J. and W. Marris, 5,000, at 3s. 8d. each	916 13 4	
Aaron Carne, 2,000, at 3s. 3d. each	325 0 0	
Aaron Carne, 10,000, at 3s. 8d. each	1,833 6 8	
Henry Cofield, 1,000, at 3s. 4d. each	166 13 4	
		4,900 0 0

PROVINCE OF WESTLAND.

Maher and O'Connor, addition to contract for 16,000, 400 more for	£32 1 8		32 1 8

PROVINCE OF CANTERBURY.

Krull and Co., 50,000 jarrah, at 4s. 3d. each	£10,625 0 0		
C. W. Turner, 25,000 red wood, at 4s. 3d. each	5,312 10 0		
John Lee, 5,000, at 4s. 9d. each	1,187 10 0		
Clifford and Roper, 5,000, at 4s 9d. each	1,187 10 0		
Connor and Mackay, 5,000 jarrah, at 4s. 3d. each	1,062 10 0		
John Smith, 3,000, at 4s. 9d. each	712 10 0		
Henry Piper, 2,000, at 4s. 9d. each	475 0 0		
Lewis, Cowlishaw, and Gamman, 2,500, at 4s. 9d. each ...	593 15 0		
			21,156 5 0

PROVINCE OF OTAGO.

Donald and Petersen, 30,000, at 3s. each	£4,500 0 0		
Houghton and Co., 30,000 red wood, at 3s. 4¼d.	5,031 5 6		
Jack and Samson, 15,000, at 3s. 2d. each	2,375 0 0		
Beck and Tonks, 25,000 blue gum or peppermint, at 3s. 9d. each	4,687 10 0		
Erskine and Co., 20,000, at 3s. each	3,000 0 0		
Calder, Blacklock, and Co., 15,000, at 3s. each	2,250 0 0		
W. McPherson, 15,000, at 3s. each	2,250 0 0		
Angus and Co., 50,000, at 3s. each	7,500 0 0		
			31,593 15 6
			£71,746 13 10

SUMMARY.

AUCKLAND:—			£ s. d.	£ s. d.	
Auckland—Mercer: Construction			1,916 0 0		
Mercer—Newcastle: Construction			17,148 12 8		
Newcastle—Southwards: Construction			1,373 5 3		
				20,437 17 11	
HAWKE'S BAY:—					
Napier—Waipukurau: Construction			£31,269 13 5		
Sleepers			7,075 0 0		
				38,344 13 5	
WELLINGTON:—					
Wellington—Masterton: Construction ...	£66,064 7 7				
Patea—Wanganui: Construction... ...	31,552 0 0				
Wanganui—Manawatu: Construction ...	27,558 18 8				
Manawatu—Foxton: Construction ...	2,327 0 2				
			127,502 6 5		
Sleepers			6,989 11 8		
				134,491 18 1	
TARANAKI:—					
Patea—Waitara: Construction			... ...	154 0 0	
WESTLAND:—					
Brunner—Greymouth: Construction			£13,731 16 7		
Sleepers			32 1 8		
				13,763 18 3	
NELSON:—					
Nelson—Foxhill: Construction	£23,756 3 0				
Westport—Mount Rochfort: Construction	34,023 12 3				
			57,779 15 3		
Sleepers			4,900 0 0		
				62,679 15 3	
MARLBOROUGH:—					
Picton—Blenheim: Construction			... ...	1,179 12 0	

CANTERBURY:—									
Addington—Kowai: Construction	...	£6,777	0	0					
Rangiora—Oxford: Construction	...	240	0	0					
Rolleston—Malvern: Construction	...	12,585	15	0					
Kaiapoi—Eyreton: Construction	...	5,307	0	0					
Racecourse—Southbridge: Construction	...	10,287	19	7					
Rakaia—Ashburton: Construction	...	10,812	0	3					
Asburton—Temuka: Construction	...	26,426	8	6					
Temuka—Timaru: Construction...	...	5,001	3	9					
Timaru—Waitaki: Construction...	...	80,623	12	11					
					158,061	0	0		
Sleepers	...	...		...	21,156	5	0		
								179,217	5 0
CANTERBURY AND OTAGO:—									
Waitaki Bridge: Construction ...	...	...		...	...		...	1,819	14 11
OTAGO:—									
Waitaki—Moeraki: Construction...	...	£29,544	4	5					
Moeraki—Dunedin: Construction	...	116,772	13	11					
Dunedin—Port Chalmers: Construction	...	3,349	1	2					
Dunedin—Clutha: Construction ...	...	34,445	19	0					
Clutha—Mataura: Construction ...	...	21,341	1	9					
Tokomairiro—Lawrence: Construction	...	14,393	18	8					
Winton—Kingston: Construction	...	35,597	15	0					
					255,444	13	11		
Sleepers	...	...		...	31,593	15	6		
								287,038	9 5
GENERAL RAILWAY ACCOUNT ...	...	...		...	...		...	7,001	4 3
Total: Construction, &c.	...	£674,381	14	8					
Sleepers ...	...	71,746	13	10					
		£746,128	8	6				£746,128	8 6

APPENDIX H.

CONTRACTS FOR CONSTRUCTION OF ROADS.

RETURN MADE IN COMPLIANCE WITH CLAUSE 96, "IMMIGRATION AND PUBLIC WORKS ACT, 1870."

SCHEDULE of CONTRACTS for the CONSTRUCTION of ROADS under "The Immigration and Public Works Act, 1870," from 1st July, 1874, to 30th June, 1875.

NORTH ISLAND.

PROVINCE OF AUCKLAND.

Roads, Bay of Islands.

	£ s. d.	£ s. d.
KERI KERI—MONGONUI,—		
Tutere, contract for 18 ch. side cutting, 6 culverts, and making crossing to stream	38 7 6	
H. Otai, contract for 10 ch. side cutting, 1 culvert and filling, and 2 crossings to streams	19 10 6	
Geo. Aicken, extras to contract No. 1, £1,350	60 0 0	
		117 18 0
OKAIHAU—UTUKURA,—		
P. Taonui, contract for 3 bridges and 3 culverts	£40 0 0	
		40 0 0
MAHURANGI—PORT ALBERT,—		
J. H. Palmer, contract No. 5, for construction of cart bridge over Hoteo River and approaches, to be completed 2nd March, 1875	£1,257 0 0	
A. Wilson, extras on contract No. 4	19 0 0	
		1,276 0 0
KAWA KAWA—WHANGAREI,—		
Hoani, contract for clearing bush at the Wairiki, and making small culvert	£3 0 0	
Wiremu Pepine, contract for earthworks	5 0 0	
Kake Peni, contract for earthwork on road and small culvert at Manuwhawha	2 10 0	
Alex. McLeod, contract No. 3, for erection of 2 bridges and 1 culvert	248 0 0	
M. McInnis, contract No. 2, for Papaura Bridge	119 0 0	
Alex. McLeod, extras on contract No. 3, £248	6 0 0	
Eru Nehua, extras on contract	5 0 0	
		388 10 0
WAIROA—KAIKOHE,—		
Patuere Rauriki, contract for bridge over Maire Stream, at Mangakahia, at 22s. 6d. per foot	£25 0 0	
Kere, contract for earthworks	4 17 6	
Tamati, contract for earthworks on road, at 1s. 6d. per yard ...	34 1 0	
Inia, contract for earthworks	20 3 0	
P. Kuao, contract for 2 ch. metalling, 1 bridge 25 feet, and making crossing to swamp	29 10 0	
Natanahira, extras on contract (£97 16s. 6d.)	9 1 2	
Inia, extras	0 10 0	
		123 2 8

WAITANGI—HOKIANGA,—				
J. and W. Bedggood, contract for building 4 bridges ...	£295	0	0	
W. H. Te Ripi, contract for construction of bridge, and 6 chains filling, &c.	125	0	0	
W. H. Te Ripi, extras on same	6	12	0	
J. and W. Bedggood, extras on above contract for bridges ...	14	0	0	
G. Aicken, extras on contract (£650)	214	5	6	
Thos. Jones, extras on contract (£1,425)	203	13	6	
				858 11 0
Roads North of Auckland.				
NORTH OF AUCKLAND,—				
M. Phillips, extras on contract	£21	10	10	
				21 10 10
Waikato.—Nil.				
Bay of Plenty.				
TAURANGA—TAPAUEHARURU,—				
Peter Grant, contract No. 34, for metalling portions of road ...	£222	15	0	
Henry Bumpus, contract for erection of plain bridge, 40 feet ...	87	10	0	
Lea and Haggarty, contract No. 2, for 19 ch. forming, at 15s.; 604 yards face cutting, at 9d.; and 5 culverts, at £3 ...	51	18	0	
E. Willis, contract No. 7, sawing timber for culverts, 6,186 feet, at 13s.	40	4	3	
Rikihana, contract No. 25, for maintenance of road between Tererenga and Waititi, at per annum	60	0	0	
Rikihana, extras	20	0	0	
Kepa, contract No. 29, for 1 year's maintenance of road from Hemo to Waikaukau	22	10	0	
Lea and Haggarty, extras to contract No. 2	1	2	6	
J. J. Redmond, contract No. 36, for maintenance of road, Oropi to Terenga...	135	0	0	
E. Willis, extras on contract (£4,043)	16	19	9	
				657 19 6
TAURANGA—OHINEMURI,—				
Hori Ngatai, contract No. 8, excavating material for raising and widening road across mill dam at Wairoa, 2,500 cubic yards	£130	0	0	
Peter Grant, contract No. 9, for approaches to Wairoa Bridge and other improvements, to complete in 8 weeks, or on 8th March, 1875	105	18	4	
Peter Grant extras on same	8	0	0	
				243 18 4
TAURANGA—KATIKATI,—				
Peter Grant, contract No. 10, Katikati Road, extension, for work between Aongatete and Katikati, viz. side cutting, per c. yd., 7d.; hauling, 1s. 1d.; soft rock, per c. yd., 1s. 6d.; hard ditto, 3s. 6d.; fascining, £4 10s. per ch.; box culverts, £7 12s.; side culverts, £3 10s.				
TAURANGA—EAST CAPE,—				
Ngatae Tribe, contract No. 6, for 94 ch. side cuttings and 25 ch. forest cutting	£50	0	0	
Joseph Thompson, contract for widening road from Waioeka Bridge to Hunter's Creek, from 8′ to 18′, 1 m. 48 ch. 69 l....	150	0	0	
				200 0 0
ROTORUA—TARAWERA,—				
Patera Pokino, contract No. 4, for maintenance of road between Ohinemutu and Ngapuku, at per annum	£15	0	0	
				15 0 0
MAKETU—ROTORUA,—				
Wi Keepa, contract No. 39, for maintenance of road from Hemo to Rangiwhaka	£10	0	0	
				10 0 0
WHAKATANE—TE TEKO,—				
Ngatepukeko and Rangi te Kehu Tribe, contract No. 1, for formation of 13 m. of road, at £100 per mile	£1,300	0	0	
Hetaraka, contract No. 2, for 4½ miles from Waimana River to confiscated boundary, at £20 per mile	100	0	0	
				1,400 0 0
OPOTIKI—GISBORNE,—				
Graham and Davis, contract for horse road between Motu River and end of forest at Rangiriri River at £55 per mile, and remaining portion at £20 per mile. (Length not known.)				
H. W. Penny, contract No. 3, for excavating stone (hard rock), at 3s. per cubic yard; soft stone, at 1s. 6d. per cubic yard; and to form road 8 ft. wide as work proceeds. (Amount not known.)				

OPOTIKI—GISBORNE—*continued.*					
W. Benson, contract No. 4, for construction of road between Hokopupara (edge of forest) to Waikohu River, for £35 per mile, and at £45 per mile through forest; to be completed 22nd June, 1875. (Amount not known.)					
TAURANGA—TE PAPA,—					
J. J. Redmond, contract No. 5, for repairs and maintenance of Sections 1 and 2, for 12 months; date of maintenance to commence when repairs are finished; repairs, £35; maintenance, £10	£45	0	0		
				45	0 0
Poverty Bay.					
TE KAPU—GISBORNE,—					
Ihaka Kaiwheke, contract No. 8, for fascining, ditching, and making culvert	£11	0	0		
Donohue and Flint, contract No. 8, for bridle bridge across the Kaitarahai Stream, £170, and centre uprights in trestles, £2; to be completed 16th August, 1875	172	0	0		
				183	0 0
TE KAPU—WAIKARE MOANA,—					
Day and Bristow, extras on contract No. 12	£12	12	0		
				12	12 0
GISBORNE—HICKS BAY,—					
Matana Maukau, contract No. 15, for maintenance from 9th June, 1874, to 8th June, 1875	£6	0	0		
Heremia Taurewa, contract No. 10, for maintenance of road from 9th June, 1874, to 8th June, 1875	3	0	0		
				9	0 0
MAHIA—GISBORNE,—					
Wi Kaipupe, contract for maintenance of road for 12 months ending 25th May, 1876	£25	0	0		
Honi Whariki and another, contract No. 9, scrub clearing, fascining, ditching, &c.	20	0	0		
				45	0 0
Taupo.					
TARAWERA—TAPAUEHARURU,—					
C. L. Hart, extras on contract No. 24	£56	8	9		
				56	8 9
GALATEA—OPEPE,—					
Peraniko, of Ngatimaru, contract No. 1, for side cutting, at £40 and £60 per mile. (Amount not known.)					

PROVINCE OF HAWKE'S BAY.

Napier.

NAPIER—TARAWERA,—					
P. Loughran, extras on contract No. 28	£67	18	6		
J. Lewis, contract No. 30, for maintenance of Mohaka Ferry, at per annum	30	0	0		
				97	18 6
Seventy-Mile Bush.					
TAKAPAU—GORGE,—					
J. McMenamin, extras on contract No. 1	£16	0	0		
J. Omara, extras on contract, 1 ch. 80 l., at 53s., and 21 yards metal for repairs, at 4s.	8	19	4		
A. Nathan, extras on contract (£1,825 2s. 6d.)	27	5	6		
J. Wilkie and T. Denby, contract for metalling at Dannevirk, 146 ch. road, at £3 4s. 6d.; to be completed 1st June, 1875 ...	470	17	0		
E. Coltman and W. Nathan, contract for metalling at Tahoraite, 69 ch. road, at £2 18s.; to be completed 1st June, 1875 ...	200	2	0		
				723	3 10
Wairoa.					
TE KAPU—WAIROA,—					
Epeni Ha, Hone, and Kutene Tarerei, contract No. 17, for draining, &c.	£40	0	0		
				40	0 0
WAIROA—MAHIA,—					
C. Rich, contract No. 5, for ferry maintenance at Nuhaka for 12 months, from 1st February, 1874	£10	0	0		
Hori Puihi, contract No. 6, for road maintenance for 12 months, from 25th May, 1874	25	0	0		
Karauria Taitau, contract No. 9, for bush clearing, side cutting, and erection of 1 bridge	90	0	0		
				125	0 0

PROVINCE OF WELLINGTON.

Wanganui.

Wanganui—Patea,—					
Neil Bradley, contract for approaches to the Whenuakura Bridge; to complete in 90 days	£69	10	0		
				69	10 0
Wanganui—Taupo,—					
G. Campbell, contract for section No. 9, for construction of about 5 miles horse road; to be completed by 26th May, 1875	£430	0	0		
				430	0 0

Manawatu.

Foxton—Gorge,—					
Nilson and Kindverg, extras on contracts 1 and 2	£3	17	0		
				3	17 0
Foxton—Palmerston Tramway,—					
Perrin and Meyrick, contract for erection of feeding shed near Oroua Bridge	£57	0	0		
G. Hughes, extras on contract (£242 18s.)	4	0	0		
T. Cameron, extras on contract (£248)	5	3	6		
Young and Fry, contract for erection of goods shed at Foxton shunt, and addition to office at Foxton...	109	5	0		
				175	8 6

Opaki, Manawatu.

Opaki—Gorge:—					
A. Lundgren, contract for squaring timber	£35	0	0		
T. Hilbrand, contract No. 26, for forming 6 ch. road and very heavy side and block cutting	102	8	0		
T. M. Lennan, contract No. 1B, for 9,800 ft. sawn timber, at 14s.	68	12	0		
J. Farmer, contract No. 2B, for 8,200 ft. sawn timber, at 14s. ...	57	8	0		
T. King, contract No. 3B, for 6,450 ft. sawn timber, at 14s. ...	45	3	0		
Lungdren, contract No. 4B, for 10,008 ft. squared timber, at 7s.	35	0	0		
J. Swansen, contract No. 5B, for 50,900 ft. squared timber, at 7s.	178	3	0		
G. Harris, contract No. 6B, for 2,089 ft. sawn timber, at 13s. ...	13	11	0		
T. Price, contract No. 7B, for 7,000 ft. sawn timber, at 14s. ...	49	0	0		
A. Jacobson, contract No. 41, for forming 37 ch. road on swampy ground and heavy cutting, including three 4-ft. culverts	185	0	0		
Nis. Lund, contract No. 42, for forming 65 ch. road in heavy cuttings, including 7 culverts...	325	0	0		
J. C. McLeod, contract No. 2A, for 29 culverts, at £4 ...	116	0	0		
A. Mckay, contract No. 3A, for 4 culverts at £4 5s., and 1 bridge at £10	27	0	0		
L. Hyer, contract No. 4A, for 9 culverts, at £3 15s.	33	15	0		
A. McLeod, contract No. 5A, for 2 culverts, at £4	8	0	0		
A. McKay, extra on contract No. 28	13	2	6		
H. Larsen, contract No. 6A, for 6 culverts, at £3 15s. ...	22	10	0		
N. Christiansen, contract No. 40, for construction of 10 ch. road, at £4 10s.	45	0	0		
H. Larsen, contract No. 43, for construction of 6½ ch. road, at £4 15s.	30	17	6		
L. Hyer, contract No. 44, for construction of 252 ch. road, including 15 box culverts, and about 61 ch. of heavy side cutting, and 13 ch. of heavy block cutting, at £5. ...	1,260	0	0		
T. Price, contract No. 8B, 8,000 ft. sawn timber, at 14s. ...	56	0	0		
T. McLennan, contract No. 9B, 9,000 ft. sawn timber, at 14s. ...	63	0	0		
J. Jespersen, contract No. 10B, 7,000 ft. squared timber, at 7s....	24	10	0		
A. Olsen, contract No. 45, for 40 ch. heavy side and block cuttings, including culverts and catchwater drains, at £5 per ch.	200	0	0		
H. O'Connell, contract No. 46, for 40 ch. of formation and double ditch, at £5 per ch.	200	0	0		
M. Nilson, contract No. 47, for 225 ch. heavy side and block cuttings, fascining, &c., at £5 5s. per ch.	1,181	5	0		
O. Bosen, contract No. 48, for 55 ch. heavy cuttings, &c., at £5 5s. per ch.	288	15	0		
H. Larsen, contract No. 49, for 60 ch. ditto, at £5 per ch. ...	300	0	0		
G. Christiansen, contract No. 50, for 35 ch. formation and ditch, at £3 15s.	131	5	0		
H. Petersen, contract No. 51, for 60 ch. ditto, at £4	240	0	0		
H. Hickson, contract No. 52, for 42 ch. formation and ditching, at £4	168	0	0		
R. Brodersen, contract No. 53, for 55 ch. ditto ditto, at £4 ...	220	0	0		
M. Halberg, contract No. 54, for 30 ch. ditto ditto, at £4 ...	120	0	0		
O. Mortensen, contract No. 55, for 80 ch. ditto ditto, at £4 ...	320	0	0		

OPAKI—GORGE—*continued.*

T. P. Petersen, contract No. 56, for 80 ch. ditto ditto, at £4 ...	320	0	0
Jas. Harvey, contract No. 57, filling approaches to bridges and forming road	83	15	6
N. Nilsen, contract No. 58, forming road inside Blue Clay Cliff, 825 yds., at 1s.	41	5	0
O. Mortensen, contract No. 59, forming road inside Blue Clay Cliff, 816 yds., at 1s. 3d.	51	0	0
Jens. Nilsen, contract No. 60, forming road inside Blue Clay Cliff, 195 yds., at 1s.	9	15	0
Mackay and Monteith, extras to contract, approved by Assistant Engineer-in-Chief	190	11	3
T. McLennan, contract No. 11B, for sawing 6,545 ft. timber, at 14s.	45	16	3
Jas. Farmer, contract No. 12B, for sawing 13,250 ft. timber, at 15s.	99	7	6
G. Traynor, contract No. 13B, for sawing 11,610 ft. timber, at 13s.	75	9	3
A. Andersen, contract No. 14B, for sawing 8,500 ft. timber, at 15s.	63	15	0
J. Andersen, contract No. 61, for cutting outfall drains, 70 ch, at £1 5s.	87	10	0
T. C Jacobson, contract No. 62, for cutting outfall drains, 42 ch., at £1 5s.	52	10	0
J. Jorgensen, contract No. 63, for cutting outfall drains, 37 ch., at £1 2s.	40	14	0
C. Maby, contract No. 15B, for drawing 12,200 ft. timber, at 3s. 6d.	21	7	0
R. Campbell, contract No. 16B, for drawing timber, 14,600 ft., at 3s. 6d.	25	11	0
T. Price, contract No. 17B, for sawing timber, 24,000 ft., at 15s.	156	0	0
W. Cullen, contract No. 18B, for sawing timber, 8,000 ft., at 16s.	64	0	0
W. Doyle, contract No. 19B, for sawing timber, 12,500 ft., at 15s.	93	15	0
G. Traynor, contract No. 20B, for construction of bridges, 137 ft., at £1 10s.	205	10	0
T. McLennan, contract No. 21B, for construction of bridges, 421 ft., at £4 15s.	1,999	15	0
H. Thompson, contract No. 22B, for construction of bridges, 396 ft., at £3 5s.	1,287	0	0
A. Stewart, contract No. 1, for metalling 42 ch. of road, at £3 10s.	147	0	0
T. Flynn, contract No. 64, for cutting 50 ch. heavy outfall drains, at £1 5s. per ch.	62	10	0
T. Flynn, contract No. 65, for cutting 20 ch. catchwater drains, at 14s.	14	0	0
T. Flynn, contract No. 66, for cutting 19 ch. catchwater drains, at 13s.	12	7	0
A Stewart, extras on contract for metalling...	17	10	0
C. Schaumann, contract No. 23B, for construction Kowhai Creek bed, 26 ft., at £3 15s.	97	10	0
C. Schaumann, contract No. 24B, for construction Tutaekara Bridge, 15 ft., at £2 15s.	41	5	0
C. Schaumann, contract No. 25B, for 9 large box culverts at £3	27	0	0
C. Schaumann, contract No. 67, for outfall and catchwater drains, 28 ch., at £1 5s.	35	0	0
T. J. Allan, contract No. 68, for construction of 197 ch. road, at £9 10s. per ch., to be completed 9th September, 1875 ...	1,871	10	0
Geo. Harris, contract No. 26B, sawing 16,668 ft. timber, at 16s.	133	6	0
T. Price, contract No. 27B, for 11,500 ft. sawn timber, at 13s.	74	15	0
J. Farmer, contract No. 28B, for 4,000 ft. sawn timber, at 13s.	26	0	0
G. Traynor, extras to contract No. 20B	31	10	0
G. Lind, contract No. 29B, for sawing and squaring timber, 12,000 ft., at £7 10s.	78	0	0
J. Farmer, contract No. 30B, for sawing and squaring timber, 9,000 ft., at £7 10s.	58	10	0
J. Wilkin, contract No. 7A, for 10 small culverts at £6, and 11 large culverts at £11	181	0	0
T. Price, contract No. 31B, sawing and squaring 22,340 ft. timber, at £6 10s.	145	4	0
J. Roberts, contract No. 32B, sawing and squaring 17,500 ft. timber, at £6 10s.	113	15	0
C. Ericksen, contract No. 32B, for sawing timber, 11,500 ft., at 13s.	74	15	0
R. Lungdren, contract No. 33B, for sawing timber, 7,250 ft., at 13s.	47	2	6
			14,467 1 3

PROVINCE OF TARANAKI.

PATEA—WAI-ITI,—		
T. Brooking, contract for cart bridge over Waiongona River, No. 113	£516 0 0	
Neil Bradley, contract for approaches to Patea Bridge ...	195 10 0	
G. Julian, extras on contract No. 109, for gravelling ...	29 1 3	
J. T. Davis, extra on contract No. 97, for widening embankment	1 0 0	
T. B. Louisson, contract for painting bridges (No. 116) ...	425 0 0	
		1,166 11 3
NEW PLYMOUTH—MOUNT EGMONT,—		
Brooking and Dignan, contract No. 115, for erection of bridge over the Waiongonaiti River	£200 0 0	
J. Mulree, contract No. 114, clearing and forming 77 ch. road between Waiongona River and mountain road	260 0 0	
S. Mulree, contract No. 110, for forming 174 ch. road ...	375 8 0	
G. Morley, extras on contract No. 104	3 10 0	
		838 18 0
HAWERA—WAITARA,—		
Henwood, Paul, and Maine, contract for felling bush and clearing track on mountain road, 142 ch., at 27s. per ch. ...	£191 14 0	
T. Twigg, contract No. 117, for forming 209 ch. road; to be completed 23rd May, 1875	199 0 0	
		390 14 0

PROVINCE OF AUCKLAND.

Roads North of Auckland.

	£ s. d.	£ s. d.
T. Sheehan, jun.—Contract for bridge and approaches to Kaukapakapa River, section No. 1	444 10 0	
T. Thomson.—Contract for bridges, culverts, clearing, and earthwork on the Komakoriki Road (estimated cost, £620), section No. 3	620 0 0	
W. Greenwood.—Contract for side cuttings, bush cutting, and forming Omaha Road, contract No. 2, section No. 5	288 0 0	
N. Wilson.—Contract No. 1, same as above	276 10 0	
A. Campbell.—Contract for side cutting and bush clearing, section No. 6, Mangawai and Waipu Road	249 19 0	
Lambert and Rintoul.—Contract for culverts, forming and ditching, on the Matakohe Road, section No. 6	49 0 0	
A. and J. McKay.—Contract for bridge over east branch of Waipu River, section No. 7	234 10 0	
R. McLeod.—Contract for side cuttings, culverts, and ditching, Whangarei Heads and Whangarei Road, section No. 11 ...	260 10 0	
Extras on same	30 4 0	
T. Thomson.—Extras on contract (£620)	50 6 4	
		2,503 9 4

ROADS, MIDDLE ISLAND.

WESTLAND.

Westland.

	£ s. d.	£ s. d.
GREYMOUTH—OKARITO,—		
P. J. Kemple, contract for maintenance of sections 1 and 2, Greymouth and Marsden Roads	1,470 0 0	
T. Wright, contract for the construction of Hindmarsh and Powley footpath, behind quarry, length 3 ch. 56 l. ...	39 3 4	
P. White, contract, section No. 3, Okarito to Lake Maipourika, construction of 3 m. 76 ch. road; to be completed 28th November, 1874	2,529 6 0	
W. Burke and M. Moye, contract, section No. 2, Bowen to Okarito, 240 ch. clearing, forming, &c.; to be completed within 120 days	894 14 6	
J. Dunlop and W. N. Morton, contract, section No. 3, Bowen to Okarito, 240 ch. clearing, &c.; to be completed within 120 days	1,057 8 0	
White and Goff, contract, section No. 3 (South end), Okarito to Bowen, for construction of 235·50 ch. road; to be completed 2nd March, 1875	1,839 9 6	

GREYMOUTH—OKARITO—*continued.*						
White and Goff, contract, section No. 4, Okarito to Bowen (South end), for construction of 207·25 ch. road; to be completed 2nd March, 1875	1,479	19	9			
White and Goff, contract, section No. 5, Okarito to Bowen (South end), for construction of 157 ch. road	711	0	0			
				10,021	1	1
HOKITIKA—BLUE SPUR,—						
H. Hantin, extras on contract No. 1 (£659 15s.)	£50	0	0			
				50	0	0
STILL WATER—MAORI GULLY,—						
E. Butler, extras on contract No. 1 (£666)...	£8	15	0			
				8	15	0
GREENSTONE—LAKE BRUNNER,—						
C. McKeigan, contract, section No. 2, construction of 4 m. 3 ch. 68 l. of road; to be completed within 120 days	£1,589	0	0			
				1,589	0	0
KANIERI FORK—KANIERI LAKE,—						
J. Kennedy, contract, section 1, construction of 4 m. 54 ch. road; to be completed 10th September, 1874	£1,431	15	0			
				1,431	15	0
WAIMEA BRIDGE,—						
J. Reynolds, contract for construction of bridge over Waimea Creek, near the Big Dam; to be completed 20th August, 1874	£194	9	0			
				194	9	0

NELSON.

Nelson and South-West Gold Fields.

SQUARETOWN—LITTLE GREY JUNCTION,—						
Rauft, contract for construction of section No. 1	£773	0	0			
Garth, contract for construction of section No. 2	823	0	0			
				1,596	0	0
BULLER—ARNOULD,—						
T. Thompson, contract for widening Hawk's Crag	£396	16	0			
T. Thompson, contract for rock cutting at Hawk's Crag ...	40	0	0			
B. Smythe, contract for construction of dray road between the Ohika Rivers	917	15	0			
				1,354	11	0

HOKITIKA—CHRISTCHURCH.

Road.

Section 12 of "The Immigration and Public Works Act, 1874."

	£	s.	d.	£	s.	d.
C. McKeigan.—Contract, section No. 1, for 8,332 lks. road complete, with metalling	3,111	0	0			
F. McKennon.—Contract, section No. 2, for 3,260 lks. road complete, with metalling, and two bridges	1,794	14	6			
C. McKeigan.—Contract, section No. 3, for 5,629 lks. road complete, with metalling	4,870	4	0			
Superintendent of Canterbury. — Canterbury portion, Hokitika-Christchurch Road	1,450	0	0			
T. McQuilkin.—Contract, section No. 3, road deviation, estimate 40 ch., at £6	240	0	0			
Miller Bros.—Contract, section No. 3B, road deviation, estimate 35 ch., at £6	210	0	0			
F. McKinnon.—Contract, No. 3A, road deviation, estimate 28 ch., at £6	168	0	0			
T. Lawrie.—Contract, section No. 3D, road deviation, estimate 33 ch., at £6	198	0	0			
P. Griffin.—Contract, section No. 3B, road deviation, estimate 30 ch., at £6	180	0	0			
Extra	1	12	0			
A. Callen.—Contract, section No. 39	176	4	0			
T. McMillan.—Contract, section No. 3H	351	8	0			
T. Reordan.—Contract, No. 3F	168	16	0			
T. Lawrie.—Extras on contract, No. 3D	20	12	0			

J. Morgan.—Contract, section No. 3E, 40 ch. 10 lks., at £6 (£240 12s.), 2 turnouts, £2	242	12	0		
M. Tracey.—Contract for section No. 3	104	6	0		
T. Salmon.—Contract for section No. 3K	190	16	0		
Extra on same	19	0	0		
M. Fitzgerald.—Contract, section No. 3J, 38 ch., at £6	228	0	0		
Extras on same	63	0	0		
T. Cunniffe.—Contract No. 3L, road deviation	260	0	0		
Superintendent, Canterbury.—Extras on contract (£1,450) ...	0	14	3		
T. Holland and Co.—Contract section No. 6, deviation of road ...	85	5	0		
M. Tracey.—Extras on contract, 3 ch. 57 lks., at £10	25	14	0		
M. Jackson.—Forming part deviation, section No. 6, 51 ch. 44 lks., at £5 per chain, £257 4s., and 2 turnouts, at £1	259	4	0		
Dickson and Patterson.—Contract for metalling section 3 to 3L, 435 ch.	925	6	0		
E. Rownding.—Contract No. 7, metalling 32 ch. 20 lks., at £3; authorized additions, 30s.	98	2	0		
M. Dalley.—Contract No. 6, for 16 ch. 20 lks. clearing, at £5, £81; additions, £2	83	0	0		
				15,525	9 9

17—E. 3.

APPENDIX I.

REPORT ON THE BULLER COAL FIELD BY THE ASSISTANT GEOLOGIST.

The Assistant Geologist to the Director of Geological Survey.

Sir,— Museum, Wellington, 1st July, 1875.

I have the honor, in pursuance of your instructions dated 13th May, quoted in the margin, to make the following report:—

I have been over the area which had been surveyed up to the end of May, extending from the River Ngakawau, on the north, to Coalbrookdale, bounded by the Cascade Break. on the south; the Mount William Range and the sea face forming the boundaries to the east and west respectively.

From Mr. Cooper's maps, on which the coal outcrops and probable areas over which the coal exists have been shown, supplemented by my own observations, I have been enabled to draw out a geological map with sections of the coal field.

The sequence of the strata is as follows:—

Black Marls.—Pecten Zittelli, Pecten fischeri, Echinoderms, Scalaria, &c.

Upper Grits.—Fine in character.

Coal.—Two seams of coal occur, the sections in connection with which cannot well be shown on the map, but various detailed sections at different points, will be given in this report.

Lower Grits.—Coarse.

Triassic Slates.—Lying at all angles, and forming the base of the coal field.

Granite.—Not appearing at the surface except in the sea face, in Crane's Cliff at the Ngakawau, and in the bed of Granity Creek.

Parts of two basins exist in this area—the dividing watershed of the Ngakawau and Cypress Creek, which is one of the main branches of the Waimangaroa, forming their point of junction. I shall speak of these as the "Waimangaroa Basin" and the "Ngakawau Basin," and make allusion to them separately.

A third basin commences from the outcrop of the slates in Coalbrookdale, in which the Whareatea is the principal river, and which includes Mount Rochfort and that country to the westward of it; but, as this is not yet surveyed thoroughly, I shall reserve any further mention of it for a future report.

The Waimangaroa Basin.—This includes Coalbrookdale, Mount William, Mount Frederick, and the intermediate country, extending northward to the before-mentioned watershed, and bounded by dotted lines on the map.

Mounts William and Frederick are the highest points of this basin, and it trends away to Coalbrookdale, its continuity being there arrested by the Cascade Break, a fall of over 1,000 feet.

In the face of the Cascade Break the lower seam shows a thickness of 18 feet, the upper one being 5 feet thick at this point. The following is a section of the strata here:—

		Ft.	in.	Ft.	in.
(1.)	Fine grits	8	0		
	Fine sandstone with coaly partings	4	0		
	Coal, upper seam	5	0		
	Dark sandstone	20	0		
	Fine white sandstone	14	0		
		Ft.	in.		
	Coal	6	0		
	Shale	0	3		
	Coal	12	0		
		18	3		
				69	3

Both these seams thin out on approaching the outcrops of slate to the westward, and the whole of the strata appear to be much contorted, the lower grits appearing at places lying at a high angle, and denoting the vicinity of the slate, which makes its appearance in many of the beds of the creeks. The following section is taken from the vicinity of the Coalbrookdale drive:—

		Ft.	in.	Ft.	in.
(2.)	Fine red grits	20	0		
	Soft sandstone	5	0		
	Coal (upper seam)	0	6		
		Ft.	in.		
	Fine grits	10	0		
	Soft sandstone, with coaly partings	10	0		
		20	0		
	Coal	8	6		
	Shale	1	6		
	Coal	2	0		
		1	0		
	Dark grey sandstone	20	0		
				77	6

To the north of this point the lower seam gradually thickens, until nearly reaching the Waimangaroa Break, where at No. 4 its thickness is 40 feet, and from there it thins out towards the Mount Frederick summit, the following sections serving to illustrate this.

The upper seam holds a thickness varying from 5 feet downwards over the whole of the basin, but more frequently appears as about 1 foot thick than anything greater.

		Ft.	in.	Ft.	in.
(3.)	Surface fine grits	4	0		
	Soft sandstone and fine grits	20	0		
	Fine sandstone, with coaly partings	8	0		
	Coal (lower seam)	17	0		
				49	0
(4.)	Surface grits	35	0		
	Soft dark sandstone	12	0		
	Fine grits (Ft. 11 in. 0)				
	Shale (Ft. 1 in. 0)				
		12	0		
	Soft sandstone, with coaly partings	12	0		
	Coal (lower seam)	40	0		
		111	0		

And similar sections prevail along the southern bank of the Waimangaroa.

The sections from this point towards the summit of Mount Frederick are as follows:—

		Ft.	in.	Ft.	in.
(5.)	Surface	1	0		
	Fine grits	10	0		
	Fine sandstone	8	0		
	Coal (lower seam)	25	0		
	Brown sandstone	6	0		
				50	0
(6.)	Grits	4	0		
	Soft sandstone	3	0		
	Shale	4	0		
	Coal (lower seam)	8	0		
				19	0

And at the summit of Mount Frederick, at the edge of the basin, the following section is seen:—

		Ft.	In.	Ft.	in.
(7.)	Fine grits	12	0		
	Soft yellow sandstone	10	0		
	Shale	3	0		
	Coal (lower seam)	6	0		
	Shale	1	0		
	Hard grit	6	0		
				38	0

resting upon slates, and dipping S.E. 10°. As will be seen, the coal thins out gradually towards this point; but near the summit of Mount William, on the other hand, the thickness varies very considerably in a short distance, and the coal only covers an insignificant area. The following sections serve to illustrate the variations in thickness above mentioned:—

		Ft.	in.	Ft.	in.
(8.)	Surface fine grits	30	0		
	Soft sandstone	12	0		
	Sort fine grit	30	0		
	Shale	4	0		
	Soft sandstone grit	30	0		
	Soft sandstone, with coaly partings	12	0		
	Coal	6	0		
				124	0
(9.)	Fine white grits	10	0		
	Soft sandstone, with coaly partings	12	0		
	Coal (Ft. 2 in. 0)				
	Shale (Ft. 1 in. 0)				
	Coal (Ft. 1 in. 0)				
		4	0		
	Soft dark sandstone, with coaly partings	8	0		
	Fine grits (Ft. 12 in. 0)				
	Soft sandstone (Ft. 4 in. 0)				
	Fine grits (Ft. 14 in. 0)				
		30	0		
	Fine sandstone, with coaly partings	6	0		
	Coal	30	0		
				100	0

		Ft.	in.	Ft.	in
(10.)	Fine grits	24	0		
	Soft sandstones	6	0		
	Shale, with band of coal	3	0		
	Black stone, with coaly partings	25	0		
	Fine grits	4	0		
	Soft sandstone, with shaly partings	6	0		
	Dark sandstone	4	0		
	Red grits	10	0		
	Shale	14	0		
	Coal	40	0		
	Soft grey stone	6	0		
				142	0

As will be seen by the map, a considerable area in the Waimangaroa Basin shows the lower grits appearing at the surface, all the higher beds, the coal included, having been denuded, and even where coal does occur in patches, the denudation has been so great as to leave a comparatively slight covering to it.

Thus we get the following section at one point:—

		Ft.	in.	Ft.	in.
(11.)	Soft white sandstone	12	0		
	Shale	2	0		
	Coal	20	0		
				44	0

At the foot of the Mount William Range both seams occur, the higher one being overlaid by the fine grits, and then quite conformably by black marls containing nodules of clay ironstone, running in layers parallel to the bedding. The whole of these strata are lying at a high angle, and have evidently slipped from a higher level, giving one the impression that the whole of the coal-bearing strata and part of the slates had been denuded in former times by the Waimangaroa, and that the coal beds at present appearing there had slipped from the face of the Mount William Range, blocking up the valley thus formed.

The Ngakawau Basin.—The boundaries of this basin are also shown on the map by dotted lines; and starting from the most southern point near Mount Frederick, we find the coal thickening as we go north, giving sections of 5 feet, 25 feet, 37 feet, and 40 feet, at various points, until at the centre of the basin we get the coal as much as 53 feet thick, the bottom not being proved even at that depth. From this point the coal thins in all directions, and the following sections may be seen:—

		Ft.	in.	Ft.	in.
(12.)	Soft red grits	6	0		
	Sandstone	12	0		
	Coal	5	0		
	Shale	4	0		
				27	0
(13.)	Shale	6	0		
	Coal	25	0		
	Shale	6	0		
				37	0
(14.)	Fine grits	5	0		
	Soft sandstone	5	0		
	Shale	0	6		
	Coal	1	0		
	Shale	0	6		
	Soft sandstone	25	0		
	Shale	4	0		
	Coal	37	0		
	Shale	5	0		
				83	0
(15.)	Coal	36	0		
(16.)	„	40	0		
(17.)	„	53	0		
(18.)	Shale with coal	3	0		
	Coal	0	6		
	Soft sandstone with shale and coal	6	6		
				10	0
(19.)	Coal	3	0		
	Shale	0	9		
				3	9
(20.)	Coal	1	0		
	Shale	1	10		
	Coal	0	6		
	Shale	0	4		
	Coal	2	0		
				5	8
(21.)	Coal	...		20	0
(22.)	„	...		18	0

Two well-defined faults occur in this basin, as shown on the map, thus dividing it into three areas.

The Higher Levels, the coal-bearing portion of which commences about 30 chains to the north of Mount Frederick, contain a seam of coal varying in thickness from 5 feet to 37 feet, which is of good sound quality throughout, but different in character from that in the Waimangaroa Basin. It covers a considerable area, but at the same time denudation has removed an enormous quantity of coal, as is evidenced by the appearance at the surface, over the whole of the lower part of this area, of the lower grits, with occasional patches of broken coal lying upon them.

The Middle Levels, which form the most important part of this basin as regards the quantity of coal which they contain, have a seam of coal running through them, varying in thickness from 30 feet to 53 feet and upwards, of which the lower two-thirds is of good sound quality, the upper part of the seam being so much broken and crushed as to render it comparatively useless. An average thickness throughout this area of 30 feet might, I think, be calculated upon with certainty of available character.

The Lower Levels, which extend from the face of the lower fault to the Ngakawau and Crane's Cliff, do not give many outcrops of coal. In Crane's Cliff, a thickness of 20 feet appears, which is considerably crushed, but still is sufficiently good in character to warrant working, if the extent be proved. The other outcrops only give a thickness of coal varying from 1 foot to 3 feet, and whether these belong to the same seam or not remains to be seen, and I will make further mention of this in the course of this report.

Slip Coal.—At the base of Crane's Cliff coal also occurs, of about 18 feet in thickness, lying at an angle of 45°, and being evidently a slip from that in Crane's Cliff. It is overlaid by fine grits, and then by the black marls, but no good section can be obtained at this point to prove whether conformably or otherwise. This coal has been worked to a small extent, and then abandoned, by the Albion Mining Company.

I was at first inclined to believe that the main seam in the Ngakawau Basin was the same as the upper one in the Waimangaroa Basin, as it resembles it more in appearance than it does the lower one; but the occurrence of an upper seam, 1 foot thick, in Section 14, in addition to the fact that in the lower levels of the Ngakawau we only get sections of coal varying from 1 foot to 3 feet in thickness, except at one point, lead me to believe that this main seam is identical with the lower seam of the Waimangaroa, and that the outcrops of thin coal which are got at Sections 18, 19, and 20 are outcrops of the upper seam. If this be the case—and it would seem to be borne out by the improbability that a seam of coal would thin out from 40 feet to 3 feet in a distance of about a quarter of a mile while the dip remains the same—the lower seam would, in all probability, be continuous over the whole of this area. The analyses also appear to offer evidence in favour of this theory, as they vary indefinitely among themselves, and those of samples from one basin appear generally to have their counterparts, as far as chemical composition is concerned, in the other.

The following is a list of the analyses which have been performed by this department of the coal from this district; and I have simply divided them between the two basins to show the general qualities of each:—

Waimangaroa Basin.

Evap. Power.	Fixed Carbon.	Volatile.	Water.	Ash.	Remarks.
7·7	59·32	28·68	6·01	6·02	Non-caking.
9·0	69·00	29·78	·60	·62	Cakes strongly.
8·0	62·09	30·96	6·43	·52	Cakes slightly.
7·4	57·48	37·64	4·57	·31	,, ,,
7·6	58·41	35·02	5·19	·48	Caking.
6·0	46·01	30·81	11·52	11·66	Non-caking.
8·7	66·86	29·07	2·04	2·03	Cakes strongly.

Ngakawau Basin.

Evap. Power.	Fixed Carbon.	Volatile.	Water.	Ash.	Remarks.
8·5	65·28	26·64	6·51	1·57	Non-caking.
9·4	72·48	21·32	5·55	·75	Scarcely cakes.
8·2	63·29	32·43	3·90	·38	Caking.
9·1	70·56	28·67	·39	·38	Non-caking.
8·2	63·16	33·53	2·92	·39	Cakes strongly.
5·4	42·40	36·60	9·20	11·80	Caking.
8·1	62·13	33·34	3·94	·59	Non-caking.

This completes the description of the coal of this area, but I may add that in many cases the ash is red in colour, denoting the presence of iron, probably as pyrites, which would of course render the coal more or less sulphurous. This ingredient is, however, present in such small quantities, as a rule, that it cannot be looked upon as prejudicial to the coal.

Where can this coal be worked to advantage?

This is of course a matter of great importance, and many things have to be considered, of which the following may be looked upon as the most essential:—

(1.) What is the quantity and quality of coal?
(2.) What are the means of conveyance to lower levels?
(3.) What would be the comparative cost of procuring timber?

The following is a rough estimate of the quantity of coal in the field, it being, I believe, rather under than over estimated:—

Waimangaroa Basin		32,000,000	tons.
Ngakawau Basin	High levels	36,000,000	„
	Mid levels	56,000,000	„
	Low levels	16,000,000	„
Total		140,000,000	„

The coal in the Waimangaroa Basin is of a very good quality, being a hard sound coal, which forms a very light firm coke, and could be worked with the smallest amount of waste possible. It is, however, very badly situated as regards means of transit, and will, I am afraid, be the last part of the field to be worked, notwithstanding the quality of the coal.

In the Ngakawau basin the coal on the high levels is of a good sound quality, but more fragile than that in Coalbrookdale, although it certainly comes next in quality to that. This area possesses the greatest advantages of any for the transit of the coal, a good leading spur running, at a distance of about thirty chains from the face of the coal where the main drive would be put in, with an easy gradient, to the immediate vicinity of the railway. A self-acting tramway, constructed in three stages, would thus conveniently work the whole of this area, containing 36,000,000 tons of coal, a small winding engine only being required to draw the trucks to the top of the tram.

In the middle levels, as before mentioned, the upper part of the coal is crushed, but a very modest estimate of the quantity of good coal gives as much as 56,000,000 tons, which renders this at once the most important part of the coal field.

It does not present any great difficulties in the mode of transit, although involving a considerable outlay, as a tramway of about two miles in length would have to be constructed from the Ngakawau to the face of the coal; but as a gradient of 1 in 6 could be got for this, along the line which I have shown on the map, it would be self-acting, and the first expense would be the greatest, and the quantity of coal would fully justify the expenditure.

In the lower levels the quantity of coal is not yet proved, and it would be advisable, before commencing to work this area, to put down a few bore-holes to prove the amount of coal. If these prove satisfactory, I think the best means of transit would be down Rome's line, from the face of the coal to where Rome's line crosses the line I have pointed out for working the middle levels; but this is open to further consideration.

With regard to timber suitable for mining purposes, the greater part of this field is utterly devoid of any, with the exception of the low levels and a few patches of no great extent scattered over the field, so that timber would have to be brought to the place, and it becomes a matter of importance to use as little and as light timber as can be employed with safety.

This brings me to the question of how these thick seams are to be worked to the best advantage, and I cannot do better than cite a few methods which have been employed under similar circumstances.

The "Dudley 10-yard coal" has been worked on a system known as "square work," which consists in putting a main drive in through the lower coal, ventilating it by means of a separate air-head. From this the main workings are opened in the form of squares, fifty yards to the side, shut off by a rib of coal seven or eight yards thick, an entrance being effected through a narrow bolt-hole. These squares are worked out in stalls ten yards wide, leaving pillars ten yards square, and the whole seam is thus worked out at one lift. When the roof begins to break, the square is abandoned, and a dam put in the bolt-hole, thus isolating this deserted square from the main workings.

Of course ordinary timbering is useless to support so high a roof, and the work is doubtless the most dangerous that can be engaged in, added to which an unnecessary amount of waste takes place from the crushing of the pillars, and the impossibility to work the coal any longer than the roof will stand of itself.

This system has of late years been superseded by the method of working the coal in two lifts, on the long-wall system, with a greatly increased yield of coal; but even this system is hardly satisfactory, as the death rate from falls of the roof in this district still continues to be very high.

The most successful system yet adopted is that employed in the Department of the Saône et Loire, where, at Montceau, near Blanzy, the seam is no less than 78 feet thick, which would render it the nearest approach which we can find to our own coal fields. It is entitled "working by remblais." This system consists in taking out horizontal slices of coal about seven feet thick, commencing at the bottom of the seam and filling in the space with stone and earth from the surface. A band of coal of the same thickness as that taken out is left above this, and then another slice taken out and filled in, in a similar manner. After a few months this filling is found to solidify sufficiently to form a roof for the working of the intermediate coal which has been left. The plan of working may, of course, be on the "post-and-stall" or "long-wall" systems, as may be most convenient.

As the returns to the Government will, of course, depend upon the quantity of coal exploited, I would respectfully suggest that, before granting mining leases to any companies, a stringent set of rules be drawn up, defining within certain limits the system of working to be employed, as by no other means can the maximum yield of coal be relied upon, and a guarantee be obtained that the mines will not be so mismanaged as to waste a large proportion of the coal, or even render it necessary to close the mine long before such a proceeding ought to be required; and, at the same time, if the workings are not carried on in a systematic manner and with every precaution, life would be endangered to an unnecessary extent. To see these rules carried out, if formed, would necessitate the presence of a resident inspector of mines on the West Coast; but when it is considered that, by charging a royalty of 6d. per ton on the coal, a sum of £3,500,000 would accrue to the Government, the expenses thus incurred would I think be justified.

With regard to the further prosecution of the survey, Mr. Denniston is at present engaged on the western slopes of the coal field, where there is some quantity of slip coal being worked by Messrs. Roche and Co., the extent of which yet remains to be proved. It is lying at a high angle, and I am inclined to

COAL FIELDS OF NEW ZEALAND

GEOLOGICAL MAP OF

BULLER COAL FIELD

Accompanying Report of Ass^t Geologist dated 1st July 1875.

— SCALE —

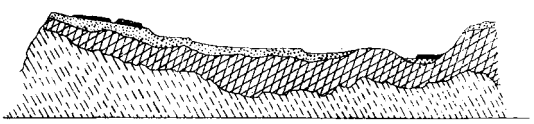
— REFERENCE —

- *Granite*
- *Slates (Trias)*
- *Lower Grits*
- *Upper Grits* } *Coal Areas*
- *Black Marls* } *Coal Areas*
- *Coal Outcrops*
- *Boundaries of Coal Basins.*

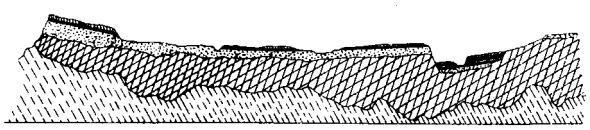
Section 1

Section 2

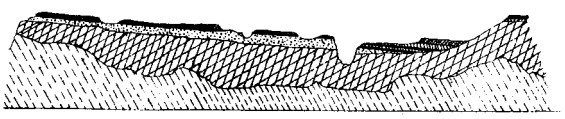
Section 3



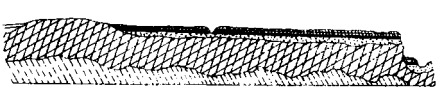
Section 4



Section 5



Section 6



Section 7

think will not be found over any very great area, but this will be settled in the course of a month or two.

Several good outcrops of coal have been found in the upper part of the valley of the Cascade Creek, which rises between the summits of Mount William and Mount Rochfort, and pursues a southerly course to the River Buller, into which it falls, about ten miles above Westport; the coal here is evidently a slip from that in Coalbrookdale, which it strongly resembles in character, but its extent is not yet known. Mr. Cooper proposes, and I entirely concur in his proposition, that a rough survey of this part be first undertaken to prove, approximately, what quantity of coal there is, and whether it would be worth while to spend much time in making a detailed survey of it.

The only outlet for this coal when raised would be by tram or railway down the creek and alongside the north bank of the Buller to Westport, a distance of say fourteen miles, six of which, at the Westport end, would be of easy construction, and the remainder over sideling ground more or less steep.

Near the head of the Orikaka saddle an outcrop of coal has been found, of good quality, superior hardness, and slight dip, having the appearance of being steady and of considerable extent. The country hereabouts is flatter and much less broken than most of the country of the neighbourhood. It would be somewhat troublesome and expensive to carry stores so far inland, but Mr. Cooper thinks it advisable to extend the survey in this direction as far as good indications of coal are found.

Between the Ngakawau and Mokihinui good samples of coal have been found cropping out at various points; and as the river has a good entrance, and is generally availabale for vessels drawing eight feet of water (*vide* Mr. Cooper's report), a moderate trade could be carried on until the Westport and Ngakawau Railway could be extended. Mr. Cooper thinks it advisable to extend the survey to this block, reaching to a distance of five or six miles inland, as far as results appear to warrant, but as the whole of this country is covered with bush the cost would be much greater than that of the work which has been already done.

Of the large number of lease and license holders on the Buller coal field, Mr. Cooper reports that only three have done anything towards prospecting for or developing the coal within their areas—viz., Roche, Mulhilland, and Overhagen.

Roche and party, who hold a prospecting license on the south side of the Waimangaroa, near its outlet from the Gorge, have put in a drive 200 feet long into the seam which cropped out upon their ground near the bank of the river. The coal, which was at first mere dust, has improved somewhat as they have driven into the hill, but it is still too soft for export. They are now about to test the quality of another outcrop a little higher up the hill, and they express the hope that this will prove a harder coal.

Mulhilland (*or Sims and party*) hold a prospecting license on the north bank of the river, immediately opposite Roche's. It is on their ground that the drive put in three years ago, under Dr. Hector's directions, is situated, and lately they have commenced to put in another drive somewhat higher up the hill, the result of which will probably not be known for a month or two.

Overhagen and party, Cascade Creek, have had a surveyor upon the ground, and made their selection for lease. Overhagen has again proceeded to Melbourne with plans and other information on the capabilities of the ground, and has not yet returned. There appears, however, to be a fair prospect of capital being forthcoming this quarter to develop the mine.

No time should be lost in at once proceeding to develop the vast stores of mineral wealth on the plateaux of Mounts Rochfort and Frederick; and unless a great change takes place shortly in the action of the various parties amongst whom the whole of the known coaliferous ground on this coal field is at present divided, it will be many years before the object for which the railway and harbour works have been undertaken is attained.

A lode has recently been discovered in this neighbourhood by Mr. Liddell, which from a rough inspection appears to be principally composed of an alloy of antimony and lead, sulphur also occurring in it, but only in small proportions. It is reported to occur in the granite, and strikes North to South which appears to be the line of strike of true lodes in this district. As far as it has been traced, the lode varies from $3\frac{1}{2}$ inches to 11 inches in width, and is dipping to the east at the low angle of 20°. The discovery of this mineral is of great interest, and will no doubt give rise to a further examination of this part of the country for metalliferous lodes, which, from the juxtaposition of the granite and slate in the neighbourhood, may be looked for with a considerable prospect of success.

The black marls which overlie the top grits of the coal measures, as before mentioned, at one or two places, are the same as those which appear above the brown coal of the North Island, and the sequence of the strata above them is much the same in both cases. As conformity exists from the black marls down to the bituminous coal in this district, the conclusion is, that the geological age of the brown coals of the North Island is the same as that of the bituminous coals of the West Coast of the South Island; and, as in Wales, we get bituminous coals passing into anthracite, I see no reason to doubt that the brown coals here may pass into bituminous coals under favourable conditions, as they appear to have done in the Buller and Grey Coal Fields.

I have, &c.,

S. Herbert Cox, F.C.S., F.G.S.,
Assistant-Geologist.

The Director of Geological Survey.

By Authority: George Didsbury, Government Printer, Wellington.