

1894.  
NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY  
(ANNUAL REPORT ON).

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

CONTENTS.

	Page.		Page.
<b>GENERAL REPORT BY THE SURVEYOR-GENERAL—</b>		<b>APPENDIX No. 1—</b>	
Lands—		Administration—	
Work of the Department .. .. .	i	Reports of Commissioners of Crown Lands—	
Special-settlement Associations .. .. .	iii	Auckland .. .. .	1
Village Settlements .. .. .	iv	Holdings visited .. .. .	2
Improved Farm Settlements .. .. .	iv	Taranaki .. .. .	2
Reserves .. .. .	iv	Hawke's Bay .. .. .	4
Settlement Conditions, Forfeitures, &c. .. .. .	iv	Wellington .. .. .	5
Pastoral Runs .. .. .	v	Summary of improvements effected .. .. .	8
Arrears .. .. .	v	Marlborough .. .. .	9
Re-valuations .. .. .	v	Area of Crown lands available for settle- ment .. .. .	10
State Forests .. .. .	v	Nelson .. .. .	10
"Land for Settlements Act, 1892" .. .. .	vi	Canterbury .. .. .	12
The "Cheviot" Estate .. .. .	vi	Statement A.—Disposition of Lands .. .. .	15
Comparative Statement of Tenures for eleven years .. .. .	vii	"    B.—Summary of Deferred-pay- ment Holdings in North Canterbury .. .. .	16
Thermal Springs, &c. .. .. .	vii	Summary of Perpetual-lease Holdings in North Canter- bury .. .. .	16
Endowments .. .. .	vii	Summary of Village-home- stead Settlements in North Canterbury .. .. .	17
Revenue .. .. .	vii	Westland .. .. .	18
Naval and Military Settlers .. .. .	viii	Otago .. .. .	19
Surveys—		Summary of Land Transactions .. .. .	19
Summary of Area and Cost .. .. .	viii	Southland .. .. .	23
Trigonometrical and Topographical Surveys .. .. .	viii	Summary of Crown Lands Rangers' Reports .. .. .	23
Settlement Surveys .. .. .	ix	Summary of Crown Lands Surveyed .. .. .	23
Native Land Court Surveys .. .. .	ix		
Gold and other Mining Surveys .. .. .	x	<b>APPENDIX No. 2—</b>	
Road and Railway Surveys, &c. .. .. .	x	Surveys—	
Miscellaneous Work .. .. .	x	Reports of Chief Surveyors—	
Roads and Bridges .. .. .	x	Auckland .. .. .	24
Statement showing Blocks of Land proclaimed, &c., under "The Government Loans to Local Bodies Act Amendment Act, 1891" .. .. .	xii	Hawke's Bay .. .. .	25
Departmental and General .. .. .	xiii	Taranaki .. .. .	26
Head Office—		Wellington .. .. .	27
Report of Chief Draughtsman .. .. .	xiii	Nelson .. .. .	28
Statement of Lithographic Printing and Photo- graphing .. .. .	xv	Marlborough .. .. .	29
Report of Chief Clerk .. .. .	xv	Westland .. .. .	30
Accountant .. .. .	xvi	Canterbury .. .. .	31
Table No. 1.—Surveyors Employed, and Work on Hand .. .. .	xvi	Otago .. .. .	32
" 2.—Crown Grants and other Instruments of Title prepared .. .. .	xvii	Results of Closures of Work .. .. .	33
" 3.—Plans placed on Crown grants, &c. .. .. .	xvii	Table of Chainage Closures in Woodland District .. .. .	34
" 4.—Work done under Land Transfer Act .. .. .	xvii	Southland .. .. .	35
" 5.—Work done for other Departments and Local Bodies .. .. .	xvii		
" 6.—Payments to Local Bodies from "Thirds" and "Fourths" .. .. .	xviii		

	Page.		Page.
APPENDIX No. 3—		APPENDIX No. 6— <i>continued.</i>	
Roads—		Explorations— <i>continued.</i>	
Reports on Maintenance and Construction—		Franz Josef Glacier from Camp No. 6 (to follow above).	
Chief Surveyor, Auckland .. .. .	35	Views on Franz Josef Glacier (to face p. 74).	
Mr. C. W. Hursthouse .. .. .	39	Franz Josef Glacier from Peter's Pond (to follow above.)	
Mr. G. T. Murray .. .. .	40	Report on Franz Josef Glacier (Mr. A. P. Harper)	75
Taranaki (Mr. G. F. Robinson) .. .. .	43	Franz Josef Glacier, in the Rough Ice (to face p. 76).	
Chief Surveyor, Hawke's Bay .. .. .	45	Franz Josef Glacier, from Camp No. 2 (to follow above).	
Wellington (Captain Turner) .. .. .	46	Lake Mapourika and Lower Portion of Glacier, from Trig. Station 1.0. (to follow above).	
Mr. R. H. Reaney .. .. .	49	Franz Josef Glacier: The Outlet (to face p. 78).	
Chief Surveyor, Marlborough .. .. .	51	Report on the South-west of Lake Manapouri (Mr. T. Mackenzie, M.H.R.) .. .. .	79
Chief Surveyor, Nelson .. .. .	52	Map of Explorations: T. Mackenzie, M.H.R., and W. S. Pillans (to follow above).	
Chief Surveyor, Canterbury .. .. .	53		
Mr. F. S. Smith .. .. .	54	APPENDIX No. 7—	
Chief Surveyor, Westland .. .. .	55	Wanganui River Steam-service .. .. .	80
Chief Surveyor, Otago .. .. .	57	S.S. "Wairere" at Pipiriki, Wanganui River (to face p. 80).	
Mr. G. M. Barr .. .. .	58	Hiruharama (Jerusalem), Wanganui River (to follow above).	
Chief Surveyor, Southland .. .. .	58	Wakapoka, Wanganui River (to follow above).	
APPENDIX No. 4—		APPENDIX No. 8—	
Co-operative Works—		Notes on the present state of the country immediately round the site of the eruption of Tarawera (Surveyor-General) .. .. .	81
Report of Chief Surveyor, Auckland .. .. .	60	Map of the Rotomahana Basin (to face p. 82).	
Mr. Hursthouse .. .. .	60	Mount Tarawera and Lake Rotomahana (to follow above).	
Chief Surveyor, Hawke's Bay .. .. .	61	APPENDIX 9—	
Mr. Reaney (Wellington) .. .. .	61	Report on Village Homestead Settlements (Mr. J. E. March) .. .. .	83
Return showing number of men employed in Pahiatua District .. .. .	62	Statement showing position of Village Special Settlements .. .. .	85
Return showing earnings of men employed in Pahiatua District .. .. .	62	Summary, Village Homestead Special Settlements .. .. .	86
Captain Turner (Wellington) .. .. .	62	Return of number of Horses, &c. (Auckland) .. .. .	87
Chief Surveyor, Westland .. .. .	63	APPENDIX No. 10—	
A. Cross, Otago .. .. .	63	Report on Chasland's Improved Settlement Farms .. .. .	87
Chief Surveyor, Southland .. .. .	65	APPENDIX No. 11—	
APPENDIX No. 5—		Correspondence with Agent-General re reduced passages to New Zealand .. .. .	88
Thermal Springs—		Map showing Roads to open Crown Lands (to face p. 98).	
Report on Rotorua (Mr. C. Malfroy) .. .. .	67	Map showing State of Public Surveys (to follow above).	
Report on Geysers at Orakeikorako (Mr. C. Malfroy) .. .. .	68	Map showing Land Transactions, 1893-94.	
Plans and Section of Orakeikorako Geysers (to face p. 68).		Sketch of Middle Island about 1841 or 1842.	
Report on Hanmer Springs (Mr. J. Rogers) .. .. .	69	Table No. 7.—Statement showing Contracts Completed under the Co-operative System .. .. .	
APPENDIX No. 6—		8.—Return of Field Work executed by Staff and Contract Surveyors .. .. .	
Explorations—		9.—Statement showing Expenditure and Work done on Roads .. .. .	
Report on Ruapehu (Mr. W. H. Dunnage) .. .. .	70		
Crater Lake, Ruapehu (to face p. 70).			
Ohakune, with Ruapehu in the distance (to follow above).			
View on Ruapehu (to follow above).			
Report on the Westland Alps (Mr. C. E. Douglas)	71		
Topographical Plan of Waiho Country (to face p. 72).			
Geological Formation of Waiho Country (to follow above).			
Diagram of Flow of Glacier (to follow above).			
Terminal Face, Franz Josef Glacier (to follow above).			
Waiho Country, Mountain Vegetation (to follow above).			

1894.

NEW ZEALAND.

# DEPARTMENT OF LANDS AND SURVEY

(ANNUAL REPORT ON).

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

The SECRETARY of CROWN LANDS and SURVEYOR-GENERAL to the Hon. the  
MINISTER of LANDS.

SIR,— Department of Lands and Survey, Wellington, 23rd June, 1894.  
I have the honour to transmit herewith the annual reports on the operation of the Lands  
and Survey Department for the twelve months ending the 31st March, 1894.

I have, &c.,

S. PERCY SMITH,

Secretary for Crown Lands and Surveyor-General.

The Hon. John McKenzie, Minister of Lands.

## LANDS.

DURING the year which ended on the 31st March last the lands have been administered under "The Land Act, 1892," and regulations made under the powers therein contained. In the session of 1893 an Amendment Act was passed, the principal object of which was to correct some technical defects in the main Act, but the opportunity was taken to make an alteration in the system which had previously obtained in respect to deposits with applications. The amending Act did away with the necessity for money deposits, and substituted an obligation to pay the requisite deposits so soon as the successful applicant became known. The effect has been to do away with unnecessary book- and account-keeping, which in many cases entailed serious delays in the return of deposits, and constant friction with the depositors. On the other hand, the new system no doubt encourages a larger number of applications, up to the limits allowed; but it nevertheless is a distinct improvement on the old system.

Whilst the Act of 1892 is that under which the majority of transactions take place, there is a provision in that Act (section 114) which keeps alive a class of transactions that otherwise find no place in the present land-laws. Hence, the tables appended continue to show selections under the otherwise obsolete headings of deferred-payment and perpetual-lease systems. The transactions during the year, however, have been few, and, from the circumstances of the case, must be a gradually diminishing quantity.

To afford a comprehensive view of the year's operations relating to the ordinary Crown lands, to the Cheviot Estate, and to lands acquired under the Land for Settlements Act, the following table has been compiled:—

	No. of Purchasers or Selectors.	Area.			Cash received on Past and Current Transactions.						
		A.	R.	P.	£	s.	d.				
Town lands .. .. .	142	75	2	23	}	20,000	2	11			
Suburban lands .. .. .	67	358	2	5							
Rural lands .. .. .	249	33,200	0	25							
Deferred payments .. .. .	96	12,668	2	5					48,225	10	3
Perpetual lease and small areas .. .. .	17	3,854	0	9					39,834	0	8
Lease in perpetuity .. .. .	447	151,324	0	12					4,262	2	1
Occupation with right of purchase .. .. .	461	108,133	0	28					4,230	9	9
Agricultural lease .. .. .	5	364	3	35					400	1	5
Village settlement, cash .. .. .	3	2	0	24					30	0	0
" deferred payment .. .. .	..	..	..	..					1,982	17	11
" perpetual lease .. .. .	..	..	..	..	886	4	9				
" occupation with right of purchase .. .. .	5	1	1	0	0	16	0				
" lease in perpetuity .. .. .	208	3,953	0	6	495	3	2				
Village homestead special settlement (lease in perpetuity)	53	1,021	0	5	2,382	11	2				
Special-settlement associations .. .. .	290	68,852	0	0	10,594	19	3				
Small grazing-runs .. .. .	124	226,669	3	17	20,483	5	3				
Pastoral runs .. .. .	85	646,253	0	4	104,452	14	11				
Cheviot Estate—											
Town lands, cash .. .. .	31	7	1	22	776	0	0				
Rural lands .. .. .	8	1,357	0	25	3,955	5	8				
Lease in perpetuity .. .. .	95	23,251	2	36	3,047	5	11				
Village homestead special settlement (lease in per- petuity) .. .. .	65	1,528	2	6	302	3	9				
Grazing-farms .. .. .	18	26,023	0	0	1,842	10	1				
Land for Settlements Act—											
Lease in perpetuity .. .. .	70	5,417	3	0	770	17	3				

The figures in the above table may be classified again under a few headings, in order to compare them with similar ones of previous years. In this table, the smaller holdings, known generally as village holdings, come under one of the three recognised tenures of cash, deferred payment, or some form of lease. The differences are really more in name than anything else:—

	1891.		1892.		1893.		1894.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		Acres.		Acres.		Acres.		Acres.
Cash .. .. .	661	100,222	581	40,930	627	36,882	500	34,999
Deferred payment .. .	315	35,081	246	40,649	198	21,474	96	12,668
Perpetual lease .. .	854	290,248	1,036	287,664	549	125,192	17	3,854
Occupation with right of purchase .. .	..	..	..	..	161	54,271	471	103,499
Lease in perpetuity .. .	..	..	..	..	964	212,701	1,228	255,348
Pastoral runs .. .	195	1,682,761	206	1,004,416	119	1,104,226	227	898,945

The deferred-payment and perpetual-lease selections included in the columns for 1894 comprise cases which come under the 114th section of "The Land Act, 1892," already referred to, under which a settler holding not more than 640 acres under either of those tenures may select adjoining Crown lands up to that limit, to be held under the same tenure as his original selection; but the greater number of this class of selections shown in the table were made under the old Nelson system, which were not completed at the date of last return. It will be noticed that the selections under the lease-in-perpetuity system are much more numerous than under any other. This is largely due to the fact that special-settlement associations, village settlements, and village homestead special settlements can only be selected under that tenure; there is no choice, as in the case of the ordinary Crown lands thrown open for optional selection. In order to arrive at an approximate idea of which system of tenure takes most with the public, the rural lands dealt with under Part III. of the Act must be referred to. As, however, the totals include in them the cases of cash selections coming under the 114th section, the results are not exact. Bearing the above remarks in mind, the figures will stand as follows: Cash selections, 249; lease in perpetuity, 447; occupation with right of purchase, 461. The latter system seems to be favoured in the Auckland District more than in any other part of the colony, as over half the total number of selections occurred there. This is due probably to the low value of the lands in that district, which thus offers a greater chance of securing the freehold between the tenth and twenty-fifth year of occupancy. Lands opened under the village homestead special-settlement system, the special-settlement-association system, the greater part of the Cheviot Estate, and lands acquired under the Land for Settlements Act are offered under the lease-in-perpetuity system without option of tenure, and all these go, therefore, to swell the returns under that heading. Nevertheless, the lease-in-perpetuity system seems, as shown by the figures, to be a favourite with the public in all other districts but Auckland, and, to the man of small means, the advantage of having to pay only a 4-per-cent. rental on the capital value of the land—thus freeing his capital for the development of his estate—are manifest.

The total number of selections of land on all systems is 2,876, but this includes 337 purchases or selections of miscellaneous leases and licenses which cannot in all cases be included in permanent settlement, for some of the leases and licenses are for temporary purposes and short terms. If these and the pastoral leases—85—and town sections—173—are omitted also, we shall arrive at the number of settlers who may be considered as having selected for the purpose of occupying the land. This number is 2,281, a decrease of 161 on the same figures for last year. These figures do not include several associations with whom arrangements have been completed as to the selection of their blocks, for until the ballot for the individual sections takes place they are not entered in the returns. The total number of selections under all headings, as compared with last year, shows a decrease of 195 selections, the figures being: 1893, 3,071; 1894, 2,876. The decrease in number of selectors is, no doubt, largely due to the fact that the area of Crown lands to select from is very much less, and they are also often very inaccessible. In many districts the want of available lands is felt very severely, and is retarding settlement to a considerable extent. There have been also many causes in the circumstances of the colony which have affected all systems, but more especially the selection of rural lands for cash. The cash-sales shown in the returns do not include the Mansion Block at Cheviot, as the sale was not completed until a few days after the financial year closed.

In order to arrive at the average size of holding taken up during the past twelve months, town lands, miscellaneous leases and licenses, pastoral runs, and small grazing-runs are excluded; the rest represent more or less close settlement, in which the soil is the mainstay of the selector. The average comes out at 194 acres, that for the previous year being 190 acres. In these figures are included the special-settlement associations, the average size of sections in which must, by law, be 200 acres. As, however, small grazing-runs and the Cheviot grazing-farms may properly be included in the term "settlement-lands," by including these we get an average-sized section of 292 acres.

The mean prices at which lands have been disposed of for the last year, exclusive of the Cheviot Estate and lands acquired under the Land for Settlements Act, have been: For cash, 13s. per acre; for occupation with right of purchase, 14s. 9d. per acre; for lease in perpetuity, 17s. 6d. per acre—prices which do not differ materially from those of the year before.

The area of land thrown open for selection, including Cheviot Estate, and lands acquired under The Land for Settlements Act, are as given below. This table does not, however, represent so much new land for the first time opened for selection, as it includes all forfeitures and change of systems. Much of it remains open for selection at the present time.

	Town, Suburban, and Rural Lands.	Pastoral Lands.
	Acres.	Acres.
Auckland ... ..	205,989	232,273
Hawke's Bay ... ..	34,667	24,929
Taranaki ... ..	9,643	...
Wellington ... ..	64,114	...
Nelson ... ..	43,194	...
Marlborough ... ..	38,500	...
Canterbury ... ..	124,099	39,528
Westland ... ..	574	224,000
Otago... ..	225,151	327,266
Southland ... ..	299,721	899,133
Totals ... ..	1,045,652	1,747,129

The above figures include lands both surveyed and unsurveyed; a great deal of it is second class, and only suitable for working in good sized areas; some of it is difficult of access, and presents at present little attraction to the selector. The approximate area of Crown lands remaining, exclusive of any pastoral leases which may fall in and prove suitable for smaller settlement, is about 11,000,000 acres, but the greater part of this is mountainous and quite useless for settlement. There cannot be more than 4,000,000 acres of this that can be utilised for settlement or pastoral purposes.

With regard to lands which remain in the hands of the Natives in the North Island, the following is a rough approximation—exact figures cannot be given because the tenures are changing from day to day:—

	Acres.
Land which has passed the Native Land Court ... ..	About 8,000,000
Land which has not passed the Native Land Court ... ..	" 2,260,000
	<hr/> 10,260,000

This land varies very much in quality, and much of it is unsuited for settlement—at any rate, for a great many years to come. A large portion of this area is required for the maintenance of the Maori people themselves. It is difficult to get at any reliable data as to how much of this country is suitable for settlement in sections, say, up to 2,000 acres, but it is probable that 3,000,000 acres is an outside limit. Of land which may properly be called agricultural, there are very few blocks of any extent, though a considerable part of the 3,000,000 acres might be used for pastoral purposes in blocks up to 2,000 acres. Nearly all of it requires a large expenditure on roads before it could be rendered available for settlement, and from the nature of the country this would be an expensive operation. Some valuable blocks of Native land, comprising about 346,000 acres, have been acquired during the past year, which will come in for settlement during the next, amongst which may be included a part of the Awarua country—over 140,000 acres—which is situated inland of Hunterville, and through which the North Island Main Trunk Railway will pass, and which is already provided with a good main road leading from Hunterville to Lake Taupo.

The lands selected by the Midland Railway Company under their contract with the Government up to the 31st March last was 282,329 acres. This area does not include the lands held in trust under the 28th clause of the contract, which amounts to 84,262 acres. A certain amount of settlement takes place on the lands selected by the company, but to what extent is not known, but it is probably not so much as would be the case were the lands in the hands of the Crown, and the whole of the area available for settlement. This especially would be the case in Nelson and Westland, where very large areas are withheld from settlement, and where practically no settlement is going on within the proclaimed area.

#### SPECIAL-SETTLEMENT ASSOCIATIONS.

Table O, appended hereto, gives the particulars of this class of settlement. The number of selections made under this system since it was first inaugurated under "The Land Act, 1885," up to 31st March, 1893, is 1,824, which includes only those in which the individual selections have been made, the total area within the fifty-one association blocks being 267,243 acres.

During the past year ten additional blocks have been balloted for, the number of selectors being 290, and the total area selected 68,852 acres. In addition to the above, preliminary arrangements have been made with twenty-two associations, composed of 845 selectors, with an area of 173,048 acres, but the position only of the blocks has been decided, the surveys, though in progress, not being in a sufficiently advanced state to allow of ballot for individual selections. The particulars of these twenty-two associations are shown in Table O so far as is possible, but the areas are subject to revision on survey, and the full particulars will only appear in next year's returns, to which they properly belong. Though a considerable number of extra surveyors have been employed during the year, it has been found impossible to complete all the surveys of the association blocks taken up, which is greatly due to the rough country in which some of the blocks are situated, requiring extra care and time in laying out the road-lines and arranging boundaries.

It cannot yet be stated what improvements have been made on the association blocks taken up within the last two years, for by the terms of the regulations the time for inspection has not arrived. It is known, however, that many of the settlers are clearing and grassing their lands, and others are engaged on the roadworks which are necessary to give access to the land.

With respect to the old association blocks, which have been in existence for some years, a large amount of work has been done on them, but, as the law under which they were selected allows of

non-residence if double the amount of improvements are done, the proportion of residents to owners is very small indeed, however well the conditions of improvements have been observed.

#### VILLAGE SETTLEMENTS.

The appended report of the Superintendent of Village Settlements gives full details of the progress of the village homestead selectors, which must be considered satisfactory. This is the system under which the Government is empowered to make advances to settlers for house-building and clearing the land. During the past year only fifty-three selections were made, and the area selected was 1,021 acres, the land being situated in the Canterbury District. The number of settlers under this system is 908, and the amount advanced last year was £604, the gross amount advanced since the initiation of the scheme in 1886 being £25,258. The total number of settlers under all conditions of village settlements who occupy land under special regulations is 1,157, the area being 27,314 acres, or an average of 23½ acres to each settler.

The ordinary village-settlement system differs from the village-homestead system in so far that no advances are made to the settlers. The lands are disposed of either for cash, occupation with right of purchase, or lease in perpetuity, as may be defined in the regulations issued in each case. Tables I, L, and M show the results for the year, from which it will be seen that 208 selectors took up 3,953 acres on the lease-in-perpetuity system, or an average of 19 acres to each holding. One of these village settlements is situated at Te Anaraki, in Otago, on lands purchased under the Land for Settlements Act, and the rents received are bringing in a little over 5 per cent. on the outlay; others are on the Cheviot Estate. (See Appendix No. 9.)

#### IMPROVED FARM SETTLEMENTS.

In order to furnish employment for men out of work, and with the idea of settling them down on the lands, a new departure was taken this last year, in the shape of setting aside areas of forest-land to be cleared by the men, at contract rates, and arrangements were subsequently made for burning and laying the lands down in grass. On the completion of a sufficient area of felling and grassing, the lands are to be divided into farms, to be let to those who cleared the land, at rentals sufficient to cover cost of clearing, &c. To effect this object Parliament voted £3,000 last session, and a total sum of £3,276 11s. was spent. Up to the 31st March blocks had been set aside for this purpose as follows: Chaslands, 2,500 acres; Woodlands, 1,500 acres; Pemberton, 1,200 acres; and considerable areas have been cleared, burnt, and sown. Hitherto, in one case only have the settlers been placed on the land—namely, near Chaslands, in Southland, where settlers have taken up farms under 100 acres in extent, have settled down on the land, and built homes for themselves; a report on the Chaslands settlement will be found in the Appendix No. 10. The Pemberton farm has been subdivided into sections of 140 acres and 150 acres, and eight families will, in a few days, ballot for choice. Excepting about 86 acres, the whole of the farm has been felled, burned, and sown in grass. The yearly rent which must be obtained to pay for the expenditure is about 3s. 6d. per acre for front sections, and 3s. per acre for those not on the main road.

#### RESERVES.

The following is a summary of the reserves made during the past year, for various purposes:—

	Acres.
Recreation ... ..	377
Primary and secondary education ... ..	5,135
Forest reserves, plantation, &c. ... ..	5,311
Miscellaneous ... ..	2,041

A good deal has been done in past years towards setting aside reserves for the preservation of the Native fauna and flora, and to insure to the public the right to places of natural beauty, but more might be done. There can be little doubt that the scenery of New Zealand is yearly the means of attracting a large number of visitors, who are a source of considerable revenue to the people and the State, and that this throng of visitors will increase year by year, as greater facilities are offered for seeing the natural beauties of the country, is certain. In connection with this it is suggested that a large reservation might be made of the mountainous country along the West Coast Sounds, which is quite unsuited for settlement, and thus secure for ever its great natural beauties for the benefit of future generations.

#### SETTLEMENT CONDITIONS, FORFEITURES, ETC.

Reference to the Commissioners' reports, extracts from which are attached hereto, will show that the selectors who have taken up land on conditions implying improvement of their lands are generally well forward with their obligations. The inspections by the Crown Land Rangers are well up to date on the whole, a result which has been attained only recently, in consequence of the employment of additional Rangers, and through the practical termination of the tedious revaluations under the Selectors' Land Revaluation Acts. The value of improvements shown in the tables embodied in the Commissioners' reports is very largely in excess of the requirements of law, and in that sense shows the *bona fides* of the settlers, who are clearly not holding for speculation. The selections to be inspected are now much more numerous than formerly, as the cash-purchasers have to make improvements before obtaining their titles as well as others. The actual increase in the number of properties to be inspected could not be given without going into tedious investigations, but as the periods under which the old deferred-payment, perpetual-lease, and other systems have to be inspected expire, the new selections take their place and outnumber them. This is the natural outcome of the present land-policy, which is, that those who occupy the land shall improve it also.

Many special inspections have been made by the Rangers during the year, who are now brought face to face with a class of work which requires a great deal more than ordinary care, for on their preliminary reports is generally based the decision as to whether lands offered to the Government under the Land for Settlements Act are referred to the Board of Commissioners or not.

At the date of last report there were 13,225 selectors recorded on the books of the department, some 11,000 of whom required to have their holdings inspected. On the 31st March last these numbers had increased to 13,948 in the first case, and to about 12,000 in the latter case. To perform the duties connected with this and the forest branch of the department, nineteen officers are kept constantly employed, besides the occasional assistance of the Survey staff.

The number of forfeitures, exchanges, and surrenders occurring last year were 223, covering an area of 104,041 acres.

#### PASTORAL RUNS.

Including small grazing-runs, the Cheviot grazing-farms, and pastoral leases properly so called, there were 227 selections or purchases for pastoral purposes, covering an area of 898,945 acres. The pastoral runs included in that area numbered 85, with an area of 646,253 acres, by far the largest area of which is situated in Otago, the greatest number being in Nelson, where the areas are small. The pastoral runs let were those in which the leases had expired and came in for re-leasing during the year, and were not so much new country taken up for the first time. These runs are let for varying terms up to twenty-one years. The greatest number of small grazing-runs were also taken up in Otago; these cover some of the pastoral runs resumed the year previous. The number of small grazing-runs forfeited and surrendered during the year was 27, covering an area of 64,495 acres. The grazing-farms at Cheviot are held on terms very similar to the small grazing-runs; in both cases residence (with a few exceptions) and improvements are compulsory.

#### ARREARS.

The arrears of rents due to the Crown show a decrease in number of selectors who are behind-hand, but no decrease in the total amount. The following table gives the arrears for several years past, exclusive of the arrears on miscellaneous leases and licenses which are only of a temporary nature, but which amounted to 214 cases, who were in arrear £1,522 :—

31st March, 1889	...	...	...	3,862 selectors, owing	£44,533
" 1890	...	...	...	3,755 "	52,891
" 1891	...	...	...	3,548 "	37,341
" 1892	...	...	...	2,612 "	25,256
" 1893	...	...	...	3,382 "	28,875
" 1894	...	...	...	3,104 "	32,205

The figures for last year, although showing an increase, must be considered satisfactory when the low price of grain and bad season in the South is taken into consideration, especially as a considerable amount has been paid off since. There will always be a certain amount of arrears, for most of the payments are only due on the 1st January preceding the 31st March, to which date the accounts are made up, and the half-yearly rents on pastoral- and small grazing-runs are only due thirty-one days prior to the same date.

#### REVALUATIONS.

The time during which applications for reduction in the value of selections could be received was extended by "The Selectors' Land Revaluation Act, 1892," up to the 1st January, 1894, and the operation of the Act extended so as to include agricultural leases and small grazing-runs. No transactions had taken place under the last two headings up to the 31st March, 1893, but up to the 31st March, 1894, a few cases were dealt with as shown in the table below, and a few more have yet to be completed.

District.	Deferred Payment.			Perpetual Lease.			Agricultural Lease.			Small Grazing-run.		
	No.	Area affected.	Loss in Capital Value.	No.	Area affected.	Loss in Rent.	No.	Area affected.	Loss in Rent.	No.	Area affected.	Loss in Rent
Previous years ..	1,356	Acres. 213,264	£ 154,938	573	Acres. 71,400	£ s. d. 1,812 0 7	..	Acres. ..	£ ..	..	Acres. ..	£ ..
Auckland ..	4	354	237	1	45	0 13 6	..	..	..	..	..	..
Westland ..	19	723	276	..	..	..	..	..	..	..	..	..
Otago ..	5	1,443	439	8	1,598	24 18 6	15	2,096	117	17	32,128	266
Total ..	1,384	215,784	155,890	582	73,043	1,837 12 7	15	2,096	117	17	32,128	266
Endowments, from last year's report	51	13,179	13,195	33	7,477	228 0 0	..	..	..	..	..	..
Total to date ..	1,435	228,963	169,085	615	80,520	2,065 0 0	15	2,096	117	17	32,128	266

Total loss in capital values ... .. £169,085  
Total loss in rentals ... .. 2,448

#### STATE FORESTS.

The total area of State forests at the date of last report was 1,136,467 acres, in which are included all classes of reservations connected with forests, whether for timber, climatic, plantation, growth of trees, or other purposes. The area which has been added during the past year is 5,311; consequently, the total area reserved at 31st March last was 1,141,778 acres.

No fires have been reported during the year, though there are within the reserved forests several areas where fire has occurred during previous years—notably, in the Puhipuhi Forest, where the fire ran through a large area some years ago, and in which the timber is fast depreciating in value. It has been found impossible up to the present time to deal with this dead timber, owing to the difficulty of getting it to market; nor can it be utilised until the railway in course of construction from Whangarei northwards has advanced further towards the forest. It is a question, however, whether, when that time arrives, it will not be too late, so far as the scorched timber is concerned. A portion of the Tairua State forest, which contains a great deal of kauri, was also burnt some time ago. It is proposed to deal with this by sale shortly, if possible. In all cases it would be wise to deal with the kauri timber growing outside the State forests before it gets burnt, a danger to which, from its inflammable nature, it is very liable. The Auckland Land Board has acted wisely in this respect, and has sold the land wherever the kauri is in isolated clumps, for in such cases it is almost impossible to prevent fires or depredations. In many cases the ordinary Crown lands, not included in the State forests, contain valuable timber, and where there are means of utilising this, it should be dealt with prior to disposing of such lands for settlement. There is no doubt that in several cases the growing timber is the most valuable crop the land will ever bear.

#### “LAND FOR SETTLEMENTS ACT, 1892.”

A special report on the dealings under this Act has been prepared, so it will only be necessary here to summarise briefly the year's proceedings. The offers of estates numbered 102, covering a total area of 913,266 acres, but the great majority of these cases had to be declined, because, however suitable for some form of settlement, they contained land which could not be divided into farms so small as the limit allowed under the Act—namely, 320 acres. In other cases the lands had on them large homesteads and equipments suitable for working large estates, or were in districts where the Crown already possessed lands available for settlement. Many of the properties offered were well suited for division into a number of holdings, but, still, not into 320-acre farms.

The Board of Land Purchase Commissioners held twenty-two meetings in various parts of the colony to consider cases referred to them, which resulted in ten properties being recommended for purchase, five of which have been bought, and one other is on the eve of completion. In four cases the owners declined the offers made to them. The five estates purchased contained 9,113 acres and 14 perches, and the total cost to date, including purchase, survey, administration, roads complete and to be completed, is £39,117 12s. 10d. In three out of the five estates all the farms have been let; in one case two, and in the other ten, remain on hand at present, but will no doubt be let soon, especially as the roadworks to give access are approaching completion. The total rental for which the lands are let to date is bringing in a return of 4·57 per cent. on the whole, whilst those cases in which the whole of the farms are let are paying over 5½ per cent. When all the lands are let the return will be 5·8 per cent. on expenditure.

There can be no question that, if there were power to increase the sizes of the holdings to suit the country offered, many very desirable estates could be acquired, in which the greater part would be suitable for small farms, with a certain proportion which could be utilised as grazing-farms in moderate sizes.

#### THE CHEVIOT ESTATE.

This estate, consisting of 84,755 acres, was acquired from the trustees of the late Hon. William Robinson for the sum of £260,220 on the 19th April, 1893.

Immediately upon obtaining possession instructions were given to the Chief Surveyor of Canterbury, into whose land district the estate was brought by Order in Council on the 21st February, 1893, to divide the country into small runs in such a way as to make the best use of the fences. Tenders were invited, and the pastoral lands were at once leased for eleven months and the agricultural land for six months—in all, 83,000 acres—to eight tenants. The mansion and other houses and grounds were also let, the whole bringing in a revenue of £8,862 per annum.

During the currency of these leases surveyors were engaged in laying out the country for settlement, and making engineering surveys of the roads required to be formed.

The first section of the property was offered for selection on the 13th and 17th November, 1893, and consisted of 33,474 acres, principally agricultural land, of which 12,460 acres were offered for lease in perpetuity; 1,554 acres were offered on village-settlement conditions, also for lease in perpetuity; 2,518 acres were offered as grazing-farms for twenty-one years' lease; 11,853 acres rural land were offered for sale for cash; and 33 sections of town land were offered also for cash. The Cheviot House Block, of 5,000 acres, was also offered for cash at this time.

The result of this first sale was that 13,500 acres were leased in perpetuity, at an annual rent of £3,616; 2,518 acres were leased for twenty-one years, at a rent of £426 per annum; 1,270 acres were sold for cash, and on terms, realising a present payment of £3,855, and leaving £3,855 payable within five years, bearing 5 per cent. interest. Thirty-three sections of town land were disposed of, realising £825. The Mansion House Block was not then sold.

The pastoral tenants who were in occupation continued to occupy and pay a fair rent for the land not disposed of, and in the meantime a further area was surveyed for selection.

The second sale was held on the 10th and 15th January, 1894, and consisted of 10,791 acres of agricultural land only, which were offered in sections of from 90 to 550 acres each, on lease in perpetuity. The Mansion House Block, of 5,000 acres, was also again offered for cash at the former upset price of £25,000, but with certain slight alterations in its boundaries.

The result of this second sale was that 10,460 acres were leased in perpetuity for £2,867 per annum, and that 5,000 acres, with the mansion and other buildings, were sold for £25,000 cash.

The third area opened for selection consisted of 42,214 acres, mainly grazing-farms, and was offered on the 5th and 6th March, 1894.

Of this area, 27,713 acres were offered for twenty-one years' lease, and 14,501 acres for cash.







The result of the sale was that 23,373 acres were leased at an annual rent of £3,237, but there were no offers for the cash-land.

It was therefore decided to offer the unsold cash-land for lease, and on the 14th and 15th May, 1894, the fourth sale was held, when 17,593 acres were offered for lease as grazing-farms, 3,209 acres were offered for pastoral lease and licenses, 597 acres were offered for lease in perpetuity, 944 acres were offered as village lands on the same tenure, 94 sections of town and village lands were offered for cash, and 236 acres of suburban lands were also offered for cash.

The result of this sale was that the whole 20,548 acres of the grazing-farms, pastoral leases, and licenses were disposed of at an annual rent of £2,916; 1,419 acres were leased in perpetuity as rural and village homesteads at a rent of £317; forty-one sections of town and suburban lands were sold for cash, realising £957.

There now remains in the hands of the Government only 3,098 acres of reserves and small areas, which it is considered inexpedient to place in the market for a little time.

The annual rent now payable on account of that portion of the estate which has been leased is £13,960, the cash sales of land amount to £30,665 6s. 7d., and there is still owing £3,855 5s. 8d. on which 5 per cent. interest is chargeable in terms of section 9 of the Act. Proceeds of insurance, interest, and fees amount to £1,681 19s. 6d.

The surveys and administration have cost £7,963 in all, and the expenditure in improvements in the way of roads, slips, &c., amount to £14,287.

There are now 126 holdings already occupied, and seventy houses erected.

The value of the new improvements on the 25th May is estimated at £6,850, and there were then 58,720 sheep and 358 other cattle on the estate.

The population in 1891 was about eighty-three, and at the present time is about 650, including unemployed engaged in roadworks.

It is intended that the Counties Act shall be brought into action forthwith, and the necessary notices are being prepared.

#### COMPARATIVE STATEMENT OF TENURES FOR ELEVEN YEARS.

Table AB will show at a glance the various systems that have been in force, so far as settlement, exclusive of pastoral runs, is concerned, and it further illustrates the growth of popular ideas in favour of the State ownership of the soil and the decrease in amount of land absolutely alienated.

#### THERMAL SPRINGS, ETC.

During the past year advantage has been taken of section 251 of "The Land Act, 1892," to deal with some of the Rotorua town, suburban, and rural lands, situated within the thermal-springs district. On the 28th December, 1893, a sale of leases for ninety-nine years was held at that place, when 39 acres 3 roods 23 perches of town lands and 1,374 acres 3 roods 22 perches of suburban and rural land were offered. Of town sections there were 101 sections and of suburban and rural land twenty-one sections disposed of, for an annual rental of £537 10s. and £130 respectively. Since that date building operations in the town have gone on to a considerable extent. At the Hanmer Springs five town sections and sixteen rural sections, containing together an area of 386 acres, have been leased for terms of forty-two years, at a gross annual rental of £32 12s. 6d.

The reports of the officers in charge of the two above-named sanatoria will show in detail the progress of both establishments, and the following table states the revenue derived from baths, &c., as compared with previous years:—

	1891.		1892.		1893.		1894.	
	No. of Baths.	Fees.	No. of Baths.	Fees.	No. of Baths.	Fees.	No. of Baths.	Fees.
		£ s. d.		£ s. d.		£ s. d.		£ s. d.
Rotorua ...	10,442	227 2 0	17,521	277 13 0	17,838	288 7 0	17,032	313 4 6
Hanmer ...	6,437	228 12 6	7,311	258 17 8	7,530	242 19 2	6,923	217 18 5

#### ENDOWMENTS.

Several endowments—for university, college, harbour, museum, &c., purposes—have been administered as heretofore by the department. The results are stated in the following columns:—

	No. of Purchasers or Selectors.	Area. Acres.	Consideration. £ s. d.
Cash-lands ...	...	64	2,448
Lease in perpetuity ...	...	22	258
Small grazing-runs ...	...	5	13,029

The total amount collected on current and past transactions on account of endowments was £22,498 2s. 3d., exclusive of Rotorua rents.

#### REVENUE.

Table T shows the particulars of the land revenue received, exclusive of the special funds, such as Cheviot, and lands acquired under the Land for Settlements Act. The total is £328,049 17s. but, as the Treasury credits other funds with several of the items included in the table, the totals differ. The Treasury figures are £324,322 3s. Considerable sums continue to be received on account of deferred-payment and perpetual-lease selections made freehold, but it is

only a matter of a few years when most of these must cease, and the land revenue consist of rentals and a few cash-sales alone. The annual receipts will thereby be decreased, but the State will reap the benefit in possessing the freehold.

#### THE NAVAL AND MILITARY SETTLERS' AND VOLUNTEERS' LAND ACTS, 1891 AND 1892.

Particulars of the transactions under these Acts will be found in the Chief Clerk's report. The total value of certificates issued up to the 31st March was £44,096 10s. Practically the work is complete, excepting in so far as the doubtful cases held over for the consideration of Government are concerned.

### SURVEYS.

In order to bring into a small compass, for ease of reference, the work performed last season is summarised below from the several detailed tables appended hereto:—

	Area.	Average Cost per Acre.			Total Cost.		
		£	s.	d.	£	s.	d.
Major and minor triangulation ... ..	688,117 acres	0	0	0·8	2,310	1	3
Topographical surveys ... ..	352,501 "	0	0	0·38	563	9	7
Topographical surveys for selection ... ..	12,600 "	0	0	5·3	279	2	8
Rural and suburban section surveys (2,482 sections) ... ..	556,555 "	0	1	3·8	36,976	13	8
Town section surveys (972 sections cost 10·3s. per allotment) ... ..	353 "	1	8	4·9	501	5	1
Native Land Court surveys (176 blocks) ... ..	291,702 "	0	0	3·6	4,480	0	8
Mining surveys (98 sections) ... ..	2,364 "	0	8	8·4	1,015	0	8
Roads, &c. (662·6 miles), per mile ... ..	...	13	10	0	8,958	18	0
Miscellaneous surveys, inspection, reports, deductions, &c. ... ..	...	...	...	...	9,683	1	6
Total cost of field-work completed during the year ... ..				...	£64,767	13	1

The total cost shown above includes the preparation of the original maps and plans by the field surveyors, but not the subsequent cost of examination, recording, compilation, &c. The total net cost of the Lands and Survey Department for the year ending 31st March last, exclusive of the "miscellaneous services," which have nothing to do with the administration of the department, was £113,388 10s. 8d. In the total cost above are included the surveys of the Cheviot Estate, and the subdivisions of the properties acquired under the Land for Settlements Act. The output of work for the year shows an increase in trigonometrical and topographical surveys, and a decrease in sectional work, which is due to the surveyors having a good deal of work on hand not plotted at the date when the returns are made up, and to the smaller size of the sections in the association blocks, which naturally take more surveying in proportion to the areas.

The cost per acre of the principal and most important class of work—viz., section work, varies very little per acre from year to year; the average cost for four years past has been 1s. 1·65d. per acre, whilst the figures for this year are 1s. 3·8d. per acre, a slight increase, due to smaller-sized sections. Affected as all surveyors' work is by the weather, a wet month shows at once in the increased cost of the work. Having regard to the character of the surveys, the dense forest in which most of them lie, the broken nature of the country, and the difficulty and expense of conveying stores, the price per acre at which the Crown lands are sectionised is creditable to the surveyors employed, and will bear favourable comparison with that of any other colony where the conditions are at all similar.

#### TRIGONOMETRICAL AND TOPOGRAPHICAL SURVEYS.

Combining the two areas which come under this denomination, it will be seen that 1,040,618 acres were surveyed at a total cost of £2,873 10s. 10d., the area being distributed fairly well over the colony. The work consisted in filling in gaps, with occasional extensions on the flanks of existing triangulation—all undertaken to govern the settlement operations, or for providing check on surveys made for the Native Land Court. For this latter purpose a very useful extension has just been completed in the field, but not yet mapped. The work covered the country near the East Cape, which hitherto, through Native prejudice, had remained closed to the operations of the surveyor. The Chief Surveyor's reports, in some cases, give details as to the mathematical closures obtained in the minor triangulations, showing that the standard of accuracy is well maintained. Mr. Wilmot, in Otago, measured a base-line for the work he had in hand, with some excellent results. He adopted an apparatus of his own design, which overcomes some of the difficulties surveyors have had to contend with in using the steel bands, now so universal in all classes of survey. His work proves that level base-lines are no longer an essential to accurate measurements.

Complete topographical surveys have been made of the Cheviot Estate—an essential preliminary to the arrangement of fencing boundaries for the grazing-farms. Some considerable areas of the colony yet remain to be topographically surveyed, the earlier surveys rarely taking note of the natural features other than rivers, forests, &c.; and some parts, notably in the south-west part of the South Island and the Urewera country in the North Island, are practically blanks on the maps.

In many of the settled districts of the colony, where planting has gone on extensively and tall hedges exist, the triangulation originally made has ceased to be of much service, partly because sights cannot be obtained through the trees, and partly because farmers have not respected the trig-stations in the manner their best interests should have induced them to do. Hence it arises, more

especially in the level districts, that to insure the proper connection and record of lands dealt with under the Land Transfer Acts, a system of standard traverses will eventually have to be adopted. At the present time property-owners are put to constant extra expense for want of this, the necessity of which is not often apparent to them. As these surveys, when undertaken—and the time is not far off—will be for the especial benefit of the land-transfer operations, it seems right that the large accumulated assurance fund of that department might reasonably be drawn on to cover a portion of the expense. Such surveys are especially necessary in and around the principal cities, where property is of great value, and where one mistake might easily cost far more than the expense of such a survey.

Triangulation and topographical surveys being in their nature the pioneers of others, the explorations made during the year may be noticed with them. Messrs. Douglas and Harper, in Westland, have been engaged for some time past in explorations of the western slope of the Southern Alps, and in trying to discover a pass over the Southern Alps which would be practicable as a tourist route between the neighbourhood of the Hermitage, Mount Cook, and the glaciers on the west side of the mountains. So far, none has been found, but his topographical work has brought home to us the many beauties of the glaciers and gorges of the West Coast. A map attached shows the result of their season's work, but the numerous photographs they obtained must await publication at a future date. In process of time, as this colony becomes more and more the playground of Australasia, as it must do, these fine glaciers, wild gorges, and beautiful river-bed scenery will be visited by thousands. Mr. Dunnage, of the Survey staff, made the ascent of Ruapehu Mountain last Easter, a description of which accompanies the report of the Assistant Surveyor General. He ascertained that the crater-lake on top of the mountain is now apparently quite cold, though showing signs of ebullition and considerable volcanic activity about the time of the Tarawera eruption in June, 1886. The most important exploration of the year, however, has been that made by Messrs. Mackenzie, Pillans, and Earnshaw in the country south-west of Lake Manipouri, during which they discovered a practicable route from that lake to the head of Dusky Sound, a route which, in the not far distant future, will play an important part in the tourists' line of travel. Visitors arriving from Australia might first visit Milford Sound, then taking the numerous other sounds on their way South could be landed at the head of Dusky Sound, and travel thence by the new route, coming out at Lake Manipouri, from which place they have all the other lakes before them. The new route does not seem to present any serious difficulties to the construction of a road for wheeled vehicles, in which it is superior to all other passes as yet explored for some hundreds of miles northwards. Mr. Mackenzie has been kind enough to furnish a description of the route and country through which it passes, which will be found in the appendix.

#### SETTLEMENT SURVEYS.

From year to year the fact has to be chronicled that the difficulties of subdividing the country into farms increases; this is due to the broken nature of the country the surveyors generally now have to contend with, necessitating the utmost care in the location of the road-lines. To insure workable grades the roads have to be contoured very carefully, and to obtain length to effect the necessary ascent or descents, it is frequently necessary to double the distance between any given points, thereby increasing the first cost of construction and subsequent maintenance very greatly. This may be illustrated by a statement in the report of the Commissioner of Crown Lands for the Wellington District, where, to provide the necessary road access to 209,000 acres, over 400 miles of road had to be laid out.

The total area sectionised last year was 556,555 acres, in 2,482 sections, the average-sized section being 224 acres; as, however, small grazing-run surveys are included in these figures, the average-sized farm will be much less than these figures. Great care is exercised by the surveyors in the laying-out of the roads, the arrangement of boundaries, so that they may be as easily fenced as the country will admit of, and in permanently marking the boundaries, in which process iron gas-pipes are frequently used here and there to form points of reference. The degree of accuracy with which this class of survey is executed is very creditable to the surveyors. With ordinary precautions in the preservation of the boundary-marks, little or no trouble should arise hereafter as to boundaries. Settlers, with few exceptions, however, appear to be careless of these boundary-marks, placed with so much trouble and expense, and often remove them in fencing, a most unwise proceeding which may often entail on them a law-suit in the future. The department endeavours to keep the importance of preserving the survey-marks constantly before the public by printing on every advertisement of land for sale or disposal a notice of the penalty incurred in the removal of such marks.

The surveyors have to thank the several improvements in the measuring apparatus now used for the accuracy of their work, which could not be accomplished with the old surveyor's chain, which is now obsolete, and likely in a few years to become a mere curiosity. The invention of the steel band and the steel wire has marked an epoch in the history of surveying.

The department had on hand at the 31st March an area of 1,178,000 acres of land either under survey or which was awaiting survey for settlement and other purposes.

The permanent staff of surveyors, which numbers forty-eight officers, was augmented during the past year by the employment of sixty-two authorised surveyors, nearly all of whom were engaged on section surveys, or operations directly connected therewith.

#### NATIVE LAND COURT SURVEYS.

The total area surveyed under this heading amounts to 291,707 acres, in 176 blocks, at a cost of 3.6d. per acre. The greater portion is within the Auckland District, and the work has been done generally by the authorised surveyors at contract or schedule rates. The above figures represent the area of land where the Government advanced the cost of survey, generally with the view of facilitating the purchase of the lands by the Crown. In addition to this area, 366 blocks or divisions, containing 414,803 acres, have been surveyed by the authorised surveyors at the cost of the Maoris, and the plans deposited in the Survey Department for record and check. Thus a total of 706,510 acres has been surveyed during the year to facilitate the operations of the Native Land

Court. The work for the most part consisted of the subdivision of blocks which had previously passed the Court, and which had been the subject of division orders by the Court. During the year the Native surveys have made some advance in the East Cape country, north of the Waiaapu River, where, hitherto, there has been for many years past a disinclination on the part of the Maoris to deal with their lands; but this appears to be changing, and there is, therefore, a probability of this country being available for settlement before very long.

Connected with Native surveys is the subject of providing lands for landless Maoris in the South Island. Some progress has been made in the district of Marlborough by surveying blocks in the Sounds County, and providing small allotments on which the Maoris can settle. The total area surveyed is 2,837 acres, much of which is very rough forest country. A great deal remains to be done in this respect, but, so far, the arrangements have not advanced sufficiently to admit of starting the surveys, some of which, however, will come in during the ensuing season. In the meantime considerable areas are withheld from sale for this purpose.

#### GOLD AND OTHER MINING SURVEYS.

This class of work, which consists in the definition of areas applied for under the Mines Act, shows a slight decrease on last year, and a large decrease on the figures of a few years ago. Nearly half the number of claims surveyed were in Otago, most of the others being in Auckland, or at Wilson's River, Southland. The totals are—98 claims, covering an area of 2,364 acres.

#### ROAD AND RAILWAY SURVEYS, ETC.

Under this heading an increase is shown, the figures for 1892 being 333 miles, surveyed at a cost of £12 9s. 6d. a mile; 1893, 624 miles, at a cost of £13 9s. a mile; and 1894, 662 miles, at a cost of £13 10s. a mile. This mileage is quite unconnected with the section surveys, in which the necessary roads are part of the work, but represents surveys made to exercise the rights reserved in grants or through Native territory where constructive works are going on, and includes in it engineering surveys made in order to furnish data for contracts. Allusion has already been made to the difficulty of providing roads in much of the country that is now being dealt with, which arises from the broken nature of the country. New Zealand, as a whole, may be termed a broken country, for it contains a larger proportion of such country than most of those colonised by the British nation, and hence the providing of road access to settlement lands is one of the greatest drawbacks to the rapid settlement of the country; and proportionate to the area settled the expense is much larger, probably, than in any other of the colonies where similar operations are going on.

#### MISCELLANEOUS WORK.

The cost of the miscellaneous work performed by the Survey Department is £9,683. It includes all kinds of surveys, &c., which do not come under the headings in the tables, such as inspections of surveys in the field, various reports by the field officers, explorations, &c. In some cases during the last year inspection of surveys in the field has proved the necessity of it, for the work was found not to be up to the standard required, and necessitated revision. The time of the Chief Surveyors is now so much occupied by their other duties in connection with land matters, road-works, &c., that personal inspection in the field by them is difficult of accomplishment, though the necessity for it occasionally is very obvious. In two of the larger districts officers are specially detailed for this work, which is done in connection with other duties they perform.

### ROADS AND BRIDGES.

When it is considered that there are 516 different constructive works, consisting of roads, bridges, clearing, &c., involving an expenditure for the past period of £176,370, under the charge of the Lands and Survey Department, it is obvious that there is a great deal of work connected with the same. The larger portion of this sum has been expended under the direct control of the departmental officers, whilst, in other cases, the aid of the local authorities has been availed of in carrying out the works; but in all these latter cases the plans and specifications have been passed by the Chief Surveyors prior to contracts being undertaken. The correspondence and account-keeping at the Head Office alone in connection with these works is enormous, and to it has to be added that conducted by the local officers, bringing up the total to a very considerable expenditure, and necessitating the employment of a number of officers. The tables appended hereto, and the reports of local officers, show in detail the expenditure and the work done, which is summarised in the statements below.

During the year, a large proportion of the road-works have been executed by co-operative contracts, which have absorbed a considerable number of men, as illustrated by the following table, the numbers being the average for each month:—

1893. April ... ..	522 men.	1893. October ... ..	1,161 men.
May ... ..	637 "	November ... ..	1,065 "
June ... ..	753 "	December ... ..	1,113 "
July ... ..	893 "	1894. January ... ..	896 "
August ... ..	1,094 "	February ... ..	1,045 "
September ... ..	1,102 "	March ... ..	920 "

The works carried on are summarised as follows:—

Dray-roads constructed	...	...	...	...	296 miles.
Dray-roads improved	...	...	...	...	223 "
Dray-roads maintained	...	...	...	...	1,215 "
Bridle-roads constructed	...	...	...	...	238 "
Bridle-roads improved	...	...	...	...	155 "
Bridle-roads maintained	...	...	...	...	405 "

PAGE XI.

**ERRATA.**—Miscellaneous Roads and Roads to open up Crown Lands: The figures £154,135 11s. 9d. should read £154,126 12s. 6d.; and £23,549 17s. 6d. should read £23,540 18s. 3d.





*Main Roads.*—During the past year the department has had under its supervision 1,130 miles of main roads, the cost of maintaining, improving, and extending which has amounted to £22,234.

Within the past three years there have been constructed 371 miles of what are practically main roads. Many of these when finished have been placed under the control of local authorities, and a few are yet in charge of the department.

The result of handing over control of well-formed roads to County Councils and Road Boards is nearly always to the disadvantage of the road. Either from want of funds or of sufficient local interest in these arterial roads they are generally not attended to, the water-tables are not cleaned out and preserved open, the ruts are not filled in, the surface-water is allowed to flow anywhere over them, and it is really most disheartening to pass along what was left a beautiful, even road, and find it furrowed by streams and deep wheel-tracks, with frequent soft clay holes, out of which drays find it difficult to extricate themselves.

There can be no doubt but the County Councils and Road Boards have often failed to maintain the roads constructed by the general Government, and they have also failed to maintain many of the roads handed over to them by Provincial Governments.

It seems, therefore, time for the Government to consider whether the principal roads, or those which are not within reasonable distance of a railway, should not be maintained directly, and so preserved from inevitable decay. Such roads as that from Hunterville to the Murimotu country, and on to Tokaanu; that from Pipiriki, on the Wanganui River, to Karioi, and from Moawhango to Napier, in the North Island; the road from Belgrove, *via* the Buller, to Westport, and from Inangahua to Reefton; that from Kumara to Christchurch; that from Waihemo, *via* Naseby, to Clyde, and Wanaka, and Queenstown; and many others, if they are to be maintained fit for rapid traffic, must, it seems, be attended to by the Government directly.

Along some of these routes there are no rateable lands, and, in consequence, the cost of maintenance is mainly contributed by the Government, through the local authority, without any efficient check.

The country has before it, also, the fact that many of the great bridges, constructed when the public works policy was first initiated, are constantly requiring repairs, and in some cases require renewal.

In connection with the construction of arterial roads in the North Island, arises for consideration the increased value given to Native lands, and lands purchased by Europeans directly from the Natives.

To develop the trade and resources of the interior, and to open lands purchased there from the Natives, Parliament has voted, and there have been expended, large sums for the construction of roads, which must first pass through and materially increase the value of such lands. Yet they are not liable for, nor do they specially contribute, a penny towards them.

Notable instances are the road from Hunterville to the interior Murimotu country. This road was rightly considered to be necessary for the development of the country, and it had to pass through miles of Native land, and land purchased direct from the Natives, before it could enter on Crown lands to open them up. Lands which were of no immediate value whatever were, by the construction of this road, made worth as much, in one case, as £1 7s. per acre, and yet have paid nothing towards that increased value, because there is no law to require them to do so.

One of the principal events in last year's history of our roads was the opening of the Hunterville Road to Tokaanu, at the south end of Lake Taupo. This occurred during the summer, and soon after a coach started running the whole length, thereby opening up an interior line of communication by rail and coach between Wellington and Auckland. The fine scenery and diversified character of the country through which this route passes must render it a favourite one with the tourists.

Connected with the above is the Pipiriki-Karioi-Moawhango Road, which, at a few miles from Karioi, crosses the Hunterville-Tokaanu Road. This road was also opened for wheel-traffic, so that it is now possible to drive with little trouble from Napier to the Wanganui River, and proceed thence down that river by steamer to the Town of Wanganui.

The Stratford route has also advanced several miles towards completion, works having been in progress from both ends. It is highly desirable, in the interests of settlement, that the gap should be finished, and thus allow of through-traffic from Taranaki to Auckland. Settlement would very soon follow.

*Miscellaneous Roads, and Roads to open Crown Lands.*—The total mileage of roads of which engineering surveys were made, to enable contracts to be let for construction, is about 343 miles; and the roads constructed and maintained amount to 1,402 miles, and cost £154,135 11s. 9d.

It will be seen from the tables that of this sum £17,322 18s. 3d. was expended in the Auckland District, £4,738 13s. 1d. in the Hawkes Bay District, £32,649 9s. 10d. in the Taranaki District, £48,914 5s. 9d. in the Wellington District, £3,899 1s. 7d. in the Nelson District, £1,966 14s. 6d. in the Marlborough District, £4,124 17s. 10d. in the Westland District, £23,549 17s. 6d. in the Canterbury District, £8,962 12s. 3d. in the Otago District, £8,007 1s. 2d. in the Southland District.

In addition to the ordinary votes of the Assembly, this includes expenditure under the Land for Settlements Act and the Cheviot Estate Disposition Act.

The cart-roads are formed with a minimum width of 14ft., and the horse-roads of a minimum width of 4ft.—generally 6ft., and the minimum grade is one in fifteen. The expense in gravelling or metalling these cart-roads is very great, owing—especially in the North Island—to the scarcity of stone or gravel deposit, insomuch that many of them have to do without this covering, and of course are unfit for heavy winter traffic.

Settlement is advancing at such a rapid rate that even this large expenditure has hardly reached the more inland lands taken up. If, therefore, the forest-lands of the colony are to be actually settled upon, the construction of roads must go on at a rate not less than during the past year.

It will be seen from the reports of the Chief Surveyors that the system of co-operative contract has been almost entirely used, and the result is fully satisfactory. There are, no doubt, many malcontents, who are probably physically incapable, or who have not yet learned to work well or with skill. Such men do not earn the wages of a bushfeller or a navy, and some of them may not earn much more than they consume personally, leaving little or nothing for their families, who sometimes are a burden on charitable aid. On the other hand, settlers say that they cannot afford to pay the wages which the Government gives. It has been the aim of the department to avoid attracting men from settlement, but also to pay a fair price for work done.

The following is a statement of the sums borrowed on the security of the lands affected for the purpose of opening them for settlement by roads. The interest on the sums borrowed is a charge on the lands, and is paid over to the account as received with the rent:—

STATEMENT showing the BLOCKS of LAND which have been proclaimed under "The Government Loans to Local Bodies Act Amendment Act, 1891," and the Report of the Surveyor-General on the Value of such Blocks, and on the necessary Works, and the Estimated Cost of the Works, and of the Moneys expended in respect of such Blocks out of Moneys borrowed under the said Act.

Name of Block.	Area of Block.	Gazetted.			Surveyor-General's Report.			Expenditure.		
		No.	Page.	Date.	Valuation of Block.	Works required to open up such Block.	Estimated Cost proposed to be borrowed.	To March 31, 1893.	April 1, 1893, to March 31, 1894.	Total to Mar. 31 1894.
1891-92.										
Tauhoa, Sections 184 to 201 ..	Acres. 4,069	15	336	18 Feb., 1892	£ 1,675	Road-works	£ 449	£ 300	£ 80	£ 380
Mangamingi .. .. .	6,000	"	"	"	9,040	"	4,286	1,020	3,266	4,286
Oroua-Coal Creek .. ..	6,000	"	"	"	6,440	"	1,050	456	594	1,050
Waimarino .. .. .	20,900	"	"	"	16,880	"	1,000	1,000	..	1,000
North-east Puketoi .. ..	13,300	"	"	"	6,455	"	6,837	135	139	274
Mount Baker .. .. .	9,200	"	"	"	9,600	"	3,990	3,731	259	3,990
Blocks II., VIII., V., VI., Woodlands	13,400	"	"	"	11,225	"	2,487	108	2,379	2,487
Maruwhenua (part) .. ..	13,000	"	"	"	10,000	"	4,950	4,950	..	4,950
Maungataniwha .. .. .	4,000	23	479	18 Mar., "	1,500	"	5,000	5,000	..	5,000
Takahue .. .. .	1,900	"	"	"	712	"	500	125	48	173
Manganuiowae .. .. .	5,000	"	"	"	2,500	"	300	100	..	100
Waaku .. .. .	22,804	"	"	"	10,000	"	500	170	..	170
Motatau .. .. .	5,000	"	"	"	1,875	"	2,000	878	1,122	2,000
Mareretu .. .. .	5,000	"	"	"	2,500	"	600	275	43	318
Ahuroa .. .. .	4,000	"	"	"	2,500	"	600	395	..	395
Motu .. .. .	33,000	"	"	"	14,025	"	500	..	99	99
East Puketoi .. .. .	83,500	"	"	"	83,500	"	2,475	2,177	298	2,475
Maruwhenua .. .. .	36,090	"	"	"	49,200	"	19,375	4,815	10,952	15,767
1892-93.										
Ruapekapeka .. .. .	11,900	77	1345	6 Oct., 1892	4,462	Road-works	500	..	..	..
Akaaka Swamp .. .. .	2,935	72	1273	15 Sept., "	2,093	Drainage ..	950	497	29	526
Waimate Reserve No. 1126 ..	634	"	"	"	6,269	Road-works	300	300	..	300
Waimate Reserve No. 1128 ..	516	"	"	"	7,268	"	25	25	..	25
Waimate Reserve No. 1178 ..	157	"	"	"	2,193	"	25	25	..	25
Huiroa .. .. .	6,433	"	"	"	5,318	"	2,093	90	506	596
Mangaehu .. .. .	492	"	"	"	604	"	301	..	..	..
Kaimanuka .. .. .	9,987	"	"	"	5,350	"	2,665	2,665	..	2,665
Momahaki .. .. .	626	"	"	"	550	"	156	156	..	156
Blocks VII., X., XI., Woodlands	1,693	74	1297	22 Sept., "	1,384	"	307	307	..	307
Hautapu-Ruahine .. .. .	28,600	"	"	"	21,000	"	7,000	868	1,261	2,129
Block I., Tautuku .. .. .	3,850	77	1346	6 Oct., "	2,800	"	555	555	..	555
Takaka and Mount Arthur ..	26,000	74	1298	22 Sept., "	7,800	"	1,825	..	..	..
Lillburn, Monowai, and Alton	30,745	83	1389	20 Oct., "	23,059	"	8,000	..	2,046	2,046
Nuhaka .. .. .	9,577	80	1365	13 Oct., "	4,664	"	568	..	488	488
Otau .. .. .	18,510	71	1255	8 Sept., "	6,941	"	2,350	..	333	333
Liberal .. .. .	2,800	83	1388	20 Oct., "	2,900	"	400	..	347	347
Maioro Swamp .. .. .	722	80	1365	13 Oct., "	451	Drainage ..	225	..	225	225
Tanner .. .. .	5,200	78	1361	10 Oct., "	5,950	Road-works	1,780	998	782	1,780
Blocks XVI. and I., Longwood	5,659	90	1529	11 Nov., "	2,829	"	1,400	420	455	875
Oxford .. .. .	4,000	4	23	12 Jan., 1893	3,550	"	1,200	..	..	..
Upper Waitara .. .. .	840	13	240	23 Feb., "	1,914	"	126	..	..	..
Glenomaru, Blocks III., IV., V., VII., IX., X.	1,495	95	1606	8 Dec., 1892	946	"	237	237	..	237
Tuapeka West, Blocks I., II., III., IV., VII., VIII.	2,545	13	246	23 Feb., 1893	..	"	..	..	..	..
Rankleburn, Block VI. .. ..	544	102	1742	29 Dec., 1892	1,681	"	367	..	..	..
Milsom .. .. .	6,686	21	374	23 Mar., 1893	6,237	"	1,750	..	..	..
Opuawhanga No. 1 .. .. .	5,000	23	412	30 Mar., "	1,875	"	500	265	..	265
Waiwera .. .. .	3,900	"	413	"	4,101	"	1,460	..	225	225
Kakariki .. .. .	5,000	"	"	"	5,786	"	1,500	56	1,113	1,169
Waiau .. .. .	8,831	"	412	"	5,621	"	1,405	235	202	437
Ngatimaru, Blocks V., IX., XIII.	4,580	"	"	"	4,762	"	1,940	110	..	110
Block I., Paterson .. .. .	633	"	411	"	316	"	158	158	..	158
Mokoreta .. .. .	7,400	"	"	"	3,700	"	1,850	180	18	198
Waikawa-Otara .. .. .	31,000	"	"	"	15,500	"	7,750	415	..	415
Waikawa .. .. .	6,000	"	412	"	3,000	"	1,500	1,500	..	1,500
Carried forward .. .. .	541,658	..	..	..	422,910	..	112,203	37,833	27,309	65,142

STATEMENT showing the BLOCKS of LAND which have been proclaimed under "The Government Loans to Local Bodies Act Amendment Act, 1891," &c.—*continued.*

Name of Block.	Area of Block.	Gazetted.			Surveyor-General's Report.			Expenditure.		
		No.	Page.	Date.	Valuation of Block.	Works required to open up such Block.	Estimated Cost proposed to be borrowed.	To March 31, 1893.	April 1, 1893, to March 31, 1894.	Total to Mar. 31, 1894.
Brought forward ..	541,653	..	..	..	£ 422,910	..	£ 112,203	£ 37,833	£ 27,309	£ 65,142
1893-94.										
Back Creek .. ..	5,000	..	1487	1892	4,375	Road-works	800	..	..	..
Lepperton .. ..	2,775	83	1383	20 Oct., "	2,998	"	966	..	..	..
Mangaere .. ..	7,432	30	526	27 April, 1893	12,845	"	4,144	..	503	503
Opuawhanga-Whangarei No. 1	4,600	34	571	1 May, "	2,300	"	500	..	..	..
Tauhoa-Komokoriki ..	2,650	35	573	4 May, "	1,000	"	325	..	128	128
Swinburn .. ..	1,790	40	656	18 May, "	1,610	"	288	..	..	..
Tahaukupu .. ..	2,817	13	245	23 Feb., "	2,256	"	675	..	524	524
Catlin's .. ..	196	"	246	"	196	"	50	..	..	..
Omahine, Block I. ..	455	8	152	2 Feb., 1893	341	Road-works	114	..	..	..
Mangoira-Coal Creek ..	6,500	74	1297	22 Sept., "	8,204	"	2,031	..	263	263
Pohui .. ..	4,306	90	1521	11 Nov., 1892	3,655	"	538	..	..	..
Kaimarama .. ..	3,182	71	1372	21 Sept., 1893	1,580	"	318	..	..	..
Stirling .. ..	4,770	28	539	31 Mar., 1892	6,678	"	1,193	..	72	72
Tauwharetoi .. ..	3,404	68	1324	7 Sept., 1893	4,975	"	1,175	..	..	..
Paterson, Block I. (No. 2 Loan)	1,573	71	1377	21 Sept., "	787	"	393	..	..	..
Nuhaka No. 2 .. ..	777	68	1324	7 Sept., "	485	"	58	..	..	..
Aongatete .. ..	14,300	"	1327	"	5,362	"	1,430	..	..	..
Autawa .. ..	4,725	21	393	23 Mar., "	4,276	"	1,153	..	..	..
Mata-Hikurangi .. ..	6,498	78	1481	19 Oct., "	2,458	"	437	..	..	..
Tararua .. ..	3,993	19	339	16 Mar., "	4,592	"	998	..	..	..
Waipoua .. ..	58,200	74	1419	5 Oct., "	29,100	"	5,800	..	1,067	1,067
Opaku-Kapara .. ..	18,620	4	26	12 Jan., "	10,455	"	2,793	..	..	..
Woodville .. ..	254	49	939	22 June, "	286	"	25	..	..	..
Umutaoroa .. ..	1,461	"	"	"	956	"	100	..	..	..
Taupiri .. ..	3,200	45	860	8 June, "	3,910	"	920	..	134	134
Oteramika .. ..	6,253	71	1377	21 Sept., "	2,631	"	625	..	..	..
Wellington Fruit-growing Association	2,625	72	1274	15 Sept., 1892	8,565	"	1,313	..	..	..
Ngarara West .. ..	3,892	"	"	"	3,425	"	973	..	..	..
Mangaokahu .. ..	2,325	54	1047	6 Aug., 1893	1,163	"	233	..	..	..
Blocks XV., XIV., XI., Hautapu	6,293	92	1567	24 Nov., 1892	5,469	"	1,573	..	..	..
Block IV., Sutton .. ..	241	62	1211	10 Aug., 1893	886	"	124	..	..	..
Glenkenich .. ..	489	"	"	"	931	"	244	..	..	..
Glenomaru, Block VI. ..	25	"	"	"	80	"	25	..	..	..
Waikoikoi Town .. ..	28	"	"	"	87	"	29	..	..	..
Ngairi .. ..	7,500	19	368	6 Mar., 1894	15,000	Drainage ..	6,000	..	..	..
Totals .. ..	746,802	..	..	..	576,827	..	150,566	£ 37,833	£ 80,000	£ 67,833

#### DEPARTMENTAL AND GENERAL.

During the year some changes have taken place in the stations of officers. Mr. H. G. Clark, the Commissioner and Chief Surveyor of Marlborough, retired after thirty-two years of faithful service, and was succeeded by Mr. S. Weetman, whose place as Commissioner and Chief Surveyor at Taranaki was taken by Mr. J. Strauchon, of Westland. Mr. David Barron, senior District Surveyor of the colony, was promoted to fill Mr. Strauchon's place as Commissioner and Chief Surveyor of Westland. The department lost through death the able services of Mr. J. Williams, the Receiver at Christchurch, after a service of forty-one years. Rangers Hill and Mussen also died during the year, after many years of faithful service, whilst several other officers have retired.

Details of the various operations carried on by the department will be found in the appended extracts from the reports of the local officers, and in the tables accompanying them. From them some idea may be gathered of the multifarious duties performed by the department; but, at the same time, little idea is conveyed of the constant strain that is felt, more especially by the senior officers and those in whose guiding hands the several branches of the department are placed. Notwithstanding the constant call on the time of the officers, their services are rendered cheerfully and ungrudgingly, and constantly at the expense of hours that should be devoted to rest and recuperation.

#### HEAD OFFICE.

##### MAPS.

Mr. F. W. FLANAGAN, Chief Draughtsman, reports:—

In addition to the regular departmental duties performed during the year ended the 31st March, 1894, a large proportion of the time of draughtsmen and printers was, as usual, engaged in work of an urgent nature for other departments. This extra demand on the services of the staff

was fairly met, the routine work of the office being well up to date. The number of 80-chain maps printed and published shows a decline. Those issued were the districts of Catlin's, Huiroa, Mata-piro, Waimate, and Oero.

There are, however, sixteen maps awaiting final revision before printing, namely: Districts of Leeston, Carlyle, Clive, Heretaunga, French Pass, Linkwater, Rock and Pillar, Kaipokonui, Pohui, Dunback, Halswell, Opunake, Hororata, Woodville, Maraekakaho, and Oriori. Preliminary prints of these have already been taken for departmental purposes. Maps of the districts of Westmere, Ikitara, Rangitoto, and Hutt County were reproduced from old lithographs for office use only, and, until the necessary data is furnished to allow of corrections and additions being made, no further progress can be made with them. In this category there may be included Mangahao, Makuri, Tararua, and Mangaone.

The miscellaneous maps published include the Towns of Pohangina, Oraka, Oban, Dunback, Huiroa, Newman, Ballance, Mackenzie, Rotorua and suburbs, and Greymouth; Blocks V. and VI., Woodland; Egmont Trig.; and the special settlements of Medbury, Gatton, Hall, Marton Nos. 1 and 2, Kaikoura, Mecalickstone, Danevirke, Woodville, Salisbury, Clifton No. 1, Hunterville No. 3, Milsom, Masterton Reform, Lepperton, Pahiatua No. 2, Summerville, and Palmerston North Knights of Labour. These latter were compiled and drawn in the district offices.

Large and small scale maps of the Cheviot Estate, and the estates of Pomahaka and Te Anaraki were also published.

The geographical map of Wellington, Hawke's Bay, and Taranaki, mentioned in last year's report, is still under preparation. The data required to complete it is not to hand.

Amongst maps undertaken for other departments the following are of special notice, namely: 40-mile map of the colony, showing lighthouses, in three colours; 16-mile maps of North and Middle Islands, showing post-offices, telegraph, and telephone-stations, in four colours; 16-mile map for Railway Commissioners, in three colours; electoral maps, in five colours; and map of New Zealand, for Agent-General's Department, in three colours. The New Zealand flag was drawn and printed in five tints. In the preparation and lithographing of land-sale plans there has been a large increase of work which must be done rapidly and accurately. The time of one draughtsman is almost wholly occupied in drawing for this purpose. The number of land-sale plans published during the period under review was 215, viz.: of Auckland 68, of Hawke's Bay 12, of Wellington 11, of Taranaki 8, of Nelson 8, of Marlborough 21, of Westland 6, of Canterbury 20, of Otago 29, and of Southland 32. The total number of copies printed was 144,280. The demand for these plans by the public is apparent from the frequent requests for additional supplies. Besides the number just stated, 8,550 copies of special-settlement plans were printed.

Of maps designed to advertise the colony as a resort for tourists' there were published a new edition of the "Grand Tour," and the Taranaki Guide-book. The former was distributed through the agency of Cook and Son and the Agent-General, and the latter principally by the Scenery Preservation Society, Taranaki.

One hundred and seventy-five descriptions of boundaries for proclamation purposes were written, and the changes recorded on maps and record-books. This represents work done for other departments. The current work of furnishing data for departmental reports and papers has occupied the greater portion of one officer's time.

A commencement has been made in the compilation of new county maps. Wairarapa North and South are in hand, and well advanced. This work will develop into an undertaking of some magnitude, as a great deal of the old work on most of the maps now in use is becoming obliterated by age and wear.

The examining, and recording on maps, of schedules and plans of roads taken under the Public Works and Native Lands Acts, necessitated the revision of one hundred and twenty-eight descriptions and the examination of one hundred and ninety-three plans.

Drawings of bridges, road-sections, buildings, culverts, and machinery were made during the year.

Thirteen schedules for Local Bills Committee, House of Representatives, were revised.

One thousand one hundred and five maps and tracings were mounted. Six crayon drawings, twenty-eight wash-drawings of landscape scenery for "process" pictures, eight pen-and-ink drawings, and four drawings on wood were made. Corrections and additions were made on 428 stones.

The out-turn of the lithographic presses and machines has been greater than that of any previous year, the number of subjects being 1,116, with 587,488 complete copies of 1,664 separate printings, or 1,069,498 impressions. The hand-presses contributed 62,119 copies to this result. Printing was done for nineteen departments of the service, the details of which are given below. It is gratifying to be able to report that the efficiency of the staff has lessened the difficulties of supervising work, although carried on in four separate buildings.

In the photographic gallery an increase is shown in the number of plates taken, the out-turn being 872. This is mainly due to the extra demand for reductions of maps to the standard scales of 20, 40, 80, and 160 chains to the inch, which are found most useful for illustrating reports, &c., and for county-map compilations. One hundred and thirty-seven bromide prints and one hundred and eight silver prints were made. Satisfactory progress has been made with the "process" work, many of the pictures being a distinct improvement on Mr. Ross's previous efforts. With improved accommodation for experimental purposes, this will become a useful feature of photo-lithography.

LITHOGRAPHIC PRINTING and PHOTOGRAPHING, from 1st April, 1893, to 31st March, 1894.

Department.	Number of Separate Printings.	Number of Impressions.		Number of Plates	Bromide Prints.	Bromide Enlargements.
		By Machine.	By Hand.			
Land and Survey ... ..	1,161	587,488	51,124	535	197	108
Public Works ... ..	61	16,700	1,458	27	...	...
Mines ... ..	73	79,300	100	49	...	...
Marine ... ..	31	5,420	1,838	9	...	...
Colonial Secretary ... ..	15	10,250	15	8	...	...
Justice ... ..	11	...	1,405	...	...	...
Registrar-General ... ..	17	51,500	...	2	...	...
New Zealand Institute ... ..	32	20,287	47	21	...	...
Customs ... ..	2	...	160	...	...	...
Postal and Telegraph ... ..	25	32,750	214	32	...	...
Agricultural and Stock ... ..	12	21,400	1,499	30	...	...
Education ... ..	10	3,780	1,608	...	...	...
Railways ... ..	169	133,200	832	156	...	...
Labour ... ..	4	2,400	...	...	...	...
Treasury ... ..	1	4,000	...	...	...	...
Legislative ... ..	36	39,150	323	3	...	...
Public Trust ... ..	2	200	...	...	...	...
Premier's ... ..	1	1,000	...	...	...	...
Native Land Purchase ... ..	1	...	50	...	...	...
Totals ... ..	1,664	1,008,825	60,673	872	137	108

Abstract of lithographs printed during the twelve months:—

At Head Office ... ..	1,069,498 impressions.
Auckland ... ..	8,503 "
Otago ... ..	4,000 "
Total ... ..	1,082,001 "

Maps mounted: At Head Office, 1,105; at Wellington District Office, 1,200; at Westland District Office, 6; at Otago District Office, 345; at Auckland District Office, 400.

CORRESPONDENCE.

Mr. W. S. SHORT, Chief Clerk, reports:—

The work performed by the clerical staff of the Head Office during the period ended 31st March, 1894, was much greater than that of any previous period in the history of the department.

The inwards correspondence amounted to 16,000 letters, telegrams, and reports, nearly all of which had to be entered and otherwise recorded. The outwards correspondence amounted to 12,600 letters and telegrams. These figures show an increase of more than one-fifth over those of 1892-93. There were also thirty-six official circulars issued, and 2,780 new subjects were commenced.

In addition to the usual correspondence, the office dealt with many matters of administration under various Acts of Parliament, and the Proclamations, Orders in Council, deeds, notices, and other instruments prepared by the office during 1893-94 in pursuance of same were as follow:—

Land Act: Warrants opening for sale under Part III., 99; warrants withdrawing from sale under Part III., 1; warrants of sales by auction, 13; Proclamations setting apart village-homestead lands, 14; Orders in Council fixing terms, &c., village-homestead lands, 16; warrant withdrawing from village-homestead lands, 1; Proclamations of village-settlements, 3; Orders in Council fixing terms, &c., village-settlements, 3; small-grazing runs, Proclamations setting apart, 30; warrants reserving lands, 13; Proclamations (miscellaneous), 5; Orders in Council (miscellaneous), 5; warrants and notices, &c. (miscellaneous), 21; forms revised and printed, 23 (including 5 forms of lease); advertisement notices (independent of any of the above), 20; warrants appointing members of Land Boards, 21; warrants appointing Rangers, 3: total, 291.

Cemeteries Acts: Warrants appointing trustees, 33; Order in Council delegating powers under Act, 1: total, 34.

Public Domains Act: Orders in Council bringing recreation-grounds under, 19; Orders in Council delegating powers to Boards, 34: total, 53.

Land for Settlements Act: Proclamations, 4; warrants opening land, 4; offers of land received and dealt with, 101: total, 109.

Public Reserves Acts: Orders in Council changing purpose, 2; warrants changing purpose, 2; Orders in Council vesting reserves in local bodies, 23: total, 27.

Public works and other Acts in so far as they relate to roads and bridges: Proclamations taking land for local bodies, 19; Proclamations and notices taking land for Government roads, 24; Proclamations vesting bridges in local bodies, 4; commissions relating to above, 2; Proclamations defining roads on railway lands, 7; Orders in Council making roads county or district roads, 5; authorising sale of land taken for public roads, 1; plans of towns submitted to Governor for approval, 8; warrants authorising land to be taken for roads, 27: total, 97.

Government Loans to Local Bodies Act: Proclamations bringing blocks of land under the Act, and arranging with Treasury as to loans on same for roads and other works, 35.

Crown Grants Act, Land Transfer and kindred Acts: Crown grants (for 45,089 acres), 85; warrants (for 551,425 acres), 260; Land Transfer certificates, 2,162; leases from the Crown, 74; Crown grants corrected, 16; duplicate Crown grants issued, 6: total, 2,603.

Naval and Military Settlers' and Volunteers' Land Act, 1892: Total number of remission certificates issued since 31st March, 1893, under section 6 of the Act, was 292:—

	£	s.	d.
Representing a money value of ... ..	12,850	0	0
Certificates issued under the Act of 1891 ... ..	23,106	10	0
Certificates issued under the Act of 1892, as per schedule to the Act ... ..	8,140	0	0

Total value of certificates issued to 31st March, 1894 ... £44,096 10 0

Of the 292 certificates issued during the past financial year, 154 have been exchanged for debentures, and seven have been exercised in payments for land.

The total number of remission certificates exercised during the year is 312, of which number 254 have been exchanged for debentures and fifty-eight have been used in the purchase of land.

The total number of certificates converted into debentures to 31st March, 1894, was 388; value, £14,311 10s.

The total number exercised for the purchase of land was 181: value, £6,965.

In addition to the above, a schedule of all rejected claims under the Acts of 1889, 1891, and 1892 was prepared, giving a *précis* of each case, and the reasons for rejecting the claim in each case. This schedule totals 1,579 claims, and is now under consideration of Government.

A further return was likewise prepared of cases not yet finally decided: these claims are fifty-one in number, and amount to £2,630 in value.

The above summary gives but a faint idea of the work involved, for long and tedious processes had in many cases to be gone through before a Proclamation or Order in Council could be issued. The work was well kept up during the year; and I desire to bear testimony to the hearty co-operation shown by all the officers to that end.

#### ACCOUNTS.

Mr. H. J. KNOWLES, the Chief Accountant, reports:—

The number of vouchers authorised for payment or credit was:—

	£	s.	d.
5,991 charged to Consolidated Fund, covering gross expenditure of... ..	136,531	7	8
5,847 charged to Public Works Fund, covering gross expenditure of... ..	157,776	9	1
1,233 charged to special Acts, covering gross expenditure of ...	59,465	0	11

Total 13,071

Total £353,772 17 8

Details of the expenditure will be found in the various tables on other pages.

In addition, 228 credit-vouchers and 606 applications for imprest advances have been dealt with; and 1,340 letters, memoranda, returns, and other matter have been prepared, copied, and despatched.

One hundred and eighty-one agreements prepared in triplicate have been issued, representing grants to local bodies of £42,847 2s. 11d.; and the payments under grants amounted to £22,704 7s. 10d.

A statement of expenditure, liabilities, and balances available, in respect of each of the 440 individual appropriations, has been prepared monthly for circulation within the department; and the various expenditure and authority registers have been carefully and systematically checked each month, and the totals and balances arrived at.

As compared with the previous year, the work in this branch is shown to have increased by *one-third*, and it has only been overtaken by constant work at high pressure and a very considerable amount of overtime.

TABLE No. 1.—Showing SURVEYORS employed and WORK on HAND on 1st April, 1894.

Chief Surveyors.	Surveyors employed.		Work on Hand.						
	Staff.	Temporary.	District.	Trig.	Settlement.	Native Blocks, &c.	Roads, &c.	Town.	Mining and Mineral Leases.
				Sq. Mls.	Acres.	Acres.	Miles.	Acres.	Acres.
G. Mueller ..	13	20	Auckland ..	250	132,202	296,179	249	..	..
T. Humphries ..	4	5	Hawke's Bay ..	71	79,800	70,060	16	..	..
J. Strauchon ..	5	6	Taranaki ..	91	106,000	..	85	100	..
J. H. Baker ..	8	14	Wellington ..	250	351,838	130,610	95	1,000	..
J. S. Browning ..	5	..	Nelson ..	272	77,843	..	..	..	200
S. Weetman ..	..	4	Marlborough ..	..	29,213	3,165	..	..	..
D. Barron ..	2	..	Westland ..	..	18,408	640	226	..	..
J. W. A. Marchant ..	4	7	Canterbury ..	..	295,858	..	47	..	100
C. W. Adams ..	4	1	Otago ..	156	22,950	1,000	..	150	302
G. W. Williams ..	3	5	Southland ..	220	67,878	..	22	..	..
Totals ..	48	62	..	1,310	1,181,990	501,654	740	1,250	602

TABLE No. 2.—CROWN GRANTS, CERTIFICATES OF TITLE, LEASES, and other INSTRUMENTS of TITLE from the CROWN prepared or examined, from 1st April, 1893, to 31st March, 1894.

District.	Number.				Cost.
	Singly.	In Duplicate.	In Triplicate.	Total Copies.	
Auckland .. .. .	..	104	724	2,380	£ s. d. 140 17 0
Taranaki .. .. .	1	18	53	196	42 5 0
Hawke's Bay .. .. .	4	40	9	111	5 11 0
Wellington .. .. .	30	225	126	858	25 11 0
Nelson .. .. .	50	146	26	420	32 8 0
Marlborough .. .. .	..	..	1	3	1 1 0
Westland .. .. .	..	6	382	1,158	30 1 0
Canterbury .. .. .	..	1	3	11	3 6 8
Otago .. .. .	..	115	352	1,286	199 15 0
Southland .. .. .	7	7	382	1,167	50 0 0
Totals .. .. .	92	662	2,058	7,590	560 16 5

TABLE No. 3.—PLANS placed on CROWN GRANTS and other INSTRUMENTS OF TITLE from the CROWN from 1st April, 1893, to 31st March, 1894.

District.	Number.				Cost.
	Singly.	In Duplicate.	In Triplicate.	Total Copies.	
Auckland .. .. .	..	104	724	2,380	£ s. d. 213 15 0
Taranaki .. .. .	..	26	53	211	36 15 0
Hawke's Bay .. .. .	6	148	43	431	37 2 0
Wellington .. .. .	30	225	610	2,310	132 2 0
Nelson .. .. .	21	157	61	518	158 13 8
Marlborough .. .. .	..	..	10	30	5 0 0
Westland .. .. .	..	..	3	9	0 18 0
Canterbury .. .. .	125	..	..	125	19 5 0
Otago .. .. .	..	..	151	453	24 4 0
Southland .. .. .	7	6	801	2,422	109 18 0
Totals .. .. .	189	666	2,456	8,889	737 12 8

TABLE No. 4.—WORK done under the LAND TRANSFER ACT, &amp;c., from 1st April, 1893, to 31st March, 1894.

District.	No. of Plans passed.	Deeds and other Instruments passed.	No. of Plans placed on Certificates of Title.			Miscellaneous Plans, &c.	Cost.
			Singly.	In Duplicate.	In Triplicate.		
Auckland .. .. .	108	165	..	..	278	126	£ s. d. 387 16 0
Taranaki .. .. .	576	..	2	289	189	1,054	879 10 10
Hawke's Bay .. .. .	71	..	..	320	157	153	253 17 0
Wellington .. .. .	244	245	..	1,132	..	236	517 8 4
Nelson .. .. .	96	..	..	99	126	142	294 18 0
Marlborough .. .. .	10	..	..	30	..	2	18 5 0
Westland .. .. .	47	12	7	15	..	299	167 1 0
Canterbury .. .. .	110	681	21	1,163	11	104	652 16 6
Otago .. .. .	60	2,139	..	363	..	224	429 0 4
Southland .. .. .	51	..	..	355	..	27	126 10 5
Totals .. .. .	1,373	3,242	30	3,766	761	2,367	3,727 4 3

TABLE No. 5.—STATEMENT of Work done for other DEPARTMENTS and for LOCAL BODIES during the Year ended 31st March, 1894.

D istrict.	Cost.	District.	Cost.
Auckland .. .. .	£ s. d. 935 10 8	Brought forward .. .. .	£ s. d. 2,197 18 11
Hawke's Bay .. .. .	273 0 8	Westland .. .. .	905 7 9
Taranaki .. .. .	282 6 11	Canterbury .. .. .	646 3 2
Wellington .. .. .	157 6 0	Otago .. .. .	277 10 0
Nelson .. .. .	529 13 8	Southland .. .. .	197 15 8
Marlborough .. .. .	20 1 0	Wellington, Head Office .. .. .	815 11 7
Carried forward .. .. .	2,197 18 11	Total .. .. .	5,040 7 1

TABLE No. 6.—Showing PAYMENTS to LOCAL BODIES during the Twelve Months ended 31st March, 1894, from “Thirds” of Deferred-payment and Perpetual-lease Lands, and “Fourth” of Small Grazing-runs.

Local Bodies.	“Thirds” Deferred- payment and Perpetual- lease Lands.			“Fourth” Small Grazing- runs.			Total Payments.			Length, Locality, Description, and Particulars of Work authorised by the Waste Lands Board.														
	£	s.	d.	£	s.	d.	£	s.	d.	Bush- clearing.	Scrub- clearing.	Formation.	Bridges.		Culverts.		Main- tenance.		Cost of taking Road under Public Works Act.					
Auckland ..	1,975	11	5	67	5	6	2,042	16	11	1,043	185	153	151	10	8	50	5	2	571	8	10	..	..	
Hawke's Bay	4,271	15	11	248	2	0	4,519	17	11	634	721	2,312	180	0	0	100	7	10	44	1	2	544	18	0
Taranaki ..	6,349	19	3	12	11	8	6,362	10	11	1,534	74	1,004	548	13	8	142	10	6	4,183	14	4	..	..	
Wellington	15,196	16	2	485	19	10	15,682	16	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Nelson ..	852	17	4	..	..	..	852	17	4	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Marlborough	20	2	3	14	4	2	34	6	5	45	40	4	..	..	..	..	..	10	9	3	..	..		
Westland ..	Nil	..	..	Nil	..	..	Nil	..	..	Nil	Nil	Nil	Nil	..	..	..	..	..	Nil	..	..	Nil	..	
Canterbury	1,870	18	0	1,072	13	8	2,943	11	8	..	..	†9,563	..	..	..	..	..	..	..	..	..	..	..	
Otago ..	4,195	11	8	2,671	19	8	6,867	11	4	352	305	3,515	190	1	10	448	3	9	1,194	8	11	..	..	
Southland †	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Totals ..	34,733	12	0	4,572	16	6	39,306	8	6	3,608	1,325	10,551	1,070	6	2	741	7	3	6,004	2	6	544	18	0

\* Particulars not given.

† Repairs, patching, and maintenance.

‡ No money paid.



## APPENDICES.

### APPENDIX No. 1.—ADMINISTRATION.

EXTRACTS FROM THE REPORTS OF THE COMMISSIONERS OF CROWN LANDS ON  
SETTLEMENT OPERATIONS DURING THE TWELVE MONTHS ENDED 31<sup>ST</sup>  
MARCH, 1894.

#### AUCKLAND.

*Summary of Land taken up.*—It will be seen at a glance that the *Summary of Transactions*, as shown by Table A, exhibits a marked advance upon that of the previous year, because not only is the area much greater, but more selectors have been placed upon the land. Cash lands have again shown a still greater diminution upon the report of last year, there being only 120 purchasers of rural lands during the year, of a total of 8,852 acres, or an average of nearly 74 acres for each selector.

*Analysis of Holdings.*—Before passing on to the classes of selectors, it may not be out of place to call attention to the small areas held by selectors—*i.e.*, that, generally speaking, 200 acres is a high average—a proof that nearly all the selectors are both *bonâ fide* settlers and also men of small capital.

*Cash Lands.*—The purchasers of rural lands have all to spend a certain amount in improvements, and also to make those improvements of a permanent character. It is clear that little room is left for speculative purposes. There is one feature, however, which must be noted—*i.e.*, that of perpetual leases made freehold, totalling to fourteen selectors of an area of 3,272 acres; and, considering the large number of leaseholds, and also that the privilege of purchasing is not conceded until, as a rule, far more improvements than those required by law have been done, I think it may fairly be said that the proportion of land so acquired is very small.

*Arrears of Instalments due upon Deferred-payment Lands.*—Rentals due under above tenures have lessened considerably, the arrears of instalments due being this year only £794 17s. 9d. owing by 111 selectors, whilst the perpetual leaseholders in arrears are only 261 persons, owing £1,439 2s. 2d. I think that this may be considered very satisfactory, considering that the settlers are nearly all men of comparatively small means.

*Village Homestead Special Settlement.*—It is not necessary to report specially upon these settlements, as Mr. March has so exhaustively gone into the matter in his report. Suffice to say that the forfeitures and surrenders during the year amount only to five, of an area of only 184 acres. There are at present 258 selectors holding under the village homestead conditions, occupying an area of 10,742 acres. They have obtained advances during the year for erection of houses and bush-felling to the amount of £371 7s. 6d. The only other point at all worth mentioning is that out of 258 selectors 189 are in arrears for rent and interest; in the former case they owe £527, and in the latter £659.

*Special-settlements Associations.*—There have been three new associations in addition to those belonging to last year—*viz.*, the “Auckland,” who have taken up some 9,000 acres on the Waoku Plateau, Hokianga—all good land; the “Marlborough,” who have selected 5,000 acres near to Opanake and the Kaihu Railway; and the “Avoca,” who have selected 3,650 acres not far from Dargaville and the Northern Wairoa. These settlements have at present eighty-two members, and the surveys are in progress. The total number of original selectors have been 203 for the seven special settlements now in force, holding an area of 41,440 acres.

*Small Grazing-runs.*—There is not much land available or suitable for opening under this heading, and so there have been but few transactions.

*Revenue.*—The amount received during the year came well up to estimate, except in the matter of cash sales, and this fell short entirely from the dullness of the market for kauri timber, with which many lands for disposal by cash are covered. The total revenue received from all sources was £25,638 12s. 8d., a very large increase upon the previous year. I do not, however, anticipate that it will be sustained during the coming year, many causes tending to a probable considerable abatement in the demand for land.

*Selectors.*—Some idea of the number of accounts and the amount of book-keeping and correspondence involved may be gathered from the fact that upon the books there are, as Crown tenants or persons other than cash purchasers, some two thousand five hundred separate selectors or lessees.

*Inspection by Rangers.*—The Rangers' inspections have been systematically made, and the following are the numbers of inspections made, area under cultivation, and value of improvements which should have been made and have actually been made: Total number of inspections during year, 421; area inspected, 112,340 acres; area required to be improved, 2,188 acres; area actually improved, 15,138 acres; value of improvements required by law, £9,082; value of such improvements actually made, £53,184. I think that this may be considered satisfactory. Owing to the scattered nature of the holdings I am obliged to employ many of the Survey staff to supplement the efforts of the Rangers, and by so doing am able to keep the work well in hand.

*State Forest Reserves.*—I have nothing special to report in connection with these reserves. Mr. Ranger Wilson and Mr. Maxwell have their time fully occupied in looking after the Northern

forests, and preserving them from fires. Ranger Lusk, in charge of the Thames and Ohinemuri districts, has defined the boundaries of the timber-leases held by private owners, and has also defined the boundaries and counted the trees in the forest reserve near Tairua, a portion of which has been killed by fire, and it will be necessary to sell such dead timber to prevent loss. He is now counting the kauri-trees in all the clumps of bush upon Crown land situated upon the eastern watershed of the main Thames Range, both for the purpose of ascertaining how much has been killed by fire and also how much green timber the Crown has available for sale or other disposal. It was intended to have dealt with the dead timber in the Puhipuhi Forest, which is fast deteriorating in value, having been so long killed by fire, but, in view of the probable extension of the Hikurangi Railway as far as the Whakapara River, the matter has been deferred.

*Conclusion.*—In conclusion, there is at the present time open for selection some 141,842 acres of surveyed lands, equal to about four hundred and seventy sections, and 298,025 acres of unsurveyed lands, the principal additions to the Crown lands having been the successful purchase of nearly 300,000 acres of good land in the Upper Waipa, and on to the Ohura and tributaries. Of course a good deal of this is in the Taranaki District. All the good land in the Hokianga County is being rapidly taken up by special-settlement and other selectors, and it is also contemplated to establish two or more co-operative bush-settlements on the main road-line between Opanaki and Hokianga.

GERHARD MUELLER,  
Commissioner of Crown Lands.

HOLDINGS VISITED FROM 1ST APRIL, 1893, TO 31ST MARCH, 1894.

Area originally taken up.			Area required to be improved.			Amount of Improvements which should have been made.			Area in Cultivation.			Amount of Improvements made.			Number of Selectors.
A.	R.	P.	A.	R.	P.	£	s.	d.	A.	R.	P.	£	s.	d.	
3,759	2	10	682	2	9	3,457	0	6	1,858	3	28	6,636	8	8	39
911	0	23	27	3	35	217	9	6	27	0	0	623	8	6	12
81	0	0	...			12	3	0	...			28	0	0	1
2,510	2	5	...			113	2	0	...			655	16	0	16
489	3	0	8	3	24	42	13	9	5	2	0	93	11	0	5
11,330	2	0	1	3	0	823	15	0	8	0	0	3,356	17	0	17
186	3	14	10	0	0	21	2	0	15	2	0	323	1	6	4
11,568	3	23	332	0	1	633	1	7	535	2	24	5,944	8	9	63
7,475	0	12	33	0	11	492	8	6	151	2	0	2,977	10	0	39
2,123	3	24	127	1	21	103	11	9	119	2	0	1,710	18	6	17
2,908	2	19	...			291	5	0	4	0	0	695	7	6	9
89	1	24	...			11	3	6	18	2	0	56	5	0	2
9,683	0	0	21	1	0	1,018	4	0	1,222	2	0	7,003	11	0	54
11,201	1	28	134	2	6	742	11	9	3,551	2	0	7,203	11	0	43
926	1	21	...			87	5	10	293	0	0	525	19	0	16
87	2	8	13	1	11	68	19	0	15	0	0	53	10	0	2
197	0	23	...			14	15	6	...			...			1
112	3	27	11	0	6	...			80	0	0	273	14	0	3
1,650	3	0	347	0	5	...			358	2	0	1,462	11	0	12
39,654	0	0	...			596	12	8	5,686	2	0	8,102	18	0	11
58	0	24	...			29	0	0	...			130	0	0	1
1,875	2	8	375	3	1	...			879	2	0	3,086	8	0	19
3,458	1	5	61	2	20	305	4	7	308	1	0	2,241	2	0	35
112,340	1	18	2,188	0	30	9,081	9	5	15,138	3	12	53,184	16	5	421

TARANAKI.

*Summary of Lands taken up.*—The area which was open for ordinary selection at the beginning of the year was 19,597 acres, which, added to the area opened during the year, 9,643 acres, made a total of 29,240 acres. Of this area, 12,363 acres have been disposed of, leaving open for selection at the end of the year 16,877 acres. Of the unsurveyed area, 14,880 acres, open for selection on the 31st March, 1893, only 2,720 acres were selected during the year. It is thought, however, that the balance of the block would sell readily if the tracks could be opened up.

*Analysis of Holdings taken up.*—The total number of selections this year is only a third of last year's; this is probably accounted for by the fact that most of the surveyors were employed on special-settlement surveys, and the only two blocks opened during the year were immediately taken up. The lease-in-perpetuity system appears to be the favoured one, the number taken up under that system being more than double that under the right-of-purchase system.

*Cash Lands.*—The area returned under this heading consists mostly of sections in the Town of Stratford sold during March, 1893, and which were not paid for in full until April. The balance comprises one section in the Town of Opanake, and two in the Township of Huiroa. The rural

lands disposed of for cash were two purchases under "The McLean Land Act, 1891," by Mr. George McLean, and a vacant section in the Patea district which had been taken possession of by an adjoining holder, he becoming the purchaser at the auction.

*Deferred-payment Lands.*—The area selected comprises two sections of 244 acres, under section 114 of "The Land Act, 1892," the annual instalments being £18 16s. 10d., and two conversions from perpetual lease, the area being 414 acres and the annual instalments £58 8s. 9d. The revenue, however, shows an increase of over £500 on last year's figures, caused by an increase on last year in the area of freeholds obtained, the excess being 1,330 acres, and the amount received for freeholds £8,314 5s. 6d. Several licenses expired at the end of last December, and all selectors, except one, have paid up the capitalised value. The decrease in the number of capitalisations on last year's figures is thirty. The yearly loss in instalments through the acquisition of freeholds is £1,116 14s. 2d.

*Occupation with Right of Purchase.*—The number of new selections is about the same as last year, but the area shows a decrease of 2,659 acres. If more land could have been put in the market there is no doubt that the number of selections would have been increased. Only one selection was forfeited.

*Lease in Perpetuity.*—The area taken up this year shows a very large increase on last year's transactions. 2,720 acres of the unsurveyed block at the back of Waverley and Patea were taken up during the year under this system.

*Special Settlements.*—Of the fourteen associations only three have not been touched as regards survey: the Nelson settlers have not yet paid their fees for survey. The Kaitieke Block, shown in last year's return, has, by a resolution of the Land Board and subsequent approval of the Government, been converted in part into a forest reserve (*i.e.*, the area of 6,000 acres running along the Matemateaonga Range), as the land applied for was totally unfit for settlement in small areas. All those which have been surveyed and balloted for will come under "The Land Act, 1892," instead of remaining under the regulations issued under the Act of 1885, and it is expected that the remainder will follow suit. Three of the associations, the Whenuakura, Moeawatea, and Kaitangiwhenua, have increased their membership from 53 to 55, as provided for when they first applied for the land. Four of the Moanatairi members did not pay their survey fees, and will therefore disappear from the association.

At present only two selectors have given up their sections, but the test of the scheme will be, when they are called upon to pay their rents and the inspections of improvements become due. I know that several of the Milsom, Tanner, Oxford, Lepperton, and Gatton selectors have commenced improvements, but until the time arrives for the Ranger to visit the sections nothing definite can be reported.

*Small Grazing-runs.*—No lands were opened for selection under this heading. I think it probable that there will be a portion of the Rawhitiroa Block, now under survey, opened under it during the coming year. The present holders are carrying out their conditions very satisfactorily. The required improvements at date amount to £417, and 2,255 acres have been put under grass, at a value of £4,510, and other improvements, such as fencing, &c., have been effected, to the value of £855. Seven are residing, the balance residing within the limit of ten miles allowed by the Act. It was found that two selectors could not fulfil the residential conditions, and their runs were therefore forfeited.

*Revenue.*—The total revenue received is £1,544 in excess of last year, but it must be borne in mind that the number of deferred-payment selectors (this system contributing more than one-half of the revenue) is getting smaller every year. The receipts show a surplus of £3,515 on the estimates for the year. The large sum of £1,550 was received in scrip exercised in the purchase of lands held under deferred payment and perpetual lease. This, if received in cash, would of course have made a further credit.

*Arrears of Rent.*—Under deferred payment the number of selectors in arrear is 119, perpetual lease 25, and other systems all slightly less than last year, except the small runs, which show an increase of 2. These rents, however, were only due on the 1st March last. Of the special-settlement arrears I would mention that the rents became due on the 1st January, 1895, and are not really collectable until the 1st January, 1895, as, according to the regulations under which the lands were selected, they can be added to the capital value or paid off in the interim, at the option of the selector. After allowing for these 95 special settlers owing £1,398 8s. 6d., the total number in arrear shows a decrease on last year of 145 selectors and of £559 in the amount due.

*Improvements.*—The reports of the Crown Lands Ranger show that 331 sections were inspected, comprising an area of 53,348 acres of first-class and 33,781 acres of second-class land. The area of first-class land required under cultivation was 5,234 acres, and the value of improvements required on second-class lands was £3,367.

The total area grassed is 21,355 acres, at a value of £42,176; and additional improvements, such as felling, fencing, and buildings, to the value of £17,503. The total number residing is 168, and the number of defaulters 30, or only one-tenth of the total number inspected. A large number of special inspections for the purposes of transfer and completion of purchase were made.

*Probable Future of Crown Lands.*—The area of Crown lands at present available for selection is, roughly, 415,000 acres. Included in this area are the following blocks, purchased by the Crown from the Natives during the year: Part Taumatamahoe Block, 82,670 acres; Waikaukau, 4,579 acres; Taurangi, 10,000 acres; Waiaraia, 12,360 acres; Te Ngaire, 7,500 acres.

I would draw attention to the necessity for further purchases of Native land in this district during the coming season, such as the Mohakatino-Parinihi, and portions of the Whitianga, Maraekowhai, and Taumatamahoe Blocks.

If negotiations cannot soon be entered into for the purchase of these lands there is no doubt but that they will pass into the hands of private individuals, who are both active and successful in their efforts to purchase.

About 74,000 acres will be in a state to offer for selection during the coming season. Already 16,436 acres have been surveyed into sections, and 12,000 acres are to be opened as unsurveyed land. The balance is to be made up of the Rawhitiroa Block, 35,300 acres, which will be offered in very large areas, as the country is extremely rough and difficult of access; also a small block, about 3,000 acres, at the back of Midhirst, and the Ngaire Block, of 7,500 acres.

The demands for land in this district are usually for small sections of 100 to 200 acres and upwards; the bulk of our remaining Crown lands are, however, unsuitable for subdivision into such small areas.

JOHN STRAUCHON,  
Commissioner of Crown Lands.

#### HAWKE'S BAY.

There have been seventy-four selectors this year, who have taken up 24,355 acres under various tenures—lease in perpetuity taking the lead with 9,128 acres, and occupation with right of purchase next in order with 8,312 acres. In 1892-93 there were 49,831 acres selected by ninety persons, so that the average size of holdings this year is considerably less than last, being 329 acres as against 553 acres. The number of Crown tenants on the books is 665, in occupation of 474,233 acres, rather more than one-third of which, viz., 270, hold on perpetual lease, 156 on deferred payment, 27 on occupation with right of purchase, 100 on lease in perpetuity, the remainder being under other tenures.

*Cash Sales.*—There have been twenty-one, and only three of these for rural lands. The conditional cash purchase of "The Land Act, 1892," does not appear to have found favour here. Perpetual leases made freehold during the year were thirty-one in number, with a total of 14,855 acres, the amount realised being £12,406.

*Perpetual Leases.*—The holdings have this year been reduced in number from 303 to 254, through freeholds being acquired, exchanges to lease in perpetuity, and forfeitures. Ten lessees have taken advantage of the opportunity afforded by the new Act of changing the tenure to lease in perpetuity, thereby getting their rent reduced by one-fifth, but surrendering the right they held to acquire the freehold of the land.

*Lease in Perpetuity.*—This system of selection is gaining ground in this district, as there have been nineteen this year as against eighteen under occupation with right of purchase. It will be seen from the returns that the revenue received this year from these two sources is not more than about one-fifth of the annual rental of the land, which might, without explanation, be taken to be due to arrears, which is not the case, there being only three selectors in arrear, to the amount of £20 19s. The reason is that nearly the whole has been selected as unsurveyed land, and the survey fees paid by the selector are by law credited to them as rent, and the nine cases where tenure has been changed are getting the benefit of the reduction on the rent that has been paid as perpetual-lease lands. These credits will before long be worked off, and the full rent become payable.

*Village-settlement Lands.*—There are only thirty-two holdings on deferred payment, and seven on perpetual lease, and at the rate the freeholds are being acquired holdings under these tenures will soon become things of the past. No village-settlement lands have been disposed of this year on occupation with right of purchase, but there have been ten selections under lease in perpetuity.

*Village Homestead Special Settlements.*—No fresh selections have been made, and there having been no forfeitures or surrenders the numbers remain as last year—viz., thirty-one, with an average of 6½ acres. The two settlements continue prosperous, the total advances made to settlers being £876 15s. 9d., and the value of improvements effected by them £5,405.

*Special-settlement Associations.*—The two old settlements of Waipawa and Danevirke, selected in 1886, have been an unqualified success, and the locality is well settled, with a butter-factory in full operation. Thirty-five of the original fifty-eight deferred-payment holdings have been made freehold, but there has been no tendency to the aggregation of larger areas, so often the case. The Liberal Association, with fourteen members, took up 4,800 acres last year on lease in perpetuity, but about half the members were residents of Napier, in mercantile houses and other settled occupations, and seven of the selections have been surrendered or forfeited. These sections will shortly be thrown open for selection on the optional system, and it is to be hoped will be taken up by *bonâ fide* settlers. The Ruahine Association has selected 2,400 acres at the back of the Blackburn Settlement, and it is now in course of being surveyed. The members, twelve in number, are, as a rule, hard-working men residing in the adjacent district, and of a class likely to make the settlement a success.

*Small Grazing-runs.*—Two selections have been made during the year, bringing up the number in occupation to forty-seven, with 122,994 acres. The land as a rule is good and the improvements extensive. The goodwill of these leases has greatly enhanced in value of late, on account of the means of communication having greatly improved since they were taken up, at which time they were much isolated, and the rents comparatively low. This is common to all pioneer settlements, but is especially marked in the case of these runs. There are none open for selection at the present time.

*Pastoral Licenses.*—Those now held are twenty-two in number, comprising 161,845 acres, an average of about 7,356. During the year the term of one license has expired, part of which is now about to be thrown open for selection under the optional system in four sections, the balance being opened as a small grazing-run.

*Revenue.*—The amount of cash received on account of sales and rents of Crown lands is £23,595 Os. 2d., and scrip to the value of £701 12s. 3d. A further sum of £288 15s. 1d. has been taken as rents of endowments. On the 31st March sixty-nine selectors were in arrear, with a total

indebtedness of exactly £500. With two exceptions they are single payments, due in advance on the 1st January and the 1st March last. The promptness and regularity with which rents are paid is a good indication of prosperity. Immediately prior to the January instalment becoming due only eight of the numerous Crown tenants were in default, for the inconsiderable sum of £64.

*Improvements.*—Inspections have been made of 180 holdings, comprising 127,887 acres. The value of the required improvements was £22,579—that effected was found to be £69,479, slightly over 10s. an acre; and as a good proportion of those inspected have only been selected the last year or two, and consequently, to a large extent, unimproved, the results are highly satisfactory. The settlers generally have largely increased their stock, and many of the holdings have been made freehold for the purpose of borrowing money to further improve and stock the land, as lenders are found to be very reluctant to take mortgages over perpetual-lease lands. In the case of small holdings cattle are found taking the place of sheep, and in three of the settlements butter-factories have been started and are in full operation.

*Land for Settlement.*—Offers have been made of two advantageously situated runs of about 10,000 acres each, but, unfortunately, in the case of one, which was well adapted for subdivision into small farms, the price asked was too high. The other, while excellent in some respects, was not as a whole suitable for dividing into areas within the limits prescribed by law. It is to be regretted that offers have not been made of suitable properties at prices that it would be safe for the Crown to give, as there are so many inquiries for small farms of good quality on lease-in-perpetuity terms by settlers' sons, and persons anxious to put their sons on land, and who are prepared to supply the means to give them a start.

*Land for Future Disposal.*—At the present time, 30,438 acres are open for selection; 29,819 of it is rural land, and is principally hilly forest-country, and, though the soil generally is good, it is only adapted for sheep-grazing, in areas of from 1,000 to 2,000 acres. The area of the balance of Crown land is 293,181 acres. Each block is particularly described both as to position and character in the Land Guide, but, speaking generally, it is for the most part rough forest-country, unfit for close settlement, but the greater portion will make excellent grazing-country when improved. Some blocks lie far back, and are not likely to be taken up until the more accessible and better country is no longer obtainable, which means years to come. Throughout the year the inquiries for land have been numerous and constant, many coming from outside the colony. Of formal applications alone there were no less than 644 for the fifty-three sections disposed of on application. The want felt is land of a good quality, and of a character that will suit the man of small means; and it is to be hoped that some of this class of land, so much of which is now lying idle in the hands of the Natives in all parts of the district, will in some manner be made available.

THOMAS HUMPHRIES,  
Commissioner of Crown Lands.

#### WELLINGTON.

##### Summary of Lands disposed of during Year :—

Cash—	A.	R.	P.	A.	R.	P.
Ten rural sections ... ..	858	2	8			
Twenty-seven suburban sections ... ..	292	1	19			
Thirty-six town-land sections ... ..	16	0	0			
				1,166	3	27
Occupation with right of purchase (seventy sections) ... ..				20,981	1	5
Lease in perpetuity (thirty-six sections) ... ..				10,594	0	10
Village-settlement lease in perpetuity (twenty-four sections) ... ..				429	2	6
Farm homestead associations balloted for and registered (249 sections) ... ..				48,852	2	0
Small grazing-run (one section) ... ..				3,150	0	0
Total ... ..				85,174	1	8

The total area shown to be disposed of is 71,122 acres less than last year, but this is owing to there being only nine farm homestead associations, containing 249 members, taking up 48,852 acres, registered, after the ballot had been taken for the allotment of the sections, this year, as compared with twenty-three associations, containing 671 members, taking up 127,656 acres, which were registered the previous year, showing a decrease of 78,803 acres. The land taken up for occupation with right of purchase shows an increase of 10,251 acres, and that taken up under lease-in-perpetuity conditions was increased by 5,016 acres; but these systems had only been in operation for about five months last year, and this year they show a full twelve months' transactions. The amount taken up under occupation with right of purchase is, as it had been during the previous half-year, about double that applied for under the lease-in-perpetuity conditions, notwithstanding that the rental under the latter is 20 per cent. less than is charged for land under occupation with right of purchase. The two systems can hardly be considered to have had a full trial in this land district yet, as we have been able to offer but comparatively little first-class land suitable for ordinary farming purposes under the Land Act of 1892.

*New Lands opened during the Year.*—58,700 acres, principally second-class pastoral lands, were opened for sale on the eastern side of the Tararua Range, known as Te Mara, Kaitangata, and Kaiparoro Blocks. Some of the valleys and lower spurs have been taken up, about 10,295 acres of it having been applied for. A better block, of 6,850 acres, known as the Otamakapua-

Rangitikei, nearly opposite to Ohingaiti, was opened, and it was all taken up in two days, showing the great demand there is for even fairly good pastoral land. Five small village settlements, including those of Makohine, Mangamahu, and Momahaki, containing in all 1,485 acres, subdivided into fifty separate allotments, were offered for selection, and every allotment has been taken up during the year. The Pohangina Township, consisting of town and suburban sections, belonging to the Wanganui Harbour Board endowment, was offered for sale by auction at Feilding, and realised on an average £13 10s. a quarter-acre for the township sections and £5 11s. 7d. per acre for the suburban sections, all heavily-timbered land, eight miles from the nearest railway-station.

*Forfeited Sections.*—Twenty-three deferred-payment, perpetual-lease, and other lands, and sixteen of the more recent farm homestead selections, containing in all 9,947 acres, were offered for sale under the optional system of "The Land Act, 1892," and were most eagerly competed for—in one case as many as seventy applications were put in for the same section, and in many cases they exceeded twenty-five for the same piece of land. In some cases the number of applications were undoubtedly swelled by a large number of members of the same family applying for the same section in the hope that one of them would get it.

*New Land to be offered for Sale.*—The preliminary survey of the following blocks has been completed, and the lithographs are now being prepared to enable them to be thrown open for application at an early date: Block south of the Kawatau River, 4,500 acres; block north of Wanganui United Farm Homestead Block, Waimarino, 3,000 acres; block north-east of Waimarino Farm Homestead Block, Waimarino, 7,350 acres; block adjoining Fruitgrowers' Association Block, Waikanae, 3,500 acres; isolated pieces, East Puketoi country, 6,800 acres; Horowhenua Village Settlement, 700 acres. The survey of the Pongaroa Village Settlement, containing 1,800 acres, is nearly completed, and will be ready for settlement early in the spring.

The roads of a further block in the Waimarino, containing about 27,000 acres, have been laid out, and the land will, I expect, be ready to be opened on the optional system early next summer.

In the Awarua Block, 142,600 acres will, it is expected, shortly be declared Crown land. It is proposed to lay off township and village homestead special settlements immediately; in fact, two survey parties are on the ground, and a third is under instructions to start at once, so that some of the land fronting the main road can be placed in the market in the spring. Three other parties will be ready to start directly they have this season's work plotted, so it is anticipated a large area of it will be opened for sale during the ensuing year.

*Farm Homestead Associations.*—During the early part of the year the schemes for the subdivision of nine more association blocks were lithographed, and I held ballots for the allotment of sections at Hunterville, Marton, Ashurst, Woodville, Danevirke, and Pahiatua. This, with the twenty-three associations previously balloted for, leaves only nine of those formed in this district still to be allotted. The preliminary survey of six of them is well advanced; two of them will, I think, not be taken up, as the land is too rough and steep to be profitably worked in farm homestead sections, leaving only a small one of 1,200 acres, the latest applied for, still to be surveyed, but a contract is being let to do this.

The associations completed embrace an area of 209,758 acres, nearly all being dense bush-country; and as it has been necessary, in order to subdivide it, to select, grade, and lay out over four hundred miles of road-lines before the subdivision could be made, the survey has necessarily taken longer to complete than the ordinary surveys when the areas are larger.

*Inspections.*—With the exception of the McKenzie and Pioneer Associations, which have been started over two years, no action has yet been taken to inspect their lands. The regulations under which the associations took up their land gave two years after the ballot took place to make improvements; and associations which decided to come under the Land Act of 1892 and take leases in perpetuity have only to make improvements during the first year after completion of survey, which in the earlier surveyed associations will only expire on the 1st of July next; so it is no use inspecting until after that date.

I am, however, aware, from information given by the surveyors, that in some of the blocks a good deal of bush has been fallen by the settlers, and considerable improvements have been made, but in other cases the settlers have not started their work so promptly as they should have done, and I propose to issue a circular giving them notice that an inspection will be made at the end of three months after the expiration of twelve months from the date when notice of the completion of the survey was sent them, with the view of forfeiting the sections of those members who have not started their improvements, as required by the Act under which they are holding.

*Rangers' Reports on Improvements.*—The country land under the Land Act of 1885 is held under four different tenures—deferred-payment, perpetual-lease, special-settlement holdings, and small grazing-runs.

During the year 931 inspections have been made, and the table attached gives the number inspected under each system. The result of this year's inspection shows, as did last year's, that the total of the improvements greatly exceeds that required to comply with the Land Act, and, as I reported fully then as to the time and method of making the inspections, I only need now call attention to the results.

The law required that of the first-class land 38,842 acres should be in grass; the total area reported to be cultivated is 62,419 acres, being 23,577 acres in excess of the area required. The other improvements required amounted to £59,923; those found on the ground exceeded this amount by £9,193.

On the second-class land, where the improvements required to be done are of a money value, improvements worth only £11,547 were required; the improvements made on this class of land were valued at £37,751. Two hundred and twenty-three holders are in arrear with their improvements. Under cultivated area there is 3,205 acres less than there should be, but this is 500 acres less than the arrears reported last year. In other improvements there is £7,692 less than there should be. This shows a large increase on last year's returns, principally on special-settlement holdings,

which are £5,834 in arrear as compared with £2,207 reported last year. This is accounted for by the fact that the sixth year's improvements should now be done, when the occupier should have spent £1 per acre in addition to having one-fifth, or, if not residing, two-fifths, of his holding under cultivation. It is in these final improvements the special settlers are in arrear; but in all cases where the owner is actually settled on the ground and has cultivated one-fifth of his holding, as required by the Act, the Land Board does not hurry him to complete his improvements, unless he is applying for the title to his land. It is only in cases where the owner, by not residing, is required to do double improvements that the Board has pushed the holders to effect the improvements required under the Land Act. The Rangers' reports show that in none of the tenures, except small grazing-runs, where residence is compulsory unless the holder is residing within ten miles of the land, more than 45 per cent. of the owners actually reside on the land. The Land Board is bound therefore to insist on the penalty for non-residence being carried out.

On rural land purchased under "The Land Act, 1892," fifty holdings have been inspected and reported on, but it is too early to draw any conclusions. On those reported on, the law requires improvements to the value of £2,901 to have been placed on the holdings taken up; the value of improvements found to be made was £5,272, being a surplus of £2,371. The value of the improvements in arrear was found only to amount to £600.

*Village-settlement Lands.*—On the 113 holdings reported on this year, the improvements required to comply with the conditions under which the land was taken up were 292 acres cultivated and other improvements to the value of £1,972. Those found to be made were 793 acres cultivated and other improvements to the value of £5,354, this being three times the area required to be cultivated and more than twice the value of other improvements, a very satisfactory result; though the percentage found to be residing is not so satisfactory, being only 49 per cent., which will require further inquiry.

Taken as a whole, these results can but prove satisfactory, and show that material progress is being made in every class of settlement.

*Forfeitures.*—The following table shows the forfeitures which have taken place during the year for non-fulfilment of the conditions under which the land was held:—

System.	No.	Area.		
		A.	R.	P.
Deferred payment ... ..	2	83	3	0
Perpetual lease ... ..	4	856	0	0
Village-settlement deferred payment ... ..	1	20	0	0
Village homestead special settlement ... ..	13	144	0	37
Special settlement on deferred payment ... ..	2	194	0	0
Small grazing-run ... ..	3	4,355	3	15
<b>Total</b> ... ..	<b>25</b>	<b>5,653</b>	<b>3</b>	<b>12</b>

In the clerical branch the work continues to increase, owing to the large amount of correspondence, &c., in connection with the settlement of members of farm homestead associations and other selectors on their holdings, the preparation of schedules of areas and calculation of capital values, rentals, payments under the Government Loans to Local Bodies Act, &c., of the various associations' and other lands loaded for roads; conversions from one system to another, capitalisation, extensions, various returns, &c.

The selectors on settlement conditions now registered on the books number 2,793, of whom 920 are under the farm homestead conditions; and the work of seeing the conditions of the Act are complied with has assumed very large proportions. As applications for titles, transfers, &c., which are now very considerable, are received, the last reports have to be examined, and the necessary letters drafted in accordance with the state of the case. The Rangers' reports, which numbered over 1,200 during the year, have to be recorded, carefully checked and analysed, to show whether the conditions for the particular purpose for which they were made had been complied with; and, in the case of defaulters, schedules for the Land Board were prepared, and the necessary notices sent out and followed up from time to time, to insure prompt steps being taken to comply with the Act. This necessitates very careful supervision, and constant reference to the records, to see that the required action is taken at the right time, and that none are overlooked.

The work in connection with the Land Board has also increased very much, the sittings always lasting one whole day, and sometimes two days; the writing-up of the minutes takes, on an average, about three days after each ordinary meeting.

The outward and inward correspondence, including reports from Rangers, surveyors, notices *re* payments from selectors, &c., aggregated over 27,000 letters, &c., or an average of about ninety per day. There were 246 records received from other departments and dealt with, and 1,260 vouchers were passed through for payment, representing a sum of £27,300; 950 cheques for wages, amounting to £6,350, were drawn on my imprest account.

The work of transferring the accounts from the old to the new ledgers, and preparing cards for the Auditor of Land Revenue, was also performed by one of the clerks, assisted by an extra clerk engaged for the purpose.

The survey staff consists of twenty-one parties and one inspector, besides contract and Native Land Court surveyors.

The office work during the year has been exceptionally heavy. It is only by the industry of the principal officers and their subordinates that the ever-increasing demands on the department can be kept pace with. I have much pleasure in acknowledging how much I am indebted to them for their assistance in coping with the work of the department.

JOHN H. BAKER,  
Commissioner of Crown Lands.

SUMMARY of Improvements effected by Lessees and Licensees holding under the Land Acts, 1885 and 1892, inspected during the Year 1893-94.

System held under.	Area.		Number of Selectors.		First-class Land.						Second-class Land or Small Runs.						Defaulters.			Holding.			
	A.	B. P.	Improvements required by Land Act.		Improvements effected.				Improvements retained by Land Act.		Improvements effected.		Area or Amount in Arrear.		Residing.	Number not residing.	Percentage residing.	Area per Family.					
			Cultivated Area.	Other Improvements.	Cultivated.	Other Improvements.	Capital Value or Annual Rent of Section.	Acres.	£	£	Acres.	£	Cultivated Area.	Numbers.									
																			Value.	Total Value.	Value.	Total Value.	
Deferred payment ..	19,422	0	0	91	3,970	8,094	7,598	16,631	7,897	24,528	3,537	1,092	611	1,268	437	1,705	19	182	453	41	50	45	213
Perpetual lease ..	139,195	0	0	385	21,412	16,079	32,145	74,231	30,527	104,759	27,737	8,788	8,540	17,351	4,057	21,408	79	2,237	1,885	163	222	42	336
Special settlement..	38,366	0	0	425	13,460	35,750	22,676	55,033	30,692	85,725	..	..	..	..	..	..	125	784	5,834	188	237	44	90
Small grazing-runs	25,692	0	0	30	..	..	..	..	..	..	568	1,667	7,263	11,465	3,173	14,638	..	..	..	26	4	87	856
Totals	222,675	0	0	931	38,842	59,923	62,419	145,895	69,116	215,012	31,842	11,547	16,414	30,084	7,667	37,751	223	3,203	7,672	418	513	45	239
FIRST- AND SECOND-CLASS LANDS.—Under "The Land Act, 1892."																							
Lease in perpetuity	4,431	0	0	23	..	1,891	481	926	1,005	1,931	..	..	..	..	..	..	13	..	427	4	19	17	149
Occupation with right of purchase ..	9,919	0	0	27	..	1,510	1,257	2,997	344	3,341	..	..	..	..	..	..	6	..	173	4	23	15	367
Totals	14,350	0	0	50	..	2,901	1,738	3,923	1,349	5,272	..	..	..	..	..	..	19	..	600	8	42	16	287
VILLAGE LANDS.																							
Village homestead special settlement	907	0	0	72	86	..	462	997	2,443	3,440	..	..	..	..	..	..	10	3	..	31	41	43	12
Village settlement, deferred payment	301	0	0	35	195	1,972	292	1,038	2,623	3,656	..	..	..	..	..	..	8	..	575	20	15	57	8
Village settlement, perpetual lease ..	39	0	0	6	11	..	39	99	288	387	..	..	..	..	..	..	..	..	..	4	2	67	6
Totals	1,247	0	0	113	292	1,972	793	2,129	5,354	7,483	..	..	..	..	..	..	18	3	575	55	58	49	11



## MARLBOROUGH.

*Summary of Lands taken up.*—The area which was open for ordinary selection under all tenures at the beginning of the year was 129,900 acres, which, added to the area that has been opened during the year, viz., 38,500 acres, made a total of 168,400 acres. Of this area, 27,300 acres have been taken up, leaving open at the end of the year 141,100 acres. Of this area, 135,000 acres are situate in the western and southern parts of the district, and is composed chiefly of rugged mountain-tops which for several months during the year are under snow, and is not at all likely to be taken up. The area taken up according to the table—viz., 8,527 acres—represents only that for which titles have been issued, and therefore differs from the gross total taken up by 18,773 acres, which have yet to be surveyed.

*Analysis of Holdings* shows that, as last year, the small grazing-run tenure appears to be the most popular in this district for the present. This may probably be accounted for by the following advantages which this system secures, as compared with those under Part III.: First, there is no deposit required for survey, the Crown bearing the cost; second, the comparatively low rental; and third, the small value of improvements required. In addition to this, the tenure is practically a perpetual lease, and, lastly, the lessee has the right at any time to change his tenure to a lease in perpetuity. Pastoral runs come next in number, but, as the country now available is more or less heavily timbered, and there is no right under this tenure to clear the land, there is little or no inducement to take it up beyond the exceedingly low rental of 1d. per acre. Under Part III., or the "optional system," the lease in perpetuity is undoubtedly the favourite tenure.

*Cash Sales.*—The only absolute sale for cash was that of an area of 6 acres and 34 perches in the Town of Kaikoura, to one person, the average price being £20 8s. per acre. The only other item under this heading is the completion of purchase of a perpetual-lease section in the Orieri District, Kenepuru Sound.

*Lease in Perpetuity.*—In addition to the area shown in the return, 1,891 acres have been taken up by seven selectors; but, as the land has not yet been surveyed and leases issued, it could not be included in the return.

*Small Grazing-runs.*—An area of 6,039 acres has been leased during the year to twelve holders, the average area being 503 acres 1 rood, and the average rental 3d. per acre. In addition, there have been 4,925 acres taken up, which are awaiting survey. Owing to the practice which has obtained in this district of offering small grazing-runs prior to survey—although the cost is borne by the Crown—only the rentals of those surveyed and leased can appear on the return.

*Pastoral Licenses.*—An area of 12,013 acres was taken up by eleven holders. These were pastoral runs, which were re-offered for a term of ten years. The balance of area held—viz., 1,100,077 acres—is held by 128 tenants, sixty-nine of whom hold under the Marlborough Waste Lands Act. Thirty-seven, principally licensees, have already applied to change their tenure to lease in perpetuity, comprising an area of 24,923 acres; and no doubt many more will do so during the current year. Although 8,000 acres is the average area of the holdings throughout the district, those south of the Wairau River vary considerably in area, ranging from 500 to 93,000 acres. The amount in arrear, £136 14s. 4d., by two holders, was paid on the 2nd April.

*Arrears.*—The arrears shown on return amount to £154; of this, £139 15s. 3d. was received on the 2nd April.

*Number of Selectors on Books.*—The total number of selectors is 321, or eighty-nine more than last year; of this number sixty-two came under the head of "Miscellaneous," so that the increase of *bonâ fide* selectors is really twenty-seven.

To summarise the Ranger's report for the year it may be stated, as regards deferred-payment selectors, that twenty-eight have not yet completed their sixth year of occupation. Of those reported on, the requirements amount in value to £213 15s., and the improvements made to £422 10s., being £208 15s. in excess. Only one selector was in default, to the amount of £26; but as his house, valued at £25, was burned down, it is doubtful whether he can be said to be in default.

Of perpetual-lease holdings thirteen have been reported on, mostly situated in the Sounds; of these, nine have made more than "double improvements" in lieu of residence, the value of improvements required being £507 18s.; and of those made, £895 10s., being an excess of £387 12s. There are not at present any defaulters.

Of village homestead special settlements, under the regulations of the 1st September, 1886, six selections at Wakamarina and seven at Kaikoura have been reported upon. Of the former, the areas vary from 5 to 11 acres, all of which have been grassed and fenced, and houses built; two are non-resident. Of the latter, 100 acres have been grassed, as against 93 required; only one settler having grassed slightly less than he should have done. In addition, dwellinghouses and fencing have been erected to the value of £362 10s. All, with one exception, are resident. Some of the settlers in the Wakamarina Village have found it impossible to comply strictly with the residence conditions, the areas of their holdings being far too small to enable them to make a living off them, and they were unable to get work in the neighbourhood, consequently they have had to leave, and have in so doing rendered their interests liable to forfeiture. It would seem that some less stringent and more practicable regulations than those now in existence are necessary. Under these there appears to be no provision by which a settler can obtain compensation for his improvements, should he be compelled to forfeit his interest.

Of small grazing-runs, 37 have been reported on; all, with one exception, situated in the Sounds, and containing an area of 22,706 acres. The total value of improvements required was £464 16s. 8d.; and the value of those actually made was £6,140 10s., showing the large excess of

£5,675 13s. 4d. A large number of the lessees are non-resident, but some of them live within ten miles of their runs, as permitted by the Act under which they took them up.

As regards the probable future of Crown lands within this district, the area at present available for settlement is 243,600 acres; but, as already stated at the commencement of this report, 135,000 acres of this is of very poor quality, and not at all likely to be taken up until it has been brought in with portions of the Marlborough waste lands leases when they have been reclassified.

The balance of available area lies principally in the Pelorus, Rai, and Wakamarina Valleys—27,000 acres in the two last-named being at present locked up within a State forest. If this restriction were removed no doubt a large area in the Rai and Ronga Valleys would be readily taken up.

There are several smaller areas, ranging from 400 to 5,000 acres, situated chiefly in the Pelorus Sound. Some of these will doubtless be taken up during the coming year as either small grazing-runs or leases in perpetuity.

One of the principal dealings during the year will be the exchanges of tenure—under clause 160 of the Land Act—of existing Marlborough leases and pastoral licenses to leases in perpetuity, as an area of 25,000 acres, held by forty holders, has already been applied for, and doubtless some others will apply during the year.

I append a schedule of Crown lands available for settlement.

SIDNEY WEETMAN,  
Commissioner of Crown Lands.

AREA of CROWN LANDS available for Settlement on the 31st March, 1894. First-class valued at £1, Second-class at 10s., and Third-class at 5s. per acre.

Name of Block or Locality.	Quality of Land.			Totals.	Name of County within which Lands are situated.
	First-class.	Second-class.	Third-class.		
Ronga, and East side Rai Valleys*	5,000	27,000	...	32,000	Marlborough.
Pelorus, and West side Rai Valleys	...	43,000	...	43,000	"
Wakamarina Valley*	...	15,000	...	15,000	"
Tennyson Inlet ...	...	5,000	...	5,000	Sounds.
Nydia Bay ...	...	3,800	...	3,800	"
Paradise and Mud Bays	...	1,300	...	1,300	"
Crail Bay ...	...	800	...	800	"
Kaiuma ...	...	2,500	...	2,500	Marlborough.
Pukaki Valley ...	...	1,800	...	1,800	"
Kaituna Valley ...	...	3,200	...	3,200	"
Port Underwood ...	...	400	...	400	Sounds.
North Bank, Wairau ...	...	...	12,700	12,700	Marlborough.
Omaka Valley ...	...	...	12,200	12,200	"
Head, Wairau Valley ...	...	...	47,000	47,000	"
" Waihopai Valley ...	...	...	12,800	12,800	"
" Spray Valley ...	...	...	4,200	4,200	"
Acheron and Saxton Valleys ...	...	...	19,100	19,100	"
Awatere Valley ...	...	...	4,000	4,000	"
Slopes of Kaikoura Range, between Clarence and Awatere Valleys	...	...	22,800	22,800	"
	5,000	103,800	134,800	243,600	estimated value, £90,600.

\* Of the 15,000 acres in Wakamarina Valley, 6,000 acres are within State forest; and of the 32,000 acres in Rai and Ronga Valleys, 21,000 acres are within State forest.

#### NELSON.

*Lands Sold for Cash.*—During the year 19,914 acres have been disposed of. The bulk of these have been areas held under previous Acts, with right of purchase, and were rough pastoral lands of poor quality and high elevation; 2,695 acres have been sold under the present Land Act, of second-class land.

*Lands under Deferred Payment (Appendix C, "Land Act, 1885").*—During the past year eighty-nine leases, comprising 11,571 acres, have been issued for previous applications of unsurveyed lands now completed, and there are fifty now in transit. There have been nine forfeitures, of an area of

416 acres. The District Surveyor is now surveying the arrears of these applications in the Karamea District, which have been outstanding some time owing to pressure of other work. When these are completed, all arrears under the above will be overtaken.

*Perpetual Lease.*—Fourteen leases on previous applications for 3,544 acres have been issued during the year. Three applications for 1,156 acres of unsurveyed lands still in arrear will shortly be completed and leases issued, when all applications remaining under this tenure will be completed.

*Occupation with Right of Purchase.*—Twenty-seven applications for unsurveyed lands, amounting to 4,695 acres, have been received during the year and are in course of survey, but no leases have yet been issued.

*Lease in Perpetuity.*—Eleven selectors have taken up an area of 1,710 acres. As the present Land Act, which came into operation on the 1st November, 1892, entirely changed the tenure of land which had previously obtained in the Nelson District, there has hardly been sufficient time to state how the present tenure is received. The larger transactions during the past year have been in cash sales and occupation-with-right-of-purchase tenure; but there are indications that lease-in-perpetuity is gradually working into favour, as enabling large areas of rough, hilly, bush-country, suitable only for grass, to be held at a low rental.

*Village Homestead Special Settlement.*—A report from the District Surveyor shows that twenty-one selectors, holding areas of about five acres each, under the Lands Department, had made improvements to the value of about £1,043, and advances to the extent of £60 have been made to the settlers. Eleven were reported as non-resident on 31st March.

*Hammer Hot Springs Reserve.*—During the year five town sections and sixteen rural sections, the latter containing 386 acres, were let by auction on forty-two-years leases, at an annual rental of £38 12s. 6d.

*Pastoral Occupation Licenses.*—Twenty-nine of these have been granted over 12,093 acres, chiefly on rough mountain-tops, at a yearly tenure. Pastoral lands in the Amuri have been re-let on a yearly tenure, ending 1st March, 1895, on terms similar to last year, chiefly on low rentals, with conditions for the destruction of rabbits.

*Miscellaneous Leases and Licenses.*—Twenty-six of these have been issued, chiefly over small reserve areas, amounting to 472 acres. 3,588 acres of land has been reserved during the year for various purposes. Timber leases and licenses: Several applications have been received for licenses to cut timber, principally sleepers, and leases for saw-milling areas. It is urgently necessary that regulations should be issued by the Government for granting these, as the matter has been previously brought under notice.

The output of coal and the royalties received during the year from mines held under Acts previous to the operation of "The Coal-mines Act, 1891," is as follows, viz.:—

Mines.	Output.	Royalty, 6d.	Less Dead Rent.	Royalty received.
	Tons cwt.	£ s. d.	£ s. d.	£ s. d.
Grey Coal Reserve—				
Brunner Mine ... ..	85,188 18	2,129 14 0	480 0 0	1,649 14 0
Coal-pit Heath Mine ... ..	48,917 0	1,222 18 6	250 0 0	972 18 6
Buller Coal Reserve—				
Westport Coal Company ... ..	223,701 10	5,592 10 9	620 0 0	4,972 10 9
Collingwood Coal Company ... ..	2,402 19	...	112 0 0	...
Totals ... ..	360,210 7	...	...	£7,595 3 3

The surrender of the Coal-Pit Heath lease was accepted by the Minister of Mines in the month of October, 1893.

The administration of these coal leases is still nominally in the hands of the Lands Department, as no provision was made in "The Coal-mines Act, 1891," to bring the leases granted under previous Acts under one control, that of the Mines Department.

The closing of about three and a half millions of acres in this district from the operation of the Land Acts under the Midland Railway Company's contract has been very injurious to settlement, during which period land-settlement has been limited chiefly to the Collingwood, Waimea, Sounds, and Karamea Districts. On the 31st March, 270,348 acres were open for selection, consisting of second-class hilly bush-lands, available for grass when cleared. When the lands now under selection by the above company can be operated upon, a large expansion of settlement may be looked for.

The revenue from Crown lands during the year amounts to £25,018 4s. 2d., and from endowments £11,389 2s. 3d., making a total of £36,407 6s. 5d., an increase of £5,271 1s. 3d. over the previous year.

JNO. S. BROWNING,  
Commissioner of Crown Lands.

## CANTERBURY.

*Lands opened for Sale or Selection.*—The lands placed in the market comprised the following systems and areas:—

System.	Class.	Locality.	Area.
Cash ... ..	Town ...	Rakaia, Ashburton, Hinds, Orari, Geraldine, Arowhenua	Acres. 22
" ... ..	Rural ...	Rangitata, Orari ... ..	106
Lease in perpetuity ...	" ...	Lake Ellesmere ... ..	6,048
" ... ..	Village ...	Pareora, Kapua, Studholme ... ..	1,288
Village homestead ...	" ...	Lake Ellesmere, Arowhenua, Rakaia, Chertsey, Orari, Arundel, Adair, &c.	866
Optional ... ..	Rural ...	Burke's Pass, Cannington, Hunter's Hills, Four Peaks, &c.	21,817
Small grazing-runs ...	Pastoral ...	Ashwick, Nimrod, Burke's Pass ... ..	9,909
Pastoral lease ... ..	" ...	Ashwick, Orari, Mount Peel, Ellesmere ...	39,528
Lease ... ..	Reserves ...	... ..	43
Total (exclusive of Cheviot) ...			79,627

The bulk of these lands consist of subdivisions of the resumed runs about Burke's Pass and Cannington, the Ashwick Flat Run, Lake Ellesmere reserve, and the blocks purchased by Government under "The Land for Settlements Act, 1893." Failing these additions, the dearth of land in Canterbury would have been severe, and many of the persons who secured holdings would doubtless have migrated to other parts in search of farms or runs.

To the foregoing area must be added 84,000 acres of the Cheviot Estate, which were opened on the pastoral, cash, village-homestead, lease-in-perpetuity, and grazing-farm systems. The areas specified in the Land Guide on the 1st April, 1893, amounted to 33,750 acres, thus bringing the total area of Crown lands available for lease, purchase, or selection last year up to 197,377 acres.

*Lands disposed of.*—Notwithstanding the large additions to the area of Crown lands, due to the acquisition of Cheviot, purchases under the Land for Settlements Act, and the resumption of runs, there was keen and active competition for all lands, as opened for selection, which were of fair quality and reasonably accessible. In proof of this it is only necessary to cite the fact that the whole of the Lake Ellesmere, Cheviot, the land-for-settlement blocks, and resumed runs were selected generally as soon as placed on the market. Cash sales were difficult to effect, but selectors readily availed themselves of the lease-in-perpetuity, village-homestead, and grazing systems. The year's sale and lease transactions, under all systems, comprise 473 holdings, of a gross area of 132,880 acres, exclusive of 101,366 acres selected by the New Zealand Midland Railway Company, in terms of their contract with the Government.

The lands disposed of comprise cash sales in the townships of Mackenzie, Rakaia, Ashburton, Hinds, Orari, Geraldine, and Arowhenua; two small lots of rural land near Orari, and in Rangitata District, and eight rural sections on the Cheviot Estate. The occupation-with-right-of-purchase and the lease-in-perpetuity sales are made up of the Lake Ellesmere reserve, which was eagerly sought for, and areas of land situated in the Burke, Hunter's Hills, Opawa, and other districts. The village-settlement and lease-in-perpetuity sales included the Kapua, Studholme, and Pareora acquired blocks. The village-homestead lands comprised the Cheviot and Lake Ellesmere Villages. The grazing farms disposed of form portion of the Cheviot Estate. The small grazing-runs embrace the lands at Ashwick, Hunter's Hills, and Burke's Pass. The pastoral runs comprise the Ashwick Run and lands adjacent to the Orari Gorge, and Mount Peel Run. The majority of the selections were made under the lease-in-perpetuity, rural, and village systems.

Taking into account the past year's transactions, and including Cheviot and other acquired blocks, the disposition of the Canterbury lands is shown on statement A (attached).

From the foregoing statements it will be seen that the land transactions have been of a novel, if not unique, character, inasmuch as a new departure was taken in providing for the settlement of the people. The Crown lands available for settlement or occupation had been reduced to remnants of the former magnificent public estate, and these remnants no longer sufficed for the ordinary demands of farmers, labourers, and others; the consequences were that these classes of would-be settlers removed to the North Island, or elsewhere, or, failing the necessary capital to acquire freehold property, they were forced to be content with leases. In the belief that there was a genuine unsatisfied demand on the part of a considerable number of such persons, it was decided to meet it in two ways: first, by resumption on the part of the Crown of lands held under pastoral licenses terminable by twelve months' notice; and, second, by acquiring, by purchase from private persons, areas of land suitable for village settlers.

The Cheviot Estate opportunely fell into the hands of the Government, and largely facilitated the objects in view.

By the means indicated the public wants for the time being were partly satisfied; the success which attended most of the year's sales demonstrated that there existed a real and urgent demand for agricultural and grazing farms, and for small-farm or village allotments, by a superior and desirable class of settlers.

The operations and transactions during the past year connected with the Crown's acquisition by purchase of private property in the Canterbury district have resulted so satisfactorily that it is reasonable to anticipate that the application of the principle will be extended, not only in this colony, but to other parts of the world, where it should long ere this have been introduced.

With your permission, I purpose dealing with the Cheviot Estate in a special report.

*Revenue.*—The revenue for the year amounted to £80,598, including receipts from Cheviot and all other sources. The chief points of interest are that the cash sales, as might be expected, were but a small fraction; the people, having the option, showed their preference for the lease-in-perpetuity tenure. Notwithstanding the succession of unfavourable seasons, and widespread financial and commercial disaster, the Crown tenants met their engagements more satisfactorily than was anticipated; this was due in great measure to the action of the Land Board, which insisted upon compliance with the law as regards payment of instalments. Many of the tenants claim exemption from paying their rents in advance, and appear to consider the enforcement of this provision harsh and unreasonable; but it should be generally understood that unless the Land Board and Commissioner of Crown Lands are relieved of the duty and responsibility of administering the law, they have no option but to compel payment by all classes of Crown tenants, otherwise, serious disarrangement of the colonial finances would inevitably result. It is but fair also to state that, in all instances where tenants proved their inability to meet their obligations, the Land Board has granted an extension of time.

*Lands for Settlement.*—As already stated, the Government, through the instrumentality of the Board appointed for Canterbury under the provisions of "The Land for Settlements Act, 1893," purchased three blocks, comprising 1,302 acres, for £13,084. These blocks comprise 620½ acres on the south side of the Pareora River near St. Andrews, 107½ acres near Studholme Junction, and 574 acres at Arno Railway-station, Waimate Gorge. The whole of these lands, save one lot, were successfully disposed of on the village-settlement lease-in-perpetuity system. After due provision for roads and reserves, the subdivisions comprised forty-five lots, ranging in area from 10 to 60 acres, the average being about 28 acres; and the rental, which covers the cost of the land and all expenses of roading, advertising, &c., is about 11s. 6d. per acre per annum. As the lands are of good quality, favourably situated, and as the selectors are reported to have already made satisfactory progress with their improvements, I feel sure that the acquisitions were judicious and necessary, and that the selectors are to be congratulated on their good fortune. Before dismissing this subject, I have to mention that exceptional efforts were made throughout the year to obtain particulars of lands that private holders were willing to sell to the Crown. There were offered to the Government twenty-one blocks or sections, ranging in area from 80 acres to 48,000 acres, and comprising about 75,368 acres in all; the prices named varied from £2 to £27 per acre. Special inspections and valuations were made of many of the blocks, and reports were furnished for your information. The great bulk of the offers had to be declined, for good and sufficient reasons, such as unsuitableness of the land as to quality or position, insufficiency of area, or, on the other hand, the magnitude of the proposed transaction. I am still on the look-out for blocks of land which would conform to the necessary conditions and requirements of the probable selectors.

*Lands held on Settlement Conditions.*—The Crown Lands Rangers, Messrs. Ward and O'Callaghan, made special endeavours to prevent their inspections falling into arrear, and at the same time to attend to the multitude of special services and duties devolving upon them. The former inspected the village-homestead holdings, and all but five inaccessible perpetual-lease or deferred-payment selectors. For summary of results see Statement B (attached).

Mr. Ward states that the settlers are, in nearly all instances, fulfilling conditions with regard to cultivation, and affecting other improvements on their village holdings. As regards residence, he finds in some instances that the villagers do not comply as satisfactorily and continuously as required by the Land Acts; but, taking into consideration the necessities of the settlers, and the extreme difficulty of obtaining work and earning money in the vicinity of their sections, Mr. Ward is of opinion that leniency should be exercised by the Land Board in some cases. Attention is drawn to the failure of crops, unfavourable weather for stock, the low prices ruling for produce, and the probability of a trying ordeal for the settlers during the coming winter. I gather from Mr. Ward's reports and statements that the village-homestead selectors have made substantial and satisfactory progress, excepting, of course, those villages which are located on poor land and in remote localities, elements the very reverse of those requisite for success. The 140 perpetual-lease selectors whose holdings were inspected are reported as doing fairly well, particularly in the Shepherd's Bush and Rangitata districts; the settlers are of an excellent class, and are creating for themselves comfortable homes. As regards the holdings on inferior land, it is pointed out that it is quite impossible, and I may add, unwise and unreasonable, to insist upon the expenditure of £1 an acre in improvements as required by law. Mr. Ward reports that of the fifty-four deferred-payment selectors, the rural licensees have all improved their holdings, one only having failed to comply with the conditions of his license, though some of the suburban licensees have failed to expend £10 an acre as required by the Land Act.

Mr. O'Callaghan, in his report on the South Canterbury settlements and holdings, states that satisfactory progress has been made, and a considerable increase of settlement has taken place during the past financial year; but, owing to many unfortunate circumstances, settlers generally have not had a successful year. The low price of grain, small yields, and a wet season, affected the agricultural holders; while the severe winter, loss of stock, bad lambing, and the fall in the value of sheep, told upon the graziers. In the case of small holders, outside employment was scarce, and all classes of settlers found it difficult to meet their engagements. The class of persons who occupy Crown lands on the various systems are described as worthy of support and consideration. The forty-two deferred-payment selectors have all complied with regard to residence. Of the 114 per-

petual-lease holders, eighty-three have fully complied as to residence; only four were unsatisfactory tenants.

The small grazing-run holders had amply complied in respect to improvements; but the residence conditions had not been adhered to. Special circumstances tended to this unsatisfactory state of affairs: such as inaccessibility of the rough and high lands, which constitute the bulk of the runs, and their remoteness from schools.

The village settlements at Waimate and Studholme show great improvement, and the residence conditions are likely to be generally complied with shortly, but a few defaulters may require more rigorous treatment. Want of means, as might be supposed, was the main bar to compliance with the regulations.

The village-homestead special settlements in South Canterbury comprise eleven distinct villages, and sixty-eight holdings: fifty-two of the original selectors remain, and sixty-seven of the present holders reside on their sections; they have spent £5,374 on improvements.

The deferred-payment suburban holdings are satisfactorily held and occupied, save in three instances.

Mr. O'Callaghan mentions that 16,363 acres were selected on the lease-in-perpetuity system, and in doing so refers to the excessive amount of improvements required of selectors under this tenure.

Reviewing the Rangers' reports, it is fair to conclude that the conditions of settlement, except in the special circumstances indicated, have been satisfactorily complied with. These special cases will be again considered. It appears evident, also, that some slight modifications in the Land Acts are required to enable the Land Board to deal equitably and in a reasonable manner with selectors who hold inferior land. It will be noticed that neither of the Rangers deal with the pastoral runs; the reason for this is that though they both hold specific instructions to inspect and report periodically on this class of holding, pressure of other duties has prevented them from doing so. They must, however, find time next season to attend to this duty, otherwise the services of the Rabbit and Sheep Inspectors might be utilised, if approved by the Chief Inspector of Stock.

*Revaluations.*—Applications for revaluation and reduction of the value of selectors' holdings were not numerous; the principal cases comprised the village land at Studholme Junction, on land acquired by exchange for Mr. Tripp's run; the village land near Ashburton; and the Rosedale Village. Most of the applications were barred by law, but reductions were granted to the Rosedale villagers, whose rents were reduced from 10s. to 7s. an acre; one other case is still under consideration.

*Naval and Military Settlers' Claims.*—The only duty performed in connection with these claims was the winding-up of a few undetermined cases.

*"Thirds" and "Fourths."*—The large amount of clerical work involved in issuing quarterly schedules of sections, showing "thirds" and "fourths" accrued, and procuring proposals from the local bodies for the expenditure of the amounts, is a serious tax upon the time of the officials of the Lands Department and the local bodies. To obviate this, and avoid unnecessary friction and inconvenience, I have long endeavoured to procure from the local bodies proposals for the construction of road and other works beneficial to each holding, which would absorb not only the accrued but also "thirds" and "fourths" to accrue. The Rangers were instructed to confer with the clerks to the local bodies, so as to bring the matter to a conclusion. Success has attended our efforts in several instances; but as yet some of the Road Boards have failed to furnish fair and satisfactory proposals. Those which have complied will henceforth receive quarterly from the Receiver of Land Revenue the amounts payable to them without further trouble or delay. Schedules and particulars on this subject accompany the Survey Report.

*Change of Tenure.*—Inquiries were made by selectors under the former Land Acts to exchange their leases or licenses for leases in perpetuity. The actual exchanges comprised (1) perpetual lease, and (2) deferred-payment holdings. As previously remarked, the lease-in-perpetuity system is much favoured by the people, who appreciate the exceedingly liberal terms which the system offers them.

*Forfeitures.*—The Land Board enforced forfeiture of selectors' interests for non-compliance with the conditions of improvement, or for non-payment of instalments in the case of eight selectors on settlement conditions, and cancelled several licenses of small reserves on which the rent was long overdue.

*Lands for Future Disposal.*—The remnants of former sales enumerated in the Land Guide, the balance of the Lake Ellesmere Reserve, portions of the Cheviot Estate, and a few small blocks, constitute the only areas of land which remain for sale or selection. These will prove wholly inadequate to meet the probable demand, which appears to me to be augmented by the low price of cereals, causing dearth of employment for labourers, contractors, and their teams and plant. There is apparently a large number of men of this class who seek small lots on farm holdings. If provision can be made to meet their requirements, so that they can settle upon good land, I cannot conceive any proposal more conducive to the welfare of the selectors and the colony. The utilisation of these men's labour and appliances in mixed farming would be an immense gain to the colony. Dairy-farming alone offers an unlimited field for all.

*Departmental.*—The past year was an exceptionally busy one, the ordinary land business being supplemented by that connected with the acquisition, management, leasing, valuation, advertising, and disposal of the Cheviot Estate. The work connected with the latter alone would almost have sufficed to keep the staff occupied. If the transaction had been dealt with by a company, a large, extra, and special staff would have been engaged. The only addition to the clerical staff comprised two clerks, one appointed in April, 1893, and the other in February, 1894. The consequence was that the Canterbury Land Office was overtaxed throughout, and a tremendous

strain was thrown upon myself and others. The ordinary work has fallen further in arrear; and, although some of us worked continuously overtime, much of the important, and even urgent, work had to be postponed. The most serious result is that there are 400 leases not issued, many of which should have been sent out months ago. The knowledge that this and many other important public services cannot be promptly attended to, involving inconvenience, dissatisfaction, and general complaint on the part of the public, causes me much anxiety. Additional assistance is urgently needed.

I have again to record my obligations to Mr. David McMillan for his invaluable services and advice in various matters, but more especially in connection with his inspections and valuations of the Cheviot Estate, and his final revision of the schedules.

The opening of the admirable new land registers furnished by you, and the preparation of the cards for the Auditor of Land Revenue, has involved a large amount of work. Two extra clerks have been specially engaged for this duty. These registers have greatly simplified and facilitated the Receiver of Land Revenue's work. There have been several changes in the staff. The death of Mr. John Williams, the late Receiver of Land Revenue, which occurred on the 5th August, 1893, removed from the public service an experienced, devoted, and most capable officer. He served the Government for forty years, and virtually died in harness. No officer in this district was more widely known or respected. I cannot adequately express the sense of my obligations to him for his valued and kindly counsels and aid. Mr. H. G. Mussen, the Crown Lands Ranger for North Canterbury, also died on the 11th September, 1893; he served the Lands Department honourably and ably for fifteen years. The wide and matured experience and earnestness of purpose which he brought to bear on his work renders his loss the greater. These unfortunate events disarranged the work of the department, inasmuch as Mr. H. L. Welch, the Accountant, had to undertake the Receiver's duties; the Accountant's work was carried on for a time by Mr. J. Rodger, and more lately by Mr. D. R. McAulay. Mr. W. C. McAlister joined the Receiver of Land Revenue as cadet on the 26th January, 1894. Mr. Frank Ward was appointed Crown Lands Ranger for North Canterbury on the 31st October, 1893, and has now overtaken the arrears which accumulated during the late Mr. Mussen's illness.

J. W. A. MARCHANT,

Commissioner of Crown Lands.

STATEMENT A.  
DISPOSITION OF LANDS.

	Holders.	Area in Acres.
1. Crown lands disposed of for cash and under New Zealand Midland Railway Act ... ..	...	3,295,106
2. Land held on deferred payments ... ..	108	22,717
3. Lands held on perpetual lease ... ..	327	78,146
4. Lands held on leases in perpetuity ... ..	217	51,396
5. Lands held on occupation with right of purchase ... ..	16	3,099
6. Lands held as village-homestead special settlements ... ..	296	8,129
7. Lands held as small grazing-runs ... ..	40	93,407
8. Lands held as grazing farms ... ..	18	26,023
9. Pastoral licenses, including small area of barren country ... ..	128	2,896,585
10. Special settlement associations ... ..	32	3,023
11. Land granted under New Zealand Midland Railway Act (area included in 1 and 13) 271,983 acres ... ..	...	...
12. Reserves held under license ... ..	190	80,199
13. Area of land reserved and granted under certain Acts (exclusive of 12) ... ..	...	664,481
14. Land purchased and disposed of under "Land for Settlements Act, 1892," (included in 1) 1,251 acres ... ..	...	...
15. Crown land open for selection ... ..	...	18,269
16. Crown lands being prepared for selection ... ..	...	44,181
Balance of barren land ... ..	...	1,491,894
Total area ... ..	...	8,776,655 acres.

STATEMENT B.  
SUMMARY OF DEFERRED-PAYMENT HOLDINGS IN NORTH CANTERBURY.

Survey District.	Settlers.	Complying.	Not Complying.	Area.		Area Cultivated.		Value of Cultivations.		Value of Buildings.		Value of Fencing.		Total Value.	Horses.	Cattle.	Sheep.	Pigs.
				A.	R. P.	A.	R. P.	£	s.	d.	£	s.	d.					
Oxford	14	14	...	1,934	2 9	1,837	2 23	872	10 0	1,187	0 0	988	16 0	3,048	29	23	1,470	7
Waipara	5	5	...	220	0 17	175	0 0	59	0 0	210	0 0	134	0 0	403	3	11	140	57
Grey	1	1	...	28	0 0	28	0 0	14	0 0	62	0 0	19	0 0	95	1	1	...	...
Selwyn	7	7	...	253	2 19	297	0 0	127	5 0	185	0 0	102	0 0	414	12	4	...	...
Ashburton	2	2	...	2	0 0	2	0 0	3	0 0	90	0 0	14	0 0	107	...	1	...	...
Westerfield	1	1	...	50	0 0	50	0 0	25	0 0	45	0 0	30	0 0	100	2	1	...	...
Spaxton	2	1	1	69	3 26	60	0 0	25	0 0	30	0 0	32	0 0	87	1	...	...	...
Shepherd's Bush	1	1	...	50	0 0	50	0 0	25	0 0	60	0 0	36	0 0	121	2	3	50	2
Hinds	3	3	...	500	0 0	230	0 0	112	0 0	235	0 0	180	0 0	527	5	12	390	3
Rangitata	2	2	...	234	2 24	230	0 0	71	0 0	70	0 0	112	0 0	253	3	1	240	...
Rakaia	15	10	5	68	0 2	68	0 2	75	10 0	332	0 0	112	0 0	519	...	5	...	...
Okain's	1	1	...	51	0 0	25	0 0	25	0 0	50	0 0	30	0 0	105	...	...	...	...
	54	48	6	3,461	3 17	3,072	2 25	1,434	5 0	2,556	0 0	1,789	16 0	5,779	58	62	2,290	76

SUMMARY OF HOLDINGS HELD UNDER PERPETUAL LEASE IN NORTH CANTERBURY.

Survey District.	Settlers.	Complying.	Not complying.	Area.		Cultivated area.		Value of Grass and Clover.		Value of Buildings.		Value of Fencing.		Total Value of Improvements.	Horses.	Cattle.	Sheep.	Pigs.
				A.	R. P.	A.	R. P.	£	s.	d.	£	s.	d.					
Rangitata...	26	25	1	8,611	3 14	3,577	3 0	1,706	0 0	815	0 0	1,936	0 0	4,457	20	12	4,790	6
Shepherd's Bush	23	22	1	7,658	1 9	3,115	3 32	1,577	10 0	671	0 0	683	10 0	2,932	22	28	5,350	5
Alford	1	1	...	6	0 9	1	0 0	1	0 0	40	0 0	12	0 0	53	...	1	...	...
Hinds	39	37	2	4,964	3 34	3,045	2 0	1,102	8 0	528	0 0	1,521	6 0	3,151	16	27	1,742	13
Spaxton	9	8	1	784	1 23	526	0 0	228	18 0	370	0 0	350	0 0	948	11	21	180	8
Westerfield	3	3	...	333	6 4	80	0 0	85	0 0	40	0 0	118	0 0	243	1	2	50	...
Ashburton	15	15	...	294	1 0	293	0 0	123	10 0	346	0 0	201	4 0	670	9	19	...	...
Wakanui	4	4	...	1,314	0 12	1,291	3 38	322	15 0	235	0 0	321	0 0	878	6	...	...	...
Selwyn	6	6	...	331	1 18	155	0 0	62	5 0	70	0 0	89	14 0	221	...	...	...	...
Okain's	1	1	...	89	0 0	80	0 0	100	0 0	...	...	16	15 0	116	...	...	...	...
Rangiora	2	2	...	16	0 0	11	0 0	8	0 0	80	0 0	12	0 0	100	...	...	...	...
Waipara and Waikari	5	4	1	219	2 10	129	0 0	33	15 0	50	0 0	117	0 0	200	...	...	...	...
Oxford	6	4	...	287	2 0	205	0 0	71	10 0	145	0 0	99	19 0	316	5	15	...	...
	140	132	6	24,911	3 13	12,511	0 30	5,422	11 0	3,390	0 0	5,478	8 0	14,290	94	138	12,152	54



STATEMENT B—continued.  
SUMMARY OF VILLAGE HOMESTEAD SETTLEMENTS IN NORTH CANTERBURY.

Village.	Survey District.	Settlers.	Com- plying.	Not Com- plying.	Area.		Cultivated Area.		Value of Buildings.		Value of Fencing.		Value of Grass, &c.		Total Value.		Horses.	Cattle.	Sheep.	Pigs.
					A.	R. P.	A.	R. P.	£	s.	d.	£	s.	d.	£	s.				
Chertsey	Ashburton	15	15	...	236	0 16	233	0 14	556	0 0	225	5 0	106	14 0	887	19 0	15	34	6	5
Dromore	Ashburton	9	9	...	234	0 36	183	3 20	208	0 0	153	19 0	80	10 0	442	9 0	3	15	...	14
Mayfield	Shepherd's Bush	5	5	...	250	0 0	140	0 0	155	0 0	111	0 0	48	0 0	314	0 0	2	6	...	2
Alford Forest	Spaxton	12	11	1	250	0 38	249	0 0	513	0 0	198	0 0	133	14 0	844	14 0	10	28	90	6
The Peaks	Waitohi	16	15	1	733	2 30	593	3 33	866	0 0	526	0 0	330	10 0	1,722	10 0	39	35	270	22
View Hill	Oxford	13	12	1	646	1 33	492	0 0	345	0 0	354	0 0	140	0 0	839	0 0	11	9	415	4
Rosedale	Rakaia	8	7	1	136	3 20	134	1 1	230	10 0	151	16 0	57	18 0	440	4 0	4	18	...	8
Medbury	Waipara	12	10	2	600	0 0	525	0 0	358	0 0	295	10 0	169	10 0	823	0 0	20	36	975	15
Hinds	Hinds	14	13	1	700	0 0	628	0 0	425	0 0	307	0 0	199	10 0	931	10 0	9	32	180	15
Reserve 1496	Ashburton	6	6	...	120	0 0	120	0 0	214	0 0	126	10 0	72	0 0	412	10 0	6	11	...	4
Rakaia North	Selwyn	3	3	...	147	0 0	90	0 0	20	0 0	68	0 0	17	10 0	105	10 0	1	1	...	...
Winslow	Hinds	1	1	...	10	0 0	10	0 0	20	0 0	4	10 0	5	0 0	29	10 0	1	5	...	...
Southbridge	Southbridge	2	2	...	13	3 19	10	0 0	60	0 0	19	0 0	6	10 0	85	10 0	...	1	...	...
Springston	Leeston	1	1	...	15	0 15	10	0 0	20	0 0	15	0 0	5	0 0	40	0 0	1	3	...	1
		117	110	7	4,093	2 7	3,419	0 28	3,990	10 0	2,555	10 0	1,372	6 0	7,918	6 0	192	234	1,986	96

## WESTLAND.

The several schedules accompanying this will show the extent of lands dealt with under the various systems applicable to this district. It will therefore hardly be necessary that I should go minutely into each table. The areas taken up under all the tenures, except that of pastoral lease, are exceedingly limited, and must be so until either the contract of the Midland Railway Company has been determined, or until some arrangement has been come to by which land can be applied for without any vexatious restrictions and indefinite delays. The difficulties and hardships incidental to bush-settlement are sufficient to daunt the majority of people, but when this is aggravated by the uncertainty of securing a title, intending settlers who can leave the West Coast go elsewhere. Those who have attachments, either in the shape of a holding they wish to extend or a family they desire to place near them, are the people who at present care to urge their claims for more land. Fortunately, a settlement of the company's claim to this territory is within measurable distance, so that the extensive area of 581,000 acres, in addition to mining blocks of 84,000 acres in extent, will, I trust, be soon rendered available for settlement. Were this difficulty overcome, I have no doubt future returns would show a substantial advance under many of the systems provided by the present liberal Land Act. No matter how easy the provisions can be made in land-settlement we cannot anticipate a boom in Westland, as the agricultural portion of the district is limited in extent and difficult to bring into a state of cultivation on account of the heavy bush covering the greater part of it.

Several of the river-valleys or flats can, however, be cleared at from £1 10s. to £2 per acre to grow grass and turnips, and when this is done it will carry a sufficient number of cattle to encourage and enable a settler to keep on clearing. There are several of our enterprising farmers doing good work and with satisfactory results in this way. The two localities likely to benefit most by the removal of the Midland Railway Company's reservation are the Wanganui and Wataroa Flats. In these districts the Land Board had decided during the year to pastoral-lease all the surveyed blocks and surrounding country, but after a visit by the Classification Commissioners it was decided that, with the immediate prospect of these lands being made available for close settlement, it would be well to delay dealing with the country for six months. If the expected arrangement with the company is not effected it will be necessary to deal with the country so as to prevent the native feed being eaten out and the stockowners ruined by overstocking; and dealing with the land in some way is the only remedy for this.

During my predecessor's term of office all the land south of the Waiho was reduced to 10s. per acre. Although not quite in accord with a hard-and-fast price for land, I think this was a concession greatly required by the struggling southern settlers. This principle, somewhat modified in the direction of disposing of the surveyed lands, after a careful classification or valuation has been arrived at, should be applied to the unsold lands of Westland. If the valuation were based on a somewhat low and graduated scale it would have a very beneficial effect in the increase of settlement by both the youths of the district and others who have been making inquiry for lands in those localities.

During the year there has been a strong feeling expressed in favour of the purchase by the Government of two estates in this district, and since the visit of the Hon. the Minister of Lands inquiries are being made by intending settlers anxious to acquire the land. I have little doubt but that, were these properties acquired at a reasonable price, they would be settled almost immediately. Land comparatively cleared, such as this is, attracts many who do not care to face the work, expense, and delay of carving out a home in dense bush.

From the tables accompanying this it will be seen that under the occupation-with-right-of-purchase system the greatest area has been taken up; evidently the settlers in this district look forward to the ultimate possession of a freehold in preference to continual rental payments. I think, however, when the full benefit of the lease in perpetuity is realised this will become the popular system of settlement.

Under the heading of "Pastoral Runs" there have been several transactions during the year, besides a good many cancellations. The question of arrears and surrenders will require to be carefully looked to, otherwise there is a tendency on the part of some to treat this matter too easily, in many cases resulting in loss to the department, in consequence of the necessary lapse of time before a forfeiture can be effected and the run again relet.

The mountain-tops between 3,500ft. and 5,000ft. levels are being considerably inquired about, and in some cases taken up as pastoral country. It is found that at this altitude there is fair natural feed, either good tussock or native carrot; the great difficulty, however, is in making tracks through the bush to reach this. Some facilities or encouragement in this direction will have to be given to intending pastoral lessees; were this done, it is probable that the greater part of the lower ranges of Westland would ultimately be held as pastoral runs.

During the year an impetus has been given to the sawmilling trade by the opening of the Grey-mouth-Hokitika Railway and the Midland Railway Company's line to Jackson's. Several new sawmills have started along these lines, and others are purposing to erect more extensive plant to meet the demand. In this also the difficulty in dealing with the Crown lands is greatly felt. As the timber constitutes one of the principal assets of the West Coast, the conditions in connection with obtaining timber-areas should be made as easy as possible; at the same time, it will be equally necessary to conserve the forests, more especially in the direction of indiscriminate cutting of silver-pine and the prevention of fires. As showing the importance of this industry, I may mention that, although two of the largest sawmills have not yet commenced work, the output amounted to 2,902,687ft., exceeding that of last year by 68,083ft.

It may be somewhat outside the scope of this report to refer to the visit to Westland lately of the Hon. the Minister of Lands, were it not to record the opinion expressed that the personal information then obtained by him is anticipated to greatly benefit land-settlement on the West Coast.

I cannot close this report without reference to Mr. Clarke's removal from this office to New Plymouth. In the several offices of Receiver of Land Revenue, Clerk to the Land Board, and Chief Draughtsman, his intimate knowledge of the records of upwards of twenty years' connection with the department, and the intelligence displayed in his work, were of great value, and his loss is felt considerably.

DAVID BARRON,  
Commissioner of Crown Lands.

## OTAGO.

In referring to the transactions of the past year I do not propose to deal with the several returns seriatim, but only to notice some of the more salient features they present. I may premise by stating that the year's receipts of revenue have not realised expectations when framing the estimates, and that this is to be accounted for to some extent by the failure to dispose of a large quantity of ordinary pastoral and small-grazing-run lands at the prices at which they were first offered, and partly to delay in offering other land which it was found desirable to withhold for a time for further subdivision; also to reductions of rents on revaluation under the Selectors' Lands Revaluation Continuance and Amendment Act, and to a number of surrenders of pastoral and small grazing-runs with a view to the land being offered at reduced rentals.

The following summary shows at a glance the extent of the year's transactions, together with the amounts of revenue under the several heads, and the areas held at the end of the financial year:—

SUMMARY OF LAND TRANSACTIONS DURING 1893-94.

Class of Selection.	Selections during the Year.			Area held at 31st March, 1894.			Revenue received during the Year.				
	Number.	Area.		Number.	Area.						
		A.	R.	P.		A.	R.	P.	£	s.	d.
Cash ... ..	50	952	0	9	...	...	...	...	917	11	5
Deferred payments ...	4	789	2	28	300	78,375	1	7	5,892	16	4
Perpetual leases ...	3	309	3	10	649	145,362	1	35	6,335	14	4
Perpetual lease made freehold	12	2,279	3	21	...	...	...	...	1,564	7	6
Village settlement, cash ...	...	...	...	...	...	...	...	...	...	...	...
Village settlement, deferred payment	...	...	...	...	38	523	3	31	185	3	1
Village settlement, perpetual lease	...	...	...	...	49	1,094	0	6	79	10	6
Village settlement, perpetual lease made freehold	1	11	0	3	...	...	...	...	10	10	0
Occupation, right of purchase	30	6,285	1	8	40	8,189	1	18	174	14	7
Lease in perpetuity ...	178	57,568	0	28	191	59,646	3	22	881	15	7
Lease in perpetuity, village settlement	64	1,133	2	23	64	1,133	2	23	125	2	1
Village homestead, perpetual lease	...	...	...	...	106	1,721	2	0	*70	9	2
Agricultural leases ...	5	364	3	35	52	4,888	3	32	†63	13	2
Farm homestead associations	...	...	...	...	15	2,954	3	12	...	...	...
Homestead lands ...	...	...	...	...	7	804	3	4	...	...	...
Small grazing-runs ..	78	116,925	2	22	226	451,498	0	9	10,723	19	6
Pastoral licenses ...	20	416,032	3	26	329	4,280,537	3	30	42,261	13	1
Coal and mineral licenses ...	1	3	0	0	...	...	...	...	...	...	...
Timber licenses ...	3	30	0	0	200	50,390	3	35	1,661	1	3
Miscellaneous licenses and leases and reserves	46	36,615	2	26	...	...	...	...	...	...	...
Other sources ...	...	...	...	...	...	...	...	...	980	7	2
Total Crown lands ...	495	639,301	2	39	2,266	5,087,122	2	24	72,328	10	2
Endowments ...	9	166	0	0	62	45,063	3	18	1,573	7	7
Gross totals...	504	639,467	2	39	2,328	5,132,186	2	2	73,901	17	9

\* Rent. † Interest.

The areas shown as disposed of in the foregoing summary, it should be mentioned, include, in the case of leases in perpetuity, a considerable area exchanged from perpetual leases and other tenures, and the selections under the Land for Settlements Act; in the case of pastoral licenses, a large area disposed of temporarily under section 219 of "The Land Act, 1892"; and, in the case of miscellaneous licenses, a considerable area of unsold land and reserves disposed of in terms of section 116 of the Land Act under license from year to year at moderate rentals, so relieving the Government of the expense of keeping down the rabbits, while at the same time securing a small return from lands that would otherwise be lying waste and unproductive.

The year's experience of the new land-laws has proved the lease-in-perpetuity system to be the most popular, in consequence, as was suggested in last year's report, of the low rental, the easy terms of acquisition, and the security of the tenure. The number of exchanges from other tenures to this will have a marked effect on the receipts of the current and following years, owing to the reduced rate of rent, and the antedating of the leases putting the lessees in credit for some time to come. The occupation-with-the-right-of-purchase system has found most favour in bush districts, such as Catlin's, Glenomaru, Tautuku, and Woodland, the reason for which, however, is not easy to discern, unless it be the desire for absolute ownership of land upon which a large amount of energy and labour must be expended before it is made into a comfortable home or profitable holding.

It has been shown too, that small grazing-runs of fair pastoral land, in good-sized areas, at moderate rentals—or, I should rather say, perhaps, low rentals—are eagerly taken up. The rentals at which many of the runs were offered early in the year were not readily accepted, and a number are still undisposed of because the rentals are considered too high. It may be mentioned here that a large quantity of land in comparatively small areas, and otherwise suitable for ordinary settlement, was opened on the small-grazing-run system in the interior, in Blackstone and Gimmerburn Survey Districts for example, in consequence of the auriferous nature of the land, the dealing with the same under this tenure being less likely to clash with the mining interests than if opened under Part III. of the Act. In this respect the system of small grazing-runs is a suitable one in such districts, one of the special conditions being that the land held thereunder is subject to the operation of the Mining Acts and regulations.

There have been opened for sale and selection during the year, on the optional system, 36,364 acres; for small grazing-runs, 209,178 acres; for pastoral runs, 327,266 acres; for village homestead allotments on lease in perpetuity, 1,713 acres; under "The Land for Settlements Act, 1892," 7,611 acres; and by auction of town and suburban lands, 285 acres, making a total of 582,417 acres, in addition to the areas previously opened and not disposed of. On the first days of application there were received for optional lands 873 applications, of which 62 were successful; for small grazing-runs, 1,329 applications, of which 66 were successful; for village homestead allotments on lease in perpetuity, 152 applications, of which 46 were successful; and under the Land for Settlements Act, 65 applications, of which 19 were successful. It is but right, however, to say that the large number of applications is made up to a very great extent by different members of a family putting in applications in order to secure chances at the ballot, and that this practice is very general.

Revaluations under the Selectors' Lands Revaluation Continuance and Amendment Act in respect of 45 holdings have been finally approved during the year, the particulars of which are as follows:—

No.	Tenure.	Area.			Original Capital Value.			Reduced Capital Value.			Annual Loss.		
		A.	R.	P.	£	s.	d.	£	s.	d.	£	s.	d.
17	Small grazing-runs ...	32,128	3	33	45,243	6	8	34,591	13	4	266	5	10
5	Deferred payment ...	1,443	1	15	1,484	1	4	1,044	12	6	28	0	2
8	Perpetual lease ...	1,598	1	27	1,707	12	0	1,209	2	6	24	18	6
15	Agricultural lease ...	2,096	1	38	2,481	10	0	1,402	12	0	117	2	5
45	Totals ...	37,267	0	33	50,916	10	0	38,248	0	4	436	6	11

Beyond these there are some twenty-seven or twenty-eight still pending, with an aggregate area of 26,000 acres, the reduction in capital value of which will be £9,000, approximately representing a further annual loss of about £250: thus the total annual loss of revenue through revaluations under the Act referred to will be nearly £700. Many of these holdings, through the antedating of the revaluations or reductions, and the counting in of rents already paid, are placed in credit for a considerable period in advance.

Nine capitalisations of unpaid instalments under deferred-payment licenses have been effected within the year, over an area of 2,242 acres, on which the sum of £752 8s. had been paid, the unpaid balances amounting to £1,301 1s. 7d., having been capitalised at £976 12s. 2d., the difference between the original annual instalments and the interest now required to be paid being £144 14s.

In the matter of the Swinburn Farm Homestead Association, the only association under special-settlement regulations in this district, there is at present very little to report. The survey of the block (Block VII., Swinburn), was not completed till May, and the plans not finally approved till the end of June last, so that the obligations of the settlers did not commence before the latter date. The Crown Lands Ranger reports that he recently visited the settlement, and found that, of the fifteen selectors members of the association, six were living on their sections with their families, all of whom had erected houses and effected a certain amount of improvements in the shape of cultivation and fencing, and that a seventh selector was represented by two members of the family living on the section in a tent; that of the remaining members of the association several had visited their holdings periodically for the purpose of keeping down the rabbits, and no doubt contemplated complying with the regulations before the first year of their term expires; that there might possibly be two or three defaulters, whose places, however, would be readily filled by other intending settlers; and that on the whole the progress of the settlement might be considered satisfactory. As the whole of the members of this association were living on the coast, it necessarily required some time for them to realise effects and make the arrangements necessary for

removing into the interior. The Ranger further states that "the settlers who are already on the land are a most deserving and respectable class of people, who will make very desirable settlers. The most of them are at present working on the Otago Central Railway, and the wages they earn there will assist them in developing their land, the expenditure on public works and the settlement of the land thus going on together, the one assisting the other."

On the subject of rents and arrears it will be seen that the total amount of arrears is about the same as last year, and that the number of settlers in arrear is, by a curious coincidence, exactly the same—namely, 675—although there has been a considerable increase in the number of selectors under the heads of lease in perpetuity and small grazing-runs, and an increase in the total number on the books of 320. The arrears of deferred-payment instalments and perpetual-lease rents are considerably less than last year, while, as has been before remarked, in the great majority of cases they are composed merely of the one payment due in advance for the current half-year, for ordinary settlement holdings for the period from 1st January to 30th June, and for small grazing-runs and pastoral runs, 1st March to 31st August. I may here mention that of the amount given as arrears of small grazing-runs the sum of £1,696 7s. 11d. has been paid since 31st March.

It is, however, to be feared that, as a result of poor crops and returns of produce, the fall in the value of sheep, and the heavy losses sustained in the spring of the year, the settlers as a body will be in great straits to meet their payments during the present year.

Every effort is made to secure the prompt payment of the rents as they become due, and pressure is brought to bear on settlers by bringing their cases before the Board for forfeiture of their leases or licenses after the second payment has fallen into arrear, unless good and sufficient reasons are shown why time should be given. It must, however, be manifest that there are many cases in which it is desirable some leniency should be shown, especially to struggling families, and in regard to bush-lands involving a large amount of labour in clearing, &c. The Land Board has always endeavoured to exercise a wise discretion in this matter.

With regard to the progress of settlement generally, while it may be said that a steady advance has to some extent been made, there can be no doubt whatever that it has also received somewhat of a check from the fact that intending settlers, and settlers desirous of extending their holdings and increasing their improvements, cannot now obtain the assistance they once could from the banks and other institutions; and in consequence also of the great pressure that these institutions have been bringing to bear on many settlers who have been receiving assistance to pay up the money advanced to them. This fact, coupled with what has already been said in regard to poor crops, &c., has doubtless had the effect of lessening for the time being the demand for land, and of preventing many from going thereon who would otherwise have seen their way to do so. One noticeable feature of the selections made during the year is that a large quantity of the land has been taken up by settlers in the form of extension of existing holdings, or for the benefit of their increasing families.

The reports from the Crown Lands Rangers go to show that selectors holding land on settlement conditions are, with few exceptions, complying with the regulations in respect of the several tenures under which the same are held, and that the improvements which have been effected are in most instances in excess of the requirements of the Act. Even on the lands most recently taken up evidence is not wanting that the selectors intend to settle on and improve their holdings. Very few indeed of the forfeitures during the year were for non-fulfilment of conditions of improvements, by far the greater number being for non-payment of rent or instalments. In respect of those settlers who were found not to be complying with the conditions of the Act, notices served upon them by the Land Board drawing attention to the fact resulted in the required improvements being effected in nearly every case.

During the year every care has been exercised by the Board in dealing with applications for transfers, each case being narrowly looked into with the view of checking any attempt at evasion of the Act, or the acquisition of land for purely speculative purposes.

With regard to village homestead special settlements on perpetual lease, the Ranger reports that the regulations are well complied with, and that the buildings in respect of which advances have been made are, with a few exceptions, well kept, and in good order; and that, while allowing for a certain amount of depreciation, there has been a fair increase in the total value of improvements during the year. Complaint has been made by many of the settlers of their holdings being too small, and the Ranger suggests that holdings of this class in country districts should be large enough to carry, say, six milch cows all the year round, and, in the near vicinity of towns, two cows. In the south-eastern districts settlers complain of the scarcity of work, the low prices of grain and other agricultural produce compelling farmers to curtail their employment of labour. In the Glenomaru, Woodland, and Tautuku Districts the settlers have found employment chiefly on public works. Generally speaking, the settlers and their families have comfortable surroundings, are healthy, and fairly contented. They have, of course, a hard struggle during the first two or three years, and in some cases in bush-districts proper access to their holdings has not yet been completed. The Ranger notes that fifty-six of these selections are occupied by families comprising 338 souls—an average of six to a holding; and that the children in these settlements, with a few exceptions in isolated localities, attend school regularly.

With reference to special land transactions under the Land for Settlements Act, particulars of same up to 31st March, in regard both to Pomahaka Downs Estate and the Teanaraki Village Settlement, are given in Table Z, and also in the special returns supplied. Since the 31st March further allotments have been taken up in both settlements. The Pomahaka Block of 7,462 acres 3 roods 1 perch, which was opened for selection on the 20th February last, was purchased in a district in which the Crown had no land available for settlement, on which account, and being surrounded by settlement, it was considered that it would be readily disposed of to residents in the immediate and adjoining districts desirous of acquiring land for themselves and families. From

the number of those who signed the petition in favour of the acquisition of this land it was only natural to suppose that this would be the case. It has not, however, been taken up so speedily as was anticipated, and there is no doubt that one of the chief causes of this was that the people of the district were led to believe that a large estate in that and the adjacent district would be brought into the market, and this, considering that the land referred to is of more convenient access, militated, and still militates, against the taking-up of the Pomahaka sections. I have no doubt, however, that the remaining sections will be gradually disposed of. As far as I have been able to ascertain, the price at which the land was opened was considered somewhat high. It is possible, too, that had the limit of holding been 640 acres, as in the Cheviot Estate, instead of 320 acres, as required by the Land for Settlements Act, a much larger area would have been disposed of, as some settlers with families already holding somewhat less than 320 acres, who would otherwise have applied, were debarred from so doing. The feeling also existed that the areas of some of the rougher portions of the land were too small to be profitably occupied. It would, no doubt, have been better had these less valuable portions of the estate been cut up into areas of from 400 to 500 acres; and it would certainly be advisable to provide for such being done in the event of the further acquisition of similar lands in the future for settlement purposes.

In regard to the Teanaraki Village Settlement, which was opened for selection on the 7th February last, consisting of about 345 acres, there still remain thirteen allotments to be disposed of out of the thirty-one into which the block was subdivided; but there is every probability of these being taken up shortly, two having been disposed of since 31st March. It was believed, from the position of this land, that it would have been readily applied for by farm-labourers and other workmen in the district as suitable homesteads for themselves and families, but, apparently, from causes before referred to in this report, there has not been, for the time being, sufficient inducement for the immediate selection of this land.

Speaking generally as to the promotion of settlement by the acquisition and disposal of lands under the provisions of the Land for Settlements Act, there can be no doubt that the acquisition of such lands as the Pomahaka and Teanaraki Blocks must be of considerable advantage to the districts in which they are situated, as in neither of them had the Crown any land to dispose of. It supplies an undoubted want, both in the form of small areas as in the case of Teanaraki, and larger ones as at Pomahaka, affording an opportunity on the one hand for working-men to obtain desirable homes in the districts where work is obtainable, and, on the other, farms of suitable area of good land for small farming. There is evidence in the Rangers' reports in connection with the special returns before referred to that those who have taken up sections in the above settlements intend to comply with the regulations under which they have taken up the same, by cultivating and making their homes on the land.

In addition to the areas already open for selection as per Land Guide, there are likely to be available for disposal during the present year the following lands:—

1. For selection under Part III. of the Land Act, optional system, 40,000 acres, approximately, comprising 1,000 acres, parts of Runs 204 and 204A, in the Rock and Pillar and Upper Taieri Districts; 629 acres in Dunback and Waihemo Survey Districts; 1,000 acres of bush reserve in Block XV., Maungatua Survey District; 6,395 acres, being subdivisions of Runs 206A and 206F, in Kyeburn, Naseby, and Maniototo Survey Districts; 4,000 acres, subdivisions of Fork's Run, Block V., Lower Wanaka Survey District; 8,500 acres in Blocks V., VI., and VII., Catlin's Survey District; 3,800 acres in Blocks XII. and XIII.; Rimu Survey District; 8,700 acres in Blocks I., VII., and VIII., Tautuku Survey District; and 6,000 acres in Blocks II., VIII., IX., and Parts of X. and XI., Woodland District. The greater portion of this land is of a somewhat rough description; that in the Maungatua District is rough and steep, but the soil is good, and it has been cleared of bush. The 1,000 acres, parts of Runs 204 and 204A, known as Hamilton's Runs, is the estimated area likely to be cut up for small settlements, its quality being of a fairly good agricultural and pastoral character. Runs 206A and 206F, known as part of the Kyeburn Run, is composed of fairly good agricultural and pastoral land, and will no doubt all be applied for. The land in the Catlin's, Rimu, Tautuku, and Woodland Districts is all bush-land, the quality of the soil, generally speaking, being good. The areas into which the whole of this settlement-land will be opened for application vary from about 100 to 300 acres, with a few areas of the rougher land up to 500 acres.

2. For disposal under Part IV., village homestead allotments, there are 148 acres, being subdivisions of Section 24, Block V., Maerewhenua District, into areas of from 10 to 12 acres, good agricultural land, about five miles from Dunroon Railway-station; and 50 acres in Block X., Glenkenich District, being subdivisions of Section 44 of the said block into areas of from 5 to 10 acres, in the centre of a large and first-class agricultural district. There may possibly be other small areas opened under this part of this Act, which have not yet been decided upon.

3. For disposal under Part V., small grazing-runs, the following will probably be the available areas: 31,000 acres of Runs 204 and 204A (Hamilton's), retained for settlement but not yet subdivided, mostly of a purely pastoral character, in the Rock and Pillar and Upper Taieri Survey Districts; 2,500 acres of Runs 206A and 206F (Kyeburn), good pastoral country, likely to be disposed of under this system on account of the auriferous nature of the land, in the Maniototo Survey District; 1,600 acres in the Hummock Survey District, of good pastoral land; and, in addition to these areas, about 37,700 acres in Beaumont, Blackstone, Budle, Kakanui, Kuriwao, Kyeburn, Maerewhenua, Tiger Hill, Waipori, and Warepa Survey Districts; making a gross total of about 72,000 acres. Of the latter area of 37,700 acres, 7,319 acres in Blackstone, Tiger Hill, and Waipori Districts have already been taken up since the 31st March, the balance being principally the surrendered small grazing-runs in the Kakanui, Kyeburn, and Maerewhenua Districts, subdivisions of Tokarahi Run, and the subdivisions of the Bellamy and Beaumont Runs, in the Beaumont Survey District. The whole of the land comprised in these areas is chiefly pastoral country, with here and there a few patches of agricultural land suitable for homesteads and for growing

winter feed, while some of it is rather rough, and can only be profitably occupied in areas of from, say, 4,000 acres and upwards.

4. The principal runs likely to be disposed of under Part VI. of the Act are the following, being almost all purely pastoral country: Runs 237D and 237E, containing 20,000 acres, in the Cluden Survey District; Runs 129, 258, and 258A, containing 25,150 acres, in the Kuriwao, Rimu, and Slopedown Survey Districts; Run 362B, containing 29,700 acres, in the Mount Burster Survey District; Runs 236D and 236C, containing 12,120 acres, in Tarras Survey District; Run 51A, containing 10,460 acres, in Waipori Survey District; Run 140A, containing 6,040 acres, in Rankleburn Survey District; Runs 455 and 470, in the Lake County, containing 36,000 acres, now open for application. And in addition to these runs there are some small areas (surveyed sections) in Earnslaw, Glenorchy, Lower Hawea, Maniototo, and Upper Wakatipu Survey Districts, containing in the aggregate about 2,000 acres, making a gross total of 141,470 acres.

In conclusion, I desire to state that, notwithstanding the fact that the receipts of the past year have shown a certain amount of shrinkage in the land and territorial revenue, the administrative and departmental work in dealing with Crown lands has rather increased than diminished. The many systems of tenure, with their varied and numerous conditions and regulations, the intricate accounts in connection with the payments of "thirds" and "fourths" to local bodies, and the transactions under the Government Loans to Local Bodies Act, the exchanges from one tenure to another, the revaluations, transfers, and other transactions, together with the ever-increasing number of selectors on the books of the department, involve a very large amount of clerical work in correspondence, book-keeping, &c., which has kept the staff very fully occupied during the year, and which I am glad to be able to report has been carefully and satisfactorily performed.

J. P. MATTLAND,  
Commissioner of Crown Lands.

#### SOUTHLAND.

*Land for Settlements Act.*—Several properties have been offered to Government, and the Commissioners have sat in Invercargill. I may here express the opinion that so far as the Southland District is concerned there is sufficient Crown land available for the next few years' demand without having recourse to this Act.

*Residence and Improvement Conditions.*—These continue to be well carried out, as will be seen from the summary of Rangers' reports below:—

#### SUMMARY OF CROWN LANDS RANGERS' REPORTS, 1893-94.

Report.	Number of Selectors.	Area.	Partial Default.	Total Default.	Absent.	Double Improvements in lieu of Residence.	Residing.
First deferred payment ...	...	...	...	...	...	...	...
Second " ...	49	1,718	2	3	27	22	22
Fourth " ...	37	1,590	1	2	16	13	21
Final " ...	9	545	...	...	2	2	7
Total ...	95	3,853	3	5	45	37	50
First perpetual lease ...	...	...	...	...	...	...	...
Second " ...	218	26,731	21	11	132	100	86
Fourth " ...	77	14,119	7	...	37	30	40
Final " ...	10	1,150	...	...	5	5	5
Total ...	305	42,000	28	11	174	135	131
First lease in perpetuity ...	30	14,132	7	..	7	...	23
First occupation with right of purchase	23	12,951	5	...	5	...	18
Small grazing-runs ...	2	1,693	...	...	...	...	2
Grand total ...	455	74,629	43	16	231	172	224

I present the following summary of Crown lands surveyed, under survey, open for application before survey, or as pastoral runs:—

Southland County—	Acres.
Surveyed rural lands, mostly second-class open country, in areas from 20 to 1,500 acres ...	43,897
Village homestead sections, mostly first-class land, in areas from 1 to 20 acres ...	2,373
Town lands ...	379

	Acres.
<i>Southland County—continued.</i>	
Four small grazing-runs, mostly hilly, and carrying fairly good tussock and other grasses ... ..	12,000
Unsurveyed land, but now being prepared for settlement, mostly forest country, but with good soil ... ..	68,000
One pastoral run, mountainous country of inferior quality ...	40,600
<i>Wallace County—</i>	
Surveyed rural lands, mostly second-class and partly open country, in areas from 50 to 1,000 acres ... ..	21,047
Village homestead sections, mostly first-class bush-land, in areas from 1 to 20 acres ... ..	867
Town lands ... ..	158
Seven small grazing-runs, mostly hilly open country, carrying tussock and other grasses ... ..	15,700
<i>Lake County—</i>	
Surveyed rural lands, second class, in areas from 80 to 100 acres ...	1,676
Town lands ... ..	12
<i>Fiord County—</i>	
Seven pastoral runs, high rugged country, chiefly on West Coast ...	948,130
<i>Stewart Island County—</i>	
Surveyed rural land, second-class forest-country, in areas varying from 30 to 300 acres ... ..	2,220
Unsurveyed land, but open for application, mostly second-class forest-country ... ..	143,950
Total ... ..	1,301,009

G. W. WILLIAMS,  
Commissioner of Crown Lands.

## APPENDIX No. 2.—SURVEYS.

EXTRACTS FROM THE REPORTS OF CHIEF SURVEYORS IN CHARGE OF DISTRICTS  
FOR THE YEAR ENDING THE 31st MARCH, 1894.

### AUCKLAND.

*Major Triangulation.*—An area of 259 square miles has been covered by four triangles to connect the trigonometrical work which had been extended up the centre of the Island with the narrow coastal series extending from Cape Brett to Tutukaka. This was rendered necessary owing to errors discovered in the positions of the coast stations, but unavoidable from the fact of their having been extended by ill-conditioned triangles and from a not very reliable base. I am glad to say that we are now able to co-ordinate the section-work with accuracy in its relation to Mount Eden. The cost of this work has been 0·29d. per acre.

*Minor Triangulation.*—Only some 40,000 acres appear under this heading, completed by Mr. N. F. Haszard at Tairua for purpose of check, the cost being 0·20d. per acre. Other minor triangulation has been done by Mr. L. Cussen in the central district, but has not as yet been mapped.

*Rural and Suburban.*—The output of rural and suburban work is less than last year, being only 626 sections, with an area of 145,565 acres, or a little over an average of 232 acres for each section, the total cost being £9,675 13s. 3d., or a mean of 1·33s. per acre, or a trifle over the average of last year. Out of this area the staff has surveyed 502 sections, with an area of 85,054 acres, at a total cost of £6,061 12s. 1d., or a mean cost per acre of 1·42s., which is above the average of last year. Authorised surveyors under contract and at schedule rates have surveyed 124 sections, of an area of 60,511 acres, at a cost of £3,314 1s. 2d., or a mean of 1·19s. per acre. Apparently the staff work has cost more, but as a fact it is not so, as the authorised surveyors have been engaged upon new country, whilst the staff have had to spend more time in resurveying old surveys, which add heavily to the cost of the work.

*Town Section Surveys.*—Under this heading a return of ninety lots, costing 10s. an allotment, is made, being a survey of the goldfield township of Karangahake, done for the Warden of the Hauraki Mining District, and one other isolated town lot which cost £5.

*Native Land Court Surveys.*—A considerable area has been surveyed for Native Land Court and Native-land-purchase purposes, the total being one hundred and forty-four blocks, totalling an area of 262,966 acres. Out of this area Mr. Baber has surveyed one block at Haparapara, East Coast, of an area of 1,887 acres, costing 1s. per acre, this high cost being brought about by Native detention. Authorised surveyors have completed twenty-nine blocks, of 261,079 acres, at a cost of £2,547 8s. 2d., or nearly 2½d. an acre. These costs have either been advanced by the Government, and will be recovered by lien upon the land, or have been paid by Land Purchase Branch for lands conveyed to the Crown. In addition to the above, authorised surveyors have surveyed one hundred and fourteen blocks, of an area of 93,856 acres. These are paid for under private arrangement, but in most cases are at schedule rates, allowed under "The Native Land Court Act, 1886."



*Gold-mining Surveys.*—The area under this heading is again very small, owing to the continued depression of the mining industry, though there are not wanting signs that a revival is about to take place, owing to new discoveries of payable quartz reefs. The staff surveyed two silver-mining leases at the Great Barrier, of 30 acres, at a cost of 3s. an acre; and authorised surveyors, at schedule rates under the Mining Act, have surveyed fifteen leases, of a total area of 280 acres, at a cost of 10s. an acre.

*Roads, Railways, and Water-races.*—I have to chronicle a considerable increase this year, as the total surveyed is 196½ miles, at a mean cost of £13 4s. per mile. Of this mileage the staff has surveyed 153½ miles, at a mean cost of £12 4s. per mile; whilst authorised surveyors, at cost of Government, have surveyed 43 miles at a cost of £16 15s. per mile. The mean cost of the work done by the staff has been lowered owing to some fourteen miles of the work being resurvey of portion of the Kaipara railway-line, undertaken to define the actual boundaries of the line as proclaimed, which differed considerably in many places from that which had been fenced in.

*Detention by Native Opposition.*—A total sum of £300 10s. 6d. is set down as incurred by Native opposition to road and Native block surveys. Of this sum, £121 15s. 6d. was detention of staff officers—namely: £81 7s. 6d. by Mr. Baber when endeavouring to carry out the survey of the Haparapara Block beyond Opotiki; £30 12s. incurred by Mr. Wright for road-stoppages, owing to, in many cases, forcible detention by Maori agitators; and £9 16s. by Mr. N. F. Haszard, near Tairua; the balance of £178 15s. was the expense of detention of Mr. O. M. Creagh, engaged upon the Ruatoke survey, near Whakatane.

*Other Work.*—Of the sum of £1,116 1s. 5d. set down under head of "Other Work," some £524 3s. 4d. is the cost of inspection of blocks in the Upper Waipa to Mokau, which have been subdivided for Native Land Court purposes. It was necessary to keep Mr. L. Cussen at this work, as the lands were being dealt with in most cases for land-purchase purposes. There is also a sum of £257 4s. 6d. which was incurred in defining the lines of certain timber leases adjoining Crown lands in the Hauraki Mining District, it being necessary to ascertain the exact boundaries and the line of demarcation between the private and Crown forests. The balance of £334 13s. 7d. is principally for road-inspections of contracts, inspections of improvements, and miscellaneous duties.

*Land Transfer.*—The Land Transfer work shows a great falling-off, as during the year only 132 plans, showing 356 subdivisions, and containing a total area of 20,682 acres, have been examined and approved.

*Crown Grants, Certificates of Title, and Native Titles.*—The work in the Crown grants branch has been steady, and shows a total of 2,776 acres, at a total cost of £294 13s. including supervision, at a cost per plan of 2s. 1d.

*General.*—I have shown as completed some 145,565 acres for the past year. I have now in hand and under survey some 132,202 acres of rural lands and some 40,000 acres for which instructions are not yet issued. There are also 261,079 acres of Native Land Court and Native-land-purchase surveys returned as completed during the year past; and there are under the same heading 296,179 acres now in progress, and, in addition to the above, some 200,000 acres of Native Land Court subdivision surveys in the hands of private surveyors, the cost of which are paid privately. This, with the 249 miles of roads in hands of surveyors, and quite another 100 miles engineering surveys, will keep the staff fully employed. I have still the two old provincial liabilities to work off untouched—I refer to the Parishes of Tauraroa and Waikiekie, which I hoped to have completed this year; but the resignation of Mr. C. Stevens, through ill health, will again defer this most necessary work.

GERHARD MUELLER, Chief Surveyor.

#### HAWKE'S BAY.

*Minor Triangulation.*—The 30,000 acres completed this year was done for the purpose of governing some Native Land Court surveys, and a further 50,000 acres at the East Cape is under contract, and nearly finished, with the same end in view.

*Topographical Survey for Selection under "The Land Act, 1892."*—None of this class of work has been completed, but two blocks, of an area of 50,000 acres, are now in course of survey—one in the Motu District, midway between Gisborne and Opotiki, and adjoining the land surveyed last year, which went off so successfully, the other in the Hikurangi district, about sixteen miles inland of Waipiro.

*Rural and Suburban.*—There have been 37,290 acres surveyed, at an average cost of 10d. an acre. Of this, 9,404 acres were in the Hangaroa district, and have since been taken up on settlement conditions. With the exception of eight small holdings, the balance has been the marking-off of selections of unsurveyed land on which 5d. an acre was spent last year in preliminary topographical survey and the laying-off of the road-lines, making a total cost of 1s. 3d. an acre.

*Native Land Court Surveys.*—There has been considerable activity in this branch of the year's work. Seventeen blocks, with an area of 16,234 acres, at the East Cape have been completed by Mr. Wheeler, staff surveyor, who has been specially set apart for this work; three blocks, of 4,983 acres, in the same locality by a contract surveyor, the cost being advanced by Government; and forty-six blocks, with an aggregate area of 102,699 acres, in different parts of the district by authorised surveyors who are paid by the owners: a grand total for the year of sixty-six blocks, comprising 123,916 acres. Besides these the surveys of 118,630 acres, in fifty blocks, are in hand, and fresh applications are coming in very fast.

*Road Surveys.*—There have been 33½ miles of road selected, graded, and surveyed, at an average cost of £21 10s. 9d. per mile.

*Inspections.*—There has not been as much inspection as could have been wished, as the time of

the District Surveyor at Gisborne has been largely taken up with Land Officer's duties and supervising roadworks, and the District Surveyor at the southern part of the district, with his regular work of settlement and other surveys, could not often be spared; but eighteen field-checks have been made of Native Land Court and Land Transfer surveys undertaken by authorised surveyors, and, while in the great majority of cases the work was found to be well done, I regret to say that in two or three instances faulty and slovenly work was discovered.

The following is a summary of the work completed during the year, and of that in progress:—

	Completed 1893-94.	In Hand.
Minor triangulation ... ..	30,000 acres.	50,000 acres.
Topographical surveys for selection ... ..	Nil	50,000 "
Rural and suburban ... ..	37,290 acres.	79,800 "
Native Land Court, by staff ... ..	16,234 "	29,060 "
Native Land Court, by authorised surveyors	107,682 "	89,570 "
Roads ... ..	33½ miles.	16 miles.

*Operations for Ensuing Season.*—In addition to the work in hand, as shown above, it is probable that the department will be called upon to survey for settlement considerable areas in different parts of the district of land that has lately been acquired from the Natives, and it is hoped that some of the more favourably-situated lands suitable for small farms will be offered to the Government on reasonable terms, and acquired under "The Land for Settlements Act, 1892." There is reason to believe that fresh applications for Native Land Court surveys will be very numerous, and that the amount surveyed in the ensuing year will be far in excess of that completed during the last.

THOMAS HUMPHRIES, Chief Surveyor.

#### TARANAKI.

*Minor Triangulation.*—The areas tabulated comprise breaking down and extension of triangles to cover the sectional surveys in progress and proposed, the mean cost being 1.3d. per acre. Further work of this class is much wanted in the older settled districts also, to enable a thorough check to be put on all subdivisional and other surveys under the Land Transfer Act, &c., for the accuracy of which the Government afterwards becomes responsible.

*Rural and Suburban.*—The bulk of land was rough and broken forest, unsuitable for division into small areas, the mean area per section for the year being 353 acres. The permanent staff officers did 18,531 acres, comprising sixty-nine sections, the average area being 268 acres, and cost 1s. 11½d. per acre; temporary staff officers 5,074 acres, in five sections, average size 1,015 acres, cost 2s. 4d. per acre. This was very rough country, and involved a great amount of traversing. Contract surveyors completed 5,678 acres, in nine sections; average size, 631 acres; cost, 1s. 2d. per acre. These were selections before survey, but mostly contiguous. The surveyors complained bitterly of the low price, and scarcely made food and expenses at the work.

*Town Section Surveys* comprised revision, repegging, and standard connections of portion of Stratford, at a cost of 3s. 8d. per section, or 14s. 7½d. per acre.

*Road Surveys.*—The wet weather, preliminary work necessary, and lateness in season of starting has very considerably curtailed the mileage in this class of work actually completed, although a large amount is nearly so. The mileage in schedule is principally in the Wingrove, Waihapa, and Pukengahu Roads.

*Other Work.*—Under this heading are comprised the survey, felling, clearing, burning, and grass-seed sowing of some 52 acres in isolated positions as a future convenience for surveyors' and settlers' horses when packing in stores; also, cost of other odd works which may have occupied the time of surveyors, together with cost of field inspections and checks.

*Work in Progress, but Incomplete.*—This is very considerable in all branches, being—topographical, for selection before survey, 40,000 acres; minor triangulation, 58,000 acres; sectional survey, 103,000 acres; road-surveys, eighty-five miles. A large amount of this work has actually been completed in field, but the plans are not yet in, while some had only been in hand a few months. The surveys of Mangaehu, Llewellyn, Whenuakura, and Moanatairi Special Settlements (a total area of 32,000 acres) were only begun about end of November last. The Rawhitiroa Block has been on hand for two years, but, as it is a large one (35,000 acres), of very steep broken bush-country, and requires to be triangulated at the same time with section work, Mr. Frith, the only surveyor on it, is still at work thereon. The work on the Terrace End and Eltham Special Settlements (14,000 acres) is well in hand, and will be completed by end of June.

The whole of the surveys above referred to are far back in a rough bush-country difficult of access, and consequently expensive, as all provisions have first to be packed on horses as far as these can be taken and then swagged by the men on their backs for many miles. To enable this to be done, and also to enable the parties to get about their respective blocks, swag- and walking-tracks had to be cut in all directions, and I find from the monthly reports, &c., that during the past year the staff surveyors have cut about 150 miles of such tracks, at a cost of about £200. In a few instances canoes have been made and used on suitable streams for short periods. On these tracks occasional side-cuttings and steps in papa rock have been made, and numerous temporary bridges constructed over streams. These tracks and bridges, although in the first instance cut for convenience of survey parties, are equally useful to the pioneer settlers who follow up shortly afterwards; they, however, necessarily add considerably to the cost of survey, as do also the many large clearings made on hill-tops for trig. stations and check-bearings, and these matters should be borne in mind by any one comparing the prices with those of work done in the more open portions of the South Island.

JOHN STRAUCHON, Chief Surveyor.

## WELLINGTON.

*Minor Triangulation.*—Mr. W. D. B. Murray has sent in additional triangulation and topographical plans of 30,000 acres of the Awarua Native block, but, owing to the heavy bush to be cleared at the trig.-stations, and various other delays, the progress made during last year was very much less than I had anticipated. Mr. H. J. Lowe has now started on that portion of the block lying on the east side of the Rangitikei River, and I trust next summer will see this work finally completed. Mr. Murray erected a wire rope and travelling-cage for crossing the Hautapu and Rangitikei Rivers, and opened up tracks to take in pack-horses, which will facilitate the work now being pushed on. Mr. G. F. Richardson, of Messrs. Richardson and Reardon, who had the survey of the Ngāwhakakupe Native block in hand, completed an excellent triangulation of the block, which we were glad to avail ourselves of, to add to the minor triangulation of the Waipawa Survey District. It amounted to 55,000 acres.

*Topographical Surveys.*—The roading of two blocks, containing 12,600 acres, to be opened for selection under "The Land Act, 1892," has been completed in the Waimarino country, at a cost of 5s. 3d. per acre, by Messrs. C. A. Mountfort and Lewis, and will shortly be opened for selection under ordinary conditions. In addition to these, Mr. Morice has since completed a block south of the Kawatau, containing 6,300 acres, and Mr. Dalziell has a large block in Upper Waimarino, of 27,000 acres, well advanced.

*Sectional Surveys.*—This year, as during the previous one, nearly the whole of the staff, both permanent and temporary officers, have been engaged in getting the back boundary-lines cut and the section-pegs put in of the farm homestead association blocks. In addition to the seven association blocks reported to be completed last year, twenty-five others have been finished. The whole of those known as the East Puketoi country, excepting the Rising Sun Block, are now done, and all those on the West Coast also, excepting the Onslow and Hunterville Nos. 1 and 2 Association blocks. The preliminary surveys of the latter two, however, are progressing well towards completion, and the ballot for the land will, I hope, be able to be held in time to let the proposed settlers fell some bush this bushfelling season if they wish to do so.

In the Waimarino country four of the association blocks are quite completed, the back lines being cut on the ground and all the pegs put in. Of the other Waimarino association blocks, in three of them the roads are now being laid out ready for the sections to be schemed out. Plans have been sent in this year of 717 sections, containing an area of 117,382 acres, at a cost of 1s. 9d. per acre, the preliminary survey having cost from 4d. to 6d. per acre. Of this area, 91,160 acres are farm homestead association sections, laid out to contain on an average 200 acres each, and 26,222 acres is sectional survey of land taken up under the Waste Lands Acts. A considerable additional area of sectional work is finished in the field, but the plans are not yet sufficiently advanced to allow the area to be included in my annual return of work completed this year.

*Township Surveys.*—Only a few sections have been laid off at Raetihi, and in a village reservation in the Sommerville Farm Homestead Association Block, 117 lots being laid off, at a cost of 9s. 6d. per lot.

*Road Surveys.*—Mr. W. D. B. Murray traversed twelve miles, and Mr. P. A. Dalziell four miles and a half, of the main road-line through the Awarua Native Block, to enable this road to be correctly located on our plans. Mr. F. A. Thompson has sent in plans of twenty-four miles more of roads laid out in the South Wairarapa County. These consisted of a resurvey of five miles and a half of the Ruakokopatuna-Stony Creek road, 16½ miles of the Martinborough-Pahaoa East Coast Road through the Ngāwhakakupe Block, and two miles of the Wangaehu in the same block. He has also completed in the field the rest of the Pahaoa Valley Road, and a branch road up that valley to give access to the settlers up the Wainuioru. Mr. A. Simpson sent in plans of eighteen miles of roads laid out in the Rangitatau Block, noted in last year's report.

Engineering surveys have been sent in by Messrs. J. D. Climie, H. J. Lowe, T. W. Hughes, R. B. Bristed, H. Maitland, A. L. Foster, J. M. Morice, C. E. O. Smith, and F. Fairburn, of sixty miles of roads in the various farm homestead settlement blocks.

*Roadworks.*—Captain Turner's excellent report on the roadworks undertaken under the co-operative system has already been forwarded to you.

*Native Land Court Surveys.*—Only two small blocks, containing 2,666 acres, have been executed by staff and contract surveyors, but fifty plans have been sent in by twenty-one authorised surveyors, comprising 206 subdivisions, containing 218,248 acres of surveys made under the Native Land Acts. These have been examined and checked by Mr. Carrington, the computer attached to this office. A large Native survey on the Turakina River had to be checked in the field by the inspector, and proved to be so incorrectly done that it will be necessary to revise it in the field.

*Survey Inspection.*—The work of every staff surveyor having been tested on the ground last year, so many inspections were not necessary this season, so, as the Inspector has been very busy in checking the farm homestead settlement and other Crown-land valuations, and in assisting the office computer to check the large number of plans which came in this year, he only visited and checked the work of eight of the staff of temporary surveyors. He reports, after having submitted their work to the ordinary field check, both for measurement and accuracy of theodolite observations, that they are all doing first-class work, and, with one exception, at a moderate cost to the department. The field-work of three of the authorised surveyors has also been tested in the field; the work of two of them has proved to be most unsatisfactory, and will necessitate stringent measures to insure that work for which the Government, through the issue of incorrect Land Transfer and Native Land Court titles, may become responsible is done in a more reliable manner in future. The work of the other authorised surveyor, though not strictly accurate, proved to have been honestly done, and, therefore, to be depended on.

*Office-work.*—Probably the most important feature of the indoor work for the year has been the rearrangement of the new safe, which I initiated on our removal to new premises. All the plans in the office have been gone through and re-indexed, and, as there were over 3,100 of them, it has taken a long time to get them into proper order. A number of these were to a certain extent in duplicate and triplicate—that is, representing the same areas surveyed at different times and in many cases with different data on them, so they had to be all gone through in order to decide which to keep and which to put on one side. The field-books and other survey records have also been gone through, and, although there necessarily is still a great deal yet to be done before complete registers of everything can be prepared, matters however are so far advanced that I hope shortly to finish what is required by the ordinary public room staff.

The bulk of the general office-work at present consists of attending to the wants of the public and the requirements of the large staff at present employed in the field, and information in connection with special settlements, Road Board work in connection with the expenditure by local bodies of “thirds” and “fourths,” tracings for selectors, Crown Land Rangers, &c.

The amount of office-work to be got through is constantly increasing, and the staff to some extent is working at a disadvantage in being for the present situated on a lower and upper flat, which occasions loss of time in communicating with the different branches of the office. The main drafting-room however is probably one of the best in the colony, and, when the new safe situated between this and the public room is in proper working-order, the work of finding any plan, which by the new numbering and system of drawers established cannot easily be misplaced, and of replacing it after being used, will be materially lightened. So I anticipate when the offices are all situated on the upper story, and can be easily reached by either the proposed lift or the new staircase, we shall have perhaps the most conveniently worked district office in the colony, and consequently more work be put through with greater ease than hitherto.

I enclose an interesting report from Mr. W. H. Dunnage, one of the temporary assistant surveyors in the Waimarino country, on an ascent he made of Ruapehu, and a description of the glacier on the top thereof, which he illustrated by several very effective photographs. (See Appendix No. 6, “Explorations.”)

In concluding my report for the year, I have to express my thanks both to the field and office staff for the effective aid they have given me in carrying out the very heavy work which has fallen on the department during the past year.

JOHN H. BAKER,  
Assistant Surveyor-General.

#### NELSON.

*Rural and Suburban Surveys.*—There have been only two surveyors employed on land-settlement surveys during the year—viz., Messrs. Sadd and Thomson—in the part of the district outside the Midland Railway Company’s area of selection. Three authorised surveyors have been employed occasionally and paid by fees. 13,943 acres in 186 sections have been surveyed in isolated sections in mountainous bush-country. Of this area, 13,134 acres in 111 sections, averaging 118 acres in the holdings, have been applications under the Land Acts, and 809 acres in seventy-five allotments have been surveyed for land under the Mines Act, within the Buller Coal Reserve, by Mr. Snodgrass.

*Town Section Survey.*—Two hundred and twenty-nine allotments have been surveyed in the Townships of Seddonville, Millerton, and Village of Torea, under the regulations of the Mines Act, within Buller Coal Reserve.

*Native Land Court Survey.*—Fourteen allotments, containing 261 acres, have been surveyed for the Native Department, consisting of small scattered areas in the Waitapu and Aorere districts.

*Gold-mining Surveys.*—These amount to eleven in number, the larger part being in the Buller district, and for the last two or three years have been steadily decreasing in number.

*Road Surveys.*—Only a small length of these has been made during the year, amounting to seven miles and three-quarters, chiefly to give access to sectional lands.

*Midland Railway Block Surveys.*—Blocks 130, 131, and 127 have been selected and are in course of survey. In order to lay down the outside boundaries of these blocks a large amount of interior sectional work has required to be surveyed with topography. The field-work of Blocks 130, 131, amounting to about 27,000 acres, is completed, but not plotted. Block 127, containing about 44,000 acres, will be completed in the field about the end of May next. The field-work of about 142 square miles of triangulation has been completed in the field, but not finally plotted. The plotting of these works will be taken in hand during the winter season, and the services of an extra plotting draughtsman is necessary to enable the surveyors to overtake these arrears, so as to take the field again in the next summer season, in the high back-country.

*Proposed Operations for Ensuing Season.*—Three sections containing 11,892 acres, and one of 1,800 acres, held under lease with pre-emptive right, have been purchased last year in the Amuri district, the boundaries of which must be defined on the ground for certificate of title. Further purchases may be expected next year, which will also require survey. After the arrears of plotting have been overtaken, two surveyors, Mr. D. Innes Barron and another, will be required to undertake these surveys. Mr. R. T. Sadd will complete the 2,000 acres in hand and survey current land and gold-mining applications in the Takaka and Collingwood districts, Mr. J. D. Thomson current applications in the Waimea and Motueka districts.

Mr. Snodgrass will complete arrears of applications on hand in the Karamea, and survey about two or three miles of the Wangapeka-Karamea proposed road. As soon as the snow is off the hills, a survey of the above road requires to be made from the Wangapeka Saddle, in continuance

of the road already constructed. Mr. Snodgrass will also undertake gold-mining surveys and the current work required for the Mines Department within the Buller Coalfields Reserve. Mr. Montgomerie, now assisting with surveys in the Amuri district, will be required in his own district (Reefton) if the Midland Railway Company's lands can be dealt with during the ensuing year. Two blocks of land set apart for landless Natives in the Croixelles, containing 900 acres, are proposed to be let under contract to Mr. W. Robertson, who is just completing similar surveys in the Marlborough District.

JOHN S. BROWNING, Chief Surveyor.

#### MARLBOROUGH.

*Minor Triangulation.*—The only minor triangulation proper executed during the year was an area of 46,900 acres by Mr. J. A. Robertson, contract surveyor, to govern his surveys of land for landless Natives, in the Sounds. The cost, 0-87d., may be considered reasonable, as the country is very precipitous, and covered with heavy forest. The heights of the stations range from 600ft. to 4,000ft. above sea-level.

*Topographical Surveys for Selection of "Unsurveyed Land."*—Although nearly the whole of the land opened during the year has been offered as "unsurveyed land," no topographical surveys have been made or necessary road-lines laid out beforehand, as is the practice in other districts. Consequently the Land Board, when dealing with applications to have land opened, has had little or no information as to the nature of the country, quality of the land, best fencing-boundaries, &c.; and has had, in a great measure, to work in the dark, in the absence of topographical maps and classification reports. Some of the reasons why this practice has obtained in this district are, probably—(1) because the pieces applied for are small areas scattered about in the Pelorus, Kaituna, and Waitohi Valleys, and in the Sounds; (2) because for some years past only one staff officer has been attached to this district, and it was simply impossible that he could single-handed survey all the land that had been taken up, &c., and at the same time furnish topographical maps of, and reports on, pieces applied to be opened. Under the circumstances the Board had to work in the dark, one of the effects of this very unsatisfactory system having been that in one or two cases lands have been offered without any access to them, and in several others with access only by "paper" roads.

The absence of detail topographical maps is very much felt in this district.

*Rural and Suburban.*—An area of 19,003 acres has been surveyed into seventy sections, at a mean cost of 1-2s. per acre. This area is made up chiefly of small detached pieces taken up prior to survey. The remainder comprises two runs in the Sounds of which the tenure has been changed to lease in perpetuity.

*Town Section Survey.*—Nothing under this heading has been surveyed during the year.

*Native Land Court and Native Reserve Survey.*—Mr. J. A. Robertson, contract surveyor, has completed the survey of 2,837 acres, in two blocks—one at Okoha, and the other at Kenepuru. Within these blocks eighty 3-acre allotments have been pegged off—all for landless Natives—at a cost of 4s. per acre. Mr. A. Simpson has made a preliminary survey of the Wairau Native reserve, giving details of plantations, fences, houses, &c., in order to facilitate the partition between the three hapus—viz., Ngatitōa, Rangitane, and Ngatirarua. This has been done at a cost of 1-34s. per acre.

*Gold-mining Surveys.*—Two surveys have been made by Mr. Douglas Dobson, comprising 60 acres, both situate in the Wakamarina Valley, and paid for by the applicants, at a cost of £51 6s.

*Roads, Railways, &c.*—Only five miles and a quarter of road were surveyed—one mile and a half in the Kaituna and Pelorus Valleys, three miles and a half at Mahakipawa, Pelorus Sound, both to be taken under the Public Works Act; and a quarter of a mile to give access through private property to the unsold portion of Erina Run, Wairau Valley.

*Other Work.*—This includes office-work, reporting on Warwick Runs, grading road at Torea, reporting on track at Wet Inlet, and inspecting track at White's Bay, all executed by Mr. Greenfield. Also redefining old boundaries of land at Pelorus Valley, to be given to Natives; this was done by Mr. McFarland.

*Field Inspection.*—A Land Transfer survey in the Wairau Valley was inspected by Mr. Greenfield, when it was found that, although the bearings and distances were generally correct, the ground-marking had been almost entirely neglected. When the surveyor was instructed to supply the deficiencies he made the somewhat extraordinary statement that, as the land surveyed belonged to his own family, he thought it was unnecessary to comply strictly with the regulations.

I have twice visited Mr. Robertson during his survey of land for landless Natives, on the last occasion going overland with him from Endeavour Inlet to Okoha. I have altogether spent sixty-six days travelling through different parts of the district, either on special or general inspection.

*Work for Next Year.*—As well as it is possible to forecast, the work for the ensuing year will be the completion of surveys of lands for landless Natives by Mr. Robertson; the survey of several small grazing-runs by Messrs. McFarland and Simpson—temporary staff; and the survey of some thirty applications already received from holders of Marlborough leases and pastoral licenses to exchange their tenure to leases in perpetuity. As deposits will be lodged for these surveys they can be undertaken by authorised surveyors; but, as I pointed out in my report for 1891-92, we cannot expect the private surveyor who has a business connection in the district to devote all his energies to Crown land surveys; neither can we expect him, when paid by a fee on the present scale, to spend time in exploring and laying out roads which may hereafter be necessary through the sections which he is surveying.

If the reclassification of the country now held by Marlborough lessees, comprising some 900,000 acres, is contemplated, a topographical survey will be necessary before the leases expire in 1896. This matter has been already referred to by my predecessor in his two last reports.

Under the heading of "Work for Next Year" must be included the survey of the Blind River Estate, which is to be acquired under "The Land for Settlements Act, 1892." The boundary survey is now in progress, after which the subdivision into farms must follow.

We have also Native Land Court orders for the indorsement of plans of eleven Native reserves situate in Queen Charlotte Sound, having an aggregate area of 11,222 acres, all of which have to be surveyed and subdivided when a surveyor is available.

I have already reported fully more than once on the large amount of arrears in connection with block-sheets, Crown grant, and Land Transfer, record maps, &c., which with the present small staff, and the prospect of increasing work, there is not the smallest chance of overtaking.

A great deal of time is lost and inconvenience experienced from having no wall-maps and other necessary records at hand, but there has evidently been no possible chance of getting them made.

SIDNEY WEETMAN, Chief Surveyor.

#### WESTLAND.

*Topographical Survey.*—The principal portion of the work shown under this heading has been exploration survey by Explorer Douglas. It includes part of the topography of several of the watersheds of our principal rivers, and will fill up an important want in our district maps. Total cost, £400 2s. 10d. (See report by Mr. Douglas in Appendix No. 6, "Explorations.")

*Rural and Suburban.*—The greater part of the work of this district comes under the above heading, and consists principally of survey of Midland Railway Company's selection. The survey of Block 28 B1 has proved unusually difficult, on account of its extremely irregular boundaries and extended length. This and the difficulties incidental to bush-surveying have made the work both tedious and expensive. I might here remark that the weather for the last year has been abnormally wet, even for the West Coast. Mr. Murray shows a fourth of his time detained by this cause, and Mr. Wilson nearly the same detention, besides the actual loss of time in camp. The work suffers greatly after a prolonged rainfall, on account of the difficulty in getting through bush-country. To give an idea of the weather, I may say that the recorded rainfall for the twelve months ending the 31st March at Greymouth and Hokitika amounted to 121in., distributed over 183 days. I mention this to show the difficulties under which the field staff has had to work during the year, and also for the purpose of showing the somewhat high cost of this class of work, as well as the mileage-rate of the engineering surveys. In addition to the staff, three of the authorised surveyors have executed several surveys in various parts of the district. The total cost under this heading amounts to £1,230 15s. 6d.

*Town Section Survey.*—This comprises twenty-seven sections of the Township of Kanieri, and are subdivisions of Cobden Quay and Government Building Reserves. This has been laid off for the purpose of giving the occupiers an opportunity of obtaining a lease of the ground, on which a good many valuable buildings have been erected without any title to the land. This has been surveyed by Mr. J. N. Smyth, authorised surveyor, at a cost of £37 13s.

*Gold-mining Surveys.*—For a mining community, the surveys under this heading are somewhat limited, although in excess of the previous year. Ten licensed holdings and special claims, embracing an area of 241 acres, were surveyed at a cost of £124 6s. 6d. One of these is a special claim of 100 acres granted to an English syndicate at Okarito. If this company were to carry out the works proposed in connection with the working of this ground they would give an impetus to labour and mining in that locality, and were they successful a new era might be started for the goldfields of South Westland. There seems to me little doubt but that, were systematic prospecting carried out by qualified men, extensive tracts of auriferous country might yet be discovered.

*Road Surveys.*—Engineering and detail surveys have been made of various sections of the Christchurch-Hokitika Road, and also of proposed road-line from Gillespie's to Karangarua. On the former the work was prolonged greatly by wet weather, and the same reason, increased by the difficulty in crossing rivers going to, and while engaged on, the work, operated against economy in working. These reasons account for the high rate per mile.

*Proposed Operations for 1894-95.*—It is proposed to continue and complete the survey of the Midland Railway Company's Block 26 B1. Mr. Murray has been some time at this work, and expects to have it finished about three months hence. The same remarks as to the irregularity of the boundaries and difficulty of survey may be applied to this as to Block 28 B1; while the work is still further complicated by what really amounts to a revision survey in having to redefine the boundaries of old magnetic surveys.

After the completion of 26 B1, Mr. Murray will undertake revision surveys where most required, as this class of work requires an experienced surveyor. The other work will embrace settlement sections on Cook's River, spotting sections extending from there to Okuru. At this settlement there are several applications for surveyed sections, which, on account of having been laid off many years ago, will require to be repegged.

In addition to these duties, Mr. Wilson will require to make road surveys of the best route to continue the present road up the Turnbull River—that is, should the sum I recommend for this road be placed on the estimates.

As the Kumara junction of the Hokitika-Grey Railway is likely to be an important centre, it is proposed to lay off a township there. Should the staff be unable to do this work, I will ask authority to have the survey done by contract.

*Exploration.*—The exploration work carried on by Explorer Douglas has not yet resulted in the discovery of any practicable route for a road across the main divide. Mr. Douglas has, however, furnished valuable topographical and geological data with which to make our maps and

knowledge of the country more complete. In addition to these, his work on the Franz Josef Glacier (with the able assistance of Mr. Harper) will prove of great benefit to the tourist and scientist. The reports of Messrs. Douglas and Harper, with accompanying map, are of great interest, and will be found in Appendix No. 6 hereto. The photographs obtained by them will also give a very good idea of the magnificent scenery of South Westland. A portion of this scenery has during the year been rendered more accessible by the construction of a track up the Waiho River to the Franz Josef Glacier. The journey to this wonderland can now be done in three days from Hokitika, the distance being under a hundred miles over good roads and tracks.

*The Standard Survey of Greymouth* has been arranged for during the year, and an offer for the work from Mr. Lord accepted. The contract has now been signed, and Mr. Lord is proceeding with the work. This has been before the department for some years, but hitherto it has been impossible to overtake it with the present limited staff. I trust the result will be satisfactory to the Corporation and ratepayers of Greymouth. This will place them all on the same footing as the lessees of the Native portion of the town.

DAVID BARRON, Chief Surveyor.

### CANTERBURY.

*Topographical Survey.*—The only work of this class returned comprises a small portion of the Cheviot Estate, though the whole 84,000 acres were surveyed for disposal, in nine pastoral runs, at a cost of .267d. per acre.

*Minor Triangulation.*—The only survey under this head also comprised the Cheviot Estate. The work originated from Mr. F. Stephenson Smith's Amuri triangulation on the northern boundary of Cheviot: Messrs. Mathias and Cunningham extended a network of triangles over the estate to a junction with the North Canterbury triangulation. The mean results of the close upon seven sides show discrepancies of 14" in bearing, .702 links per mile of side, and 2.26 links on the meridian and 3.04 on the perpendicular.

*Rural and Suburban Surveys.*—About 20,000 acres of the settlement surveys comprised sections which were disposed of by the Crown in 1890-91, situated on the Hunter's Hills, in the vicinity of Mount Nessing and about Albury.

More recent sales and blocks opened for selection near Opawa, Burke's Pass, and Mount Somers aggregate 21,000 acres; 9,708 acres represent part of the New Zealand Midland Railway Company's Block 61. The three blocks of land purchased by the Crown at Pareora, Waimate, and Studholme, under the provisions of the Land for Settlements Act, amounted to 1,302 acres. The Cheviot grazing-farms, agricultural and suburban areas, represent 41,556 acres.

In addition to the 93,458 acres returned for the year, an area of 71,465 acres are now being mapped by the surveyors, and should be out of hand by the end of winter. A large proportion of these settlement surveys were executed during the winter months under urgent orders to effect sales by given dates. The traverses have been permanently marked by iron tubes placed so as to be least likely of disturbance, and the work was completed in as thorough a manner as possible to insure permanency and to facilitate future reference and subdivision surveys.

*Reference and Subdivision Surveys.*—The following statement shows the mileage and other particulars of the traverse surveys executed during the year:—

Name of Surveyor.	Number of Closures.	Number of Stations.	Number of Miles.	Total Error. (Links.)		Total Error per Mile. (Links.)		Remarks. (Nature of Country.)
				Meridian.	Perpendicular.	Meridian.	Perpendicular.	
T. W. Brodrick ...	21	424	68.25	41.3	50	0.6	0.7	Part flat and hilly.
G. H. M. McClure...	31	498	76	35.5	36.6	0.5	0.6	Part flat and hilly.
L. O. Mathias ...	39	1,054	127	101.2	75.1	0.8	0.6	Part flat and rough hilly.
J. Montgomerie ...	18	252	50	24.5	38.6	0.5	0.8	Part flat and hilly.
J. Roddick ...	38	548	67.5	84.7	102.1	1.3	1.5	Broken, hilly.
J. Cunningham ...	43	568	75.75	69.7	72.7	0.9	0.9	Broken, hilly.
H. W. Reid ...	10	184	34.75	26.5	18.6	0.8	0.6	Part flat and hilly.
E. H. Farnie ...	5	237	20	22.1	23.1	1.1	1.2	Broken, hilly.
J. Stevenson ...	18	140	35.6	83.7	52.4	2.3	1.4	Rough and mountainous.
J. Adam ...	21	276	55	62.8	56.7	1.1	1.0	Part flat and hilly.
Totals and means	244	4,181	609.85	552.0	525.9	0.9	0.9	

*Town Surveys.*—Though only 1½ acres of Spotswood were mapped and returned, surveys of this class were completed at Mackenzie, Port Robinson, Gore Bay, and Domett. The plans are now in course of preparation.

*Road and Railway Surveys.*—The surveys of this class include the railway reserve on Cheviot, the Mount Cook Road, and the Waimate Gore Drain.

*Other Work.*—The miscellaneous duties, which are enumerated under this heading, embrace the unfinished plotting and mapping of settlement surveys; Mr. Brodrick's engineering survey and

supervision of Mount Cook Road; Mr. Adam's inspection of the Bealey Road-works; Cheviot valuations by Mr. McClure and Mr. Mathias; valuations of land for settlement blocks; verification and inspection surveys; and the various other duties connected with the survey and sale of land in this district.

*Office Work.*—The ordinary work of the Christchurch office was increased by the time and attention which had to be devoted to the valuations and scheduling of Cheviot, Lake Ellesmere, and other lands which were placed in the market; the preparation of sale-maps; assisting at land-sales, and preparing returns and statements connected therewith—duties which occupied the whole staff at times. The correspondence and book-keeping connected with road-works necessitated the employment of two clerks for a long period. In consequence of the great additional clerical and draughting work but little progress was made with the reduction and recording of survey plans, the issue of titles, and the long-standing arrears, which remain practically as formerly. On the 31st March the number of overdue-lease titles amounted to 342, and these must be prepared in triplicate; in addition, there were 276 sections to be Crown-granted or certificated (some of these latter are delayed for causes beyond our control); forty-eight survey maps, comprising an area of 68,270 acres, require to be examined. The block-sheets and compilation of record-maps are also greatly in arrear. You will therefore apprehend that the office is still undermanned, and that the public requirements cannot be satisfactorily met, nor the Land Act properly administered or enforced in numerous instances. I trust that I may be afforded sufficient assistance to enable me to remove such grave cause for anxiety and complaint. Twenty-four sale-plans were published by the Head Office; sixteen of these were drawn here. In addition to the titles specified in Form 4, 246 diagrams were placed on 86 deeds. The amount of work in the Land Transfer Branch is reported by Mr. D. H. Munro to have closely approximated to that of the previous year; the particulars are shown in Table 4.

The general business and routine clerical work of the Lands and Survey Office were unusually arduous, and, for the reasons before stated, also fell into arrears, notwithstanding that Mr. Bendely worked much in overtime. It is my pleasing duty to state that the surveyors and officials engaged on the Cheviot Estate, and the whole of the office staff, worked cheerfully and zealously, and gave much of their leisure time to expedite the survey, mapping, and sale of that estate. Messrs. McClure and Mathias deserve special credit for their valuable aid and suggestions on the occasion of the valuations, and the staff surveyors engaged in other parts of Canterbury are also entitled to commendation.

I have again to record my obligations to Mr. David McMillan for his invaluable services and advice in various matters, but more especially in connection with his inspections and valuations of the Cheviot Estate, and his final revision of the schedules.

J. W. A. MARCHANT, Chief Surveyor.

#### OTAGO.

*Topographical Surveys.*—The only work under this heading is 11,560 acres, being a resub-division of the Highfield Runs.

*Minor Triangulation with Topography.*—Mr. Langmuir has executed 60,000 acres, and Mr. Wilmot 9,243 acres, all in the Tautuku Forest. The cost is the same in both cases—namely, 1½d. per acre.

*Rural and Suburban.*—A fair amount of area has been surveyed this season, and the average price per acre, 1s. 4¼d., is moderate, when it is considered that nearly half of the total area was in heavy bush.

*Survey Inspections, &c.*—During the past season I have made twenty-nine visits of inspection to surveyors in the field, and have visited Catlin's River and adjacent districts on nine occasions, to pay wages and inspect the progress of the roadworks. I also visited Pomahaka Downs for the same purpose on six occasions. I have taken three journeys to inspect estates offered for sale, besides inspecting Run 72 in the Warepa District, the roadworks in the Native reserve at Waikouaiti, and the sand-encroachments at Otago Heads. I was absent from Dunedin in December last for sixteen days, in company with the other Land Classification Commissioners, inspecting and classifying runs.

*Proposed Operations, 1894-95.*—I propose that Mr. Langmuir shall finish the triangulation of Tautuku Forest, and, after attending to any surveys required in his own district, go on with the standard traverse of the Clutha District as time and opportunity permit. Mr. Wilmot has still to complete the survey of Blocks II. and VIII., Woodland District, after which he will finish the triangulation of Mokoreta and Rimu Districts, which he left unfinished last year in order to take up Mr. D. M. Calder's work. Mr. Calder will be kept fully employed in his own district with the ordinary settlement and mining surveys. Mr. McCurdie will also be kept steadily at work on settlement surveys in the Tautuku District. Mr. Edie will complete the subdivision of Blocks V. and VII., Catlin's, and his services will then be available for further work if required. As mentioned in my last annual report, the extension of the Standard Survey of Dunedin is urgently required, and it is to be hoped that the City Council will decide to assist in carrying out the work during the coming season.

In conclusion, I beg to draw your attention to the following extracts from the reports of the field surveyors in this district, showing the degree of error in their linear and angular measurements:—

Taking Mr. Langmuir's work first, his base-line, in the Upper Catlin's Valley, was very nearly three miles long, and over very broken country; still, his three measurements agree remarkably well.



the whole of them lying within a space not exceeding  $\frac{3}{8}$  in.; in other words, the greatest difference between any two measurements did not quite reach  $\frac{1}{4}$  in. per mile. In another base-line three miles and three-quarters long, measured twice, over swampy land in the Clutha District, the difference between the two measurements was 1·8 in., or less than  $\frac{1}{2}$  in. per mile.

Mr. Wilmot also measured a base-line nearly two miles long in the Rimu District, and the difference between his two measurements was under  $\frac{3}{4}$  in., or rather less than  $\frac{4}{10}$  in. per mile.

These results are all very satisfactory, and could not have been obtained without a great amount of conscientious and painstaking labour.

In Mr. Langmuir's triangulation in the summation of the angles of 130 triangles, the average error is only 10"·5 per triangle, and the average error per mile in the closing of the calculated lengths of the side is 0·7 of a link per mile.

In Mr. Wilmot's block and section work the greatest error per mile only reaches 2·07 links, while the average error is only 1 $\frac{1}{2}$  links per mile. When it is considered that all this work was in dense bush and over broken country, embracing over thirty miles of chaining, the traverse-lines averaging only 4 $\frac{1}{2}$  chains long, it will, I think, be conceded that very good results have been obtained.

Mr. McCurdie also shows some excellent results. In traverses extending over more than eight miles his greatest error was only 1 link per mile, and his average error just  $\frac{1}{2}$  link per mile.

Mr. Edie's work is also uniformly good. In one circuit traversed, over nine miles in length, the average length of the traverse-lines was only 347 links, and the average error 0·83 links per mile. In another traverse over eight miles in length the average length of the traversed lines was 247 links, and the average error 0·55 link per mile. As all the above-mentioned traverses were in very broken bush-country, it shows the superiority of the 5-chain steel band over the chains formerly used; and I think the time has now arrived when the limit of error as assigned in No. 26 of our Survey Regulations might well be reduced from 8 links to 4 links per mile.

C. W. ADAMS, Chief Surveyor.

*Extracts from Reports showing Closures referred to in the Foregoing Report.*

RESULTS of CLOSURES of Work done during the Year ending the 31st March, 1894.

Mr. Langmuir reports, in connection with the work of the standard survey of the Clutha District, that 107 tubes have been inserted, thus: Forty-four large flange, twenty-nine small flange, thirty-two drivers, and two drilled into rock; in bad situations five have been set in concrete.

The total distance chained is nineteen miles, divided into seventy-three lines, the longest of which is 9017 links, and the shortest 16 links, the average length being 2080 links.

The district is also being levelled with level and staff, and of this about twenty-one miles have been completed, every tube in this distance being connected, or sixty-nine tubes in all. The datum for heights will be the mean sea-level as found near Port Molyneux. In the levelling operations six circuits have been closed, the greatest error being at the rate of ·045ft., or a little more than  $\frac{1}{4}$  in. to the mile. The least error is ·003ft. per mile, and the average = ·022ft. per mile, a little more than  $\frac{1}{4}$  in. to the mile. Nothing approaching this result could have been obtained by reciprocal angle observations.

At present there are no topographical plans of the South Molyneux and Clutha Districts, but these will also be constructed as the standard work goes on.

The base-line in the Upper Catlin's Valley, although measured last year in March, was not reduced until April of this departmental year, the result being—First measurement, 23414·720; second measurement, 23414·694; third measurement, 23414·638: mean value, 23414·684. Difference between first and second measurements, ·026 = ·0088 link per mile; difference between first and third measurements, ·082 = ·028 link per mile; difference between second and third measurements, ·056 = ·019 link per mile (greatest difference—viz., between first and third—·082 link = 65in. in the whole distance).

The base-line for the Glenomaru District triangulation, and also of verification for the Tautuku Forest triangulation generally, is in the Clutha District, and was measured twice, with the following result: First measurement, 29960·878; second measurement, 29961·107: difference, ·227, or ·061 link per mile. This line is almost level throughout, but portions lie over very unsteady swamp-ground. Total difference = 1·8 in., or under  $\frac{1}{2}$  in. per mile.

The triangulation calculations, as far as they are advanced, show the following closes: The average error per mile on closing of sides = 0·7 link. The greatest error so far is 1·47 links per mile, and least error is = ·10 link per mile. In the summation of angles over 130 triangles the greatest error is 33" per triangle; the least error, 0" per triangle; and the average, 10"·5 per triangle.

Mr. Wilmot reports in connection with chainage of base-line, Rimu District—Trig. AA—Trig. BB:—

Line.	Measurement.	Difference.	lin.	Per Mile (lks.).	Per Mile (in.).
AA-BB ...	14808·360	0·091	162729	0·049	0·39
BB-AA ...	14808·269				

The above line was chained forward and back again, independent slopes being taken. The band used was 5 chains long, and was supported in the air when practicable at every chain length. The tension used was 14lb., applied with Salter's small balance. The line was rough, there being several deep gullies and the Tahaukupu River to cross, and the slopes varied from level to 18° 38' in the first measurement, and from level to 11° 28' in the second. The temperature varied in the respective measurements from 44° Fahr. to 60° Fahr., and from 50° Fahr. to 55° Fahr.

TABLE of CHAINAGE-CLOSURES in Block XI., Woodland District. By E. H. Wilmot, District Surveyor.

Circuit.	Distance.		Number of Lines.	Average Length.	Error (Links).	In.	Per Mile.
	M.	ch.					
Round Sections 4, 5, 6, 7, 11, 14, &c., through 13, being section-lines Long Point Road and coast traverse*	10	49	156	545	21·9	3,878	2·07
Section 13, down Long Point Road, along coast up east and north sides of 13 to Long Point Road	1	33	30	375	2·1	5,360	1·49
Round Sections 18, 17, 1, 2, 3, 16, and 17, being section-lines, Long Point Road and Pura-kanui River traverse†	5	5	75	540	1·3	31,149	0·26
Round Sections 11 and 14, and part 13, being coast traverse Cosgrove Road and Long Point Road		9	143	398	7·4	7,691	1·04
Round Sections 11 and 14, being coast traverse Cosgrove Road, and east side of Section 13	6	20	123	407	8·3	6,027	1·33

The above, with the exception of three miles of Long Point Road chained by Mr. Calder, was all chained with 5-chain band, the slopes being taken with an Abney level, there being scarcely a level line in the whole work. The country is all bush and the coast traverse exceptionally rough.

Mr. McCurdie reports in connection with closing errors in Block XIII., Rimu District:—

I am not able to give an account of the closing error in the bearings. Owing to the hilly nature of the country there were a great many check-sights over the block, and the errors were corrected, and the true bearings written in the field-book as the work went on, no record being kept of the closing errors.

The following is an account of the chaining:—

Circuit round Sections.	Distance in Miles.	Error (Three Sides of Triangle).	Error per Mile in Links.	Proportionate Error.
1-9 ... ..	9·31	0·4 lk., 0·8 lk., 0·7 lk.	0·08	1 in 100,000
10, 11, 23 ... ..	3·28	3·0 lk., 3·3 lk., 1·4 lk.	1·00	" 8,000
12-21, and 22 ... ..	8·09	4·3 lk., 4·5 lk., 1·3 lk.	0·55	" 4,182
Whole block ... ..	12·44	3·2 lk., 4·46 lk., 3·1 lk.	0·36	" 22,222
	33·12		1·99	1 in 144,404
Means ... ..	8·28		0·495	1 in 38,104

Mean error,  $\frac{1}{2}$  link to mile = 3·91248 in. to mile.

This chaining was done by Mr. Mouat. The smallness of the closing error is not due to accident or to compensation, unless in a very small degree, as most of the traverses were chained more than once to get them to this standard. Intermediate checks were also applied by calculated and observed bearings, so that few errors could have escaped.

Mr. Edie furnishes a table showing closures of traverse forming boundary of Section 1, Block V., Catlin's, and Sections 9, 10, 11, 12, 13, 14, Block VII., Catlin's.

Total length of traverse, 72961 links, or a trifle over nine miles. Total error—southing, 7·6 links; easting, 1·1 links; the value of the traverses being, round north-east traverse—

To peg 16a ... ..	...	...	...	S. 30588·4	E. 14545·9
To peg south-west ... ..	...	...	...	30580·8	14547·0
				7·6	1·1

Error, 1 in 9475 links, or 0·83 per mile.

Number of traverse-lines, 210. Average length of traverse-lines, 347 links. The traverse of Catlin's River brings the average length of line up very much. Apart from the Catlin's traverse the lines are very short, averaging 280 links.

I had ten checks on trigs, or otherwise a check of every twenty-one lines. The angular closures varied from  $\frac{1}{2}$  min. to  $3\frac{1}{2}$  min., the error being distributed in checks taking into account the length of lines when distributing error.

\* Includes about two miles Long Point Road chained by Mr. Calder. My own bearings. † Includes about one mile of Long Point Road chained by Mr. Calder. My own bearings.

TABLE showing Closure of Traverse round Sections 4, 5, 7, 8, Block VII., Catlin's. (Total length of traverse, 65372 links, or a little over eight miles.)

	S.	E.
The value of traverse round north and east of sections ...	25704·6	23122·3
The value of traverse round west and south of sections ...	25700·9	23120·5
Total error ... ..	3·7	1·8

Error of 1 link in 14527 links, or 0·55 per mile. Number of traverse-lines, 228. Average length of lines (deducting value of block-line, 9091 links), 247 links.

I had fifteen checks to trigs or otherwise. The angular error varying from  $\frac{1}{2}$ min. to  $4\frac{1}{2}$ sec., the errors being distributed between checks, and in doing so the length of lines being taken into account.

### SOUTHLAND.

*Table I.: Topographical Survey.*—While triangulation was in progress, this system was extended over portions of Manipouri, Lyall, Te Anau, Burwood, and Snowdon Districts, details of which were somewhat incomplete until this survey was made.

*Minor Triangulation* was extended over Takitimo, Te Anau, Mararoa, Manipouri, Burwood, Lyall, and Snowdon Districts, including topography. This survey was started partly for the purpose of controlling some sectional surveys carried out under instructions from the Otago School Commissioners at the south end of Te Anau Lake, and also to acquire more complete information of the country included in the districts named.

*Topographical Surveys for Selection, &c.*—No operations under this heading.

*Rural and Suburban.*—These include subdivision of some pastoral runs into small grazing-runs, the surveys of which were in hand, but incomplete, in March, 1893; the survey of some 2,000 acres of the Chasland's Improved Settlement Farms on the Waikawa-Catlin's Road into sections of from 50 to 100 acres; of some small sections adjoining Waikawa Township; of the Crown lands in Otago District, mostly forest-land; and of some isolated sections for which fees had been lodged by the applicants.

*Town Section Surveys.*—Only one small survey undertaken.

*Native Land Court Surveys.*—No transactions.

*Gold-mining Surveys.*—These have been somewhat larger than usual, owing to the discovery of gold-bearing reefs at Wilson's River. In every case the fees were paid by applicants.

*Roads, &c.*—The bulk of mileage returned represents engineering surveys of roads under construction by co-operative labourers, and paid for out of moneys raised under the Government Loans Acts, the localities being Waikawa-Catlin's, Lillburn, and Longwood. Another item under this class is the tramway located and surveyed between Cromarty and Wilson's River. This and a small expenditure on the Waiau-Preservation Inlet track were paid for out of votes from the Mines Department. The remaining mileage is made up of deviations and continuations of existing roads.

The following summary shows the work completed during the period under review, and of that now in progress or in hand:—

	Completed 1893-94.	In Hand.
Trigonometrical and topographical ...	168,700 acres.	Indefinite.
Rural and suburban ... ..	40,839 "	67,878 acres.
Gold-mining surveys ... ..	511 "	60 "
Roads ... ..	46·5 miles.	22 miles.

*Proposed Operations for Ensuing Year.*—A trigonometrical and topographical survey of the country west of Waiau River is in progress, and will be extended sufficiently far to cover the at present almost unexplored country which it is proposed to cede to the Middle Island Maoris in satisfaction of their claims, and also, if found suitable, any land fit for settlement. A similar survey is also in progress over a portion of Stewart Island for the purpose of governing such isolated surveys as may be applied for.

Settlement surveys are in progress in Hokonui, Forest Hill, Waikawa, and other districts, and, if time and opportunity permit, there are forest-lands in the Aparima and other districts for which a demand exists, and which it would be of advantage to Southland to open for selection.

G. W. WILLIAMS, Chief Surveyor.

### APPENDIX No. 3.—ROADS.

REPORTS ON THEIR MAINTENANCE AND CONSTRUCTION FOR THE TWELVE MONTHS ENDED 31st MARCH, 1894.

#### AUCKLAND.

##### ROADS TO CROWN LANDS.

*Bridge over Puhī Stream.*—A bridge of 71ft. span has been built across the Puhī Stream, the work being performed under the supervision of the Mangonui County.

*Maungataniwha Roads.*—The vote granted under Loans to Local Bodies Act will be expended as soon as the survey of the road is completed.

*Whangaroa County Roads.*—These are all bridle-tracks, with the exception of one towards Kaeo, which has been greatly improved by the last votes expended on it.

*Kaeo-Waimate (Kaeo Valley).*—About 1 mile and 10 chains of bridle-track has been constructed on this road by the Whangaroa County, and one bridge has been erected by the Bay of Islands County. This Kaeo Valley Road would open up a large area of Crown land if £1,000 was expended on it; the recent expenditure will be comparatively useless unless further money is available.

*Roads in Takahue Block,* also a vote raised under the Loans to Local Bodies Act, will be expended as soon as the surveys are completed.

*Victoria Valley to Main Road.*—As the land required for this road had to be taken under the Public Works Act, considerable delay was experienced in carrying out the works. During the year a good cart-road has been formed, connecting Victoria Valley with Mangatoetoe for a distance of about a mile and a half. It is intended shortly to continue the survey, and, if practicable, lay off a road connecting the present terminus with the Great North Road near to Peria.

*Takahue-Herekino Road.*—Connecting the village settlements of Takahue and Herekino, and also to give access to about 7,000 acres of Crown land. Mr. Menzies has selected a route, and Mr. Turner is now upon the engineering survey.

*Ahipara-Herekino Road,* or, more properly speaking, *Ahipara-Herekino-Whangape Road.*—This road is formed into a cart-road between Ahipara and a bridle-track between Herekino and Whangape. During the year the road has been kept open for traffic, and in several places where slips occurred it has been widened to an average width of 12ft. Seven new culverts have been erected and one 20ft. bridge repaired, and further works are now in progress.

*Herd's Point-Takahue Road.*—This road, which is the only formed road connecting the Mangonui County with the districts south, has been constructed and made available for dray-traffic between Takahue Village Settlement and the Awanui-Mangonui Road. Between Takahue, over the dividing-range, and Mangonui-o-wae it is only a bridle-track, but from Mangonui-o-wae to Herd's Point a dray-road is being constructed. During the year the road has been kept open for traffic, and there have been twenty-six small contracts let to village settlers and others for widening portions of the road between Mangonui-o-wae and Herd's Point. A considerable sum is still required to complete the construction of a dray-road between Mangonui-o-wae and Herd's Point, and an expensive bridge is required over the Mangonui-o-wae River, which is subject to very heavy floods.

*Okaihau-Victoria Valley Road.*—This road is chiefly through Native land, but opens up some 7,000 acres of Crown land, and will be the main road to the north. Eight miles of bridle-track have been constructed at the south end and three miles at the north end. The survey of the intervening distance is now in hand. During the year the track has been put in good order at south end—that is, from the Waihou River to Mangamuka, or what is known as Federlis Settlement. Further works will be undertaken shortly in extending the bridle-track northwards.

*Mangonui-o-wae.*—Provided under the Loans to Local Bodies Act. The work of surveying and grading the lines of road is now being carried out.

*Opua-Waimate Road* opens up about 4,000 acres of Crown land, and is the only outlet by road for the Opua settlers. About five miles and a half of a bridle-track have been constructed and a connection made with the Waitangi-Kawakawa Road. Two miles more of this road are now being constructed towards Waimate, and two miles more will have to be formed before a junction can be effected with the main road near Blackbridge.

*Ngapipito Road* gives access to 4,000 acres of Crown land, and will become the main road between Kawakawa and Rawene. During the year a bridge over the Wai-o-te-Karaka Stream has been erected, and tenders (in mile sections) are now being called for the construction of a bridle-track as far as the Ngapipito Settlement.

*Kawakawa Road.*—The vote has been expended in improving the Great North Road near Kawakawa, by raising a portion of the road which was always submerged after heavy rains.

*Buapekapeka Roads* are being constructed out of money raised under the Loans to Local Bodies Act. The works were let by tender, in small contracts, so as to afford employment to as many persons as possible, and are now almost completed.

*Opua-whanga-Whangarei.*—Provided under the Loans to Local Bodies Act. Since it was decided to "road" this block the whole of the lands have been taken up. The construction of a bridle-track is now in progress, the works being cut up in small sections and given to the Whanaki village settlers and others, at agreed prices, and a time fixed within which the works must be completed. About 45 chains of dray road has been constructed, and the rest of the vote has been spent in permanent metalling, with the necessary earthwork.

*Waimamaku-Pakanae Road* is the principal and most direct outlet for the Waimamaku settlers, and it opens up about 4,000 acres of Crown land. It has been formed throughout as a bridle-track. The money granted this year has been expended in the removal of some large slips, the widening in some places of the road, and in blasting large boulders in the river, which caused the waters during floods to undermine the road. There are still several bridges required on this road, and, as settlement in this district is increasing, I would recommend that the road be completed and, if possible, rendered available for wheeled traffic.

*Waimamaku Roads,* also raised under the Loans to Local Bodies Act, has been expended in continuing the bridle-track between the Ramarama Valley and the Wairua Bridge Road. This road, when completed, will give direct connection between Hukerenui Village Settlement and Hikurangi.

*Waimamaku,* also raised under Loans to Local Bodies Act, has been expended in the construction of a portion of the bridle-track up the Waimamaku Valley. This valley contains some of the best land in the North, and is now being rapidly taken up. (See Waoku.)

*Opanaki-Hokianga Road.*—This road will connect the North with the Dargaville Railway system, and open up 100,000 acres of Crown land, some of the best in the North, and which is now rapidly being taken up. During the year the survey of the road has been completed a distance of about thirty-two miles. About eight miles of road at the north end, and about six miles at the south end, have been formed 14ft. wide, the works being performed under the co-operative system.

*Hokianga County Roads.*—These roads throughout are in bad repair. The road to the Heads is altogether in the wrong place, and no moneys should be expended on this till required deviations are made. The road to Taheke is very much out of repair, and ought to be metalled, especially through the bush near Waima.

*Waipoua.*—This vote, raised under the Loans to Local Bodies Act, is being expended on the Opanaki-Hokianga Road.

*Mangonui-Bluff.*—During the year this bridle-track has been put in good order.

*Maropui-Kai Iwi.*—From Maropui to Kai Iwi, a distance of about five miles, nothing has been done beyond clearing a track. The £50 grant has been expended in making a few side-cuttings to give the settlers a road into Kai Iwi; the track, however, is in very bad order; there are some swamps to cross, and one bad gully.

*Ramarama Valley Road.*—The work is now in hand and will be soon completed, but it is advisable that a further sum be granted, as the small amount available last year only admitted of the road being roughly formed.

*Motatau-Wairua Bridge and Road,* raised under the Loans to Local Bodies Act, has been expended in continuing the bridle-track between the Ramarama Valley and the Wairua Bridge Road. This road, when completed, will give direct connection between Hukerenui Village Settlement and Hikurangi, and has an advantage over the Great North Road, as it will be seldom, if ever, blocked by floods. Tenders were called for the work of construction, the contracts being in small sections, so as to give employment to as many of the surrounding settlers as possible.

*Tangihua.*—About one half of vote for this road was spent in permanent metalling, the remainder was spent in thirty-two pipe-culverts, and deepening the water-tables.

*Purua-Ruatangata Mangakahia Road.*—The expenditure on this road has really been carried out by the county, who had commenced operations before the authority came to hand.

*Mareretu Road* is a bridle-track, and is now being constructed, and when completed will give a good outlet to the perpetual-lease settlers.

*Mauunu.*—The work done on this road is of superior quality, the vote having been spent in metalling with 3in. scoria metal, blinded with coarse river-gravel.

*Mangakaramea.*—The greater part of this vote was expended in permanent metalling with scoria rock.

*Whangarei-Grahamstown (£300).*—This was all spent on a new road, 10ft. wide, connecting Whangarei town with Whangarei Heads.

*Grahamstown-Whareora (£150).*—This is a new branch road, 10ft. wide, leading to Whareora, and will also be used as a road to Whangarei when the tide is in.

*Whangarei Heads (£100).*—This was all spent on a new road, 12ft. wide, with a grade of 1 in 15, to avoid two very steep hills.

*Ruatangata to Railway-station.*—This vote was spent on permanent metalling, with the necessary earthwork.

*Pahi-Waikiekie.*—About 55 chains has been constructed in different places on this road, the width varying from 10ft. to 20ft. One bridge, 32ft. long, has been built, and six new culverts.

*Tokatoka-Mangapai Road* opens up direct communication between Whangarei and Wairua River. Before undertaking works on this road a re-survey had to be made, as deviations were necessary, and the areas of land taken from different sections by the deviations had to be ascertained. Works are now in progress for constructing a bridle-track, and tenders are called for a further section, on the completion of which (in about four months) the track will be available for traffic.

*Oruru-Mangamuka.*—Repairs have been made extending over about eight miles of bridle-track.

*Matakohe-Tokatoka Road.*—The moneys granted for this road are being expended in constructing into a cart-road the portion laid out some time ago under the supervision of the Otamatea County Council. Several deviations are yet required before a good road can be formed the whole distance.

*Otamatea County Roads.*—The worst places on this road have been repaired between Mangawai and Tokatoka, extending over a distance of about forty-five miles. In places the road has been metalled from 14ft. to 18ft. wide, and sixteen new culverts have been put in, and thirteen lengthened.

*Bridge over Mangonui River.*—This bridge has been erected on the Mangapai-Tokatoka Road, and consists of two spans of 20ft. and one span of 30ft., with high embankments, rendered necessary by the high floods in the river.

*Tokatoka Post-office Road.*—Nothing has been done on this road beyond the preliminary survey to select the route, and finding out on what terms the owners of the various sections through which the road passes will grant the land required.

*Pakiri District Roads.*—The vote granted under Loans to Local Bodies Act has been expended in constructing a road affording access to at least 1,500 acres of Crown land, since taken up, as well as to a similar area of homestead and freehold land.

*Tauhoa District Roads.*—Under the Loans to Local Bodies Act, the money has been expended in opening up by a bridle-track 3,000 acres of Crown lands, which have now been taken up. A small balance left of this vote is being expended in making a connection with the West Coast Road.

*Warkworth-Awanui.*—Taking into consideration the fact that this is the Great North Road, it is in very bad order throughout. The chief thing required is metalling, and most of the money granted has been spent in this direction.

*Tauhoa and Komokoriki*.—Lengths of roads formed and particulars of expenditure have not yet been sent in by Upper Mahurangi Road Board.

*Kaimarama Roads*.—This is also a vote granted under the Loans to Local Bodies Act. Works are now in progress for the construction of three miles of bridle-track. The works were let by tender in four sections.

*Tairua-Whenuakiti*.—About 50 chains of bridle-track has been constructed on this road, and improvements to four miles of dray road; and five miles of bridle track has been made. All the Crown lands in the two parishes of Whenuakiti and Purangi have been made more valuable by improvements to this road.

*Roads, Otatau Parish*.—This vote is also raised under the Government Loans to Local Bodies Act. During the year seven miles and a half of bridle-track have been constructed, and seven miles and a half more are now in course of construction. The whole of the works have been carried out under the co-operative system.

*Whisky Creek Road*.—This road was made to give settlers a much-needed outlet, and a bridle-track has been constructed for five miles and a half. There are still some portions of the road to make, but the Road Board have not acquired the necessary title to land required for the necessary deviations, and the present authority is exhausted.

*Works in Akaaka Swamp*.—With the balance of the vote raised under Loans to Local Bodies Act the work of deepening and widening the main drain for some 40 chains has been carried out, and the construction of a cart-road alongside. The work of deepening 124 chains of a side-drain is now being performed.

*Maioro Swamp*.—Money for this was raised under Loans to Local Bodies Act, a portion of which was spent the year before last in constructing a main drain through the swamp, and the balance is now being expended in the continuation of the drain some 66 chains in length, for the purpose of giving access to the Maioro Settlement. The present road to it is becoming completely blocked by the encroaching sand. It is advisable to construct a road alongside this drain, as it would afford the Maioro settlers an outlet, and give a road to the settlers who have taken up the swamp.

*Opuatia Bridge and Crossing*.—A road has been surveyed through the Opuatia Block, connecting at both ends with the present formed roads. Owing to opposition of some of the Natives to the road being taken through the block, a considerable amount of annoyance and delay was experienced in carrying out the work. Tenders are now called for clearing a track along the surveyed line, and a contract has been let for erecting a temporary bridge across the Opuatea. When these works are completed settlers will be able to "pack" into their selections. I would strongly recommend that this road be formed at least 12ft. wide, and be continued southwards, connecting with the Mangapiko. It would then become a main road through the heart of the Raglan County.

*Ahuroa (Awaroa)*.—This is also a vote raised under the Loans to Local Bodies Act. A survey of the main road through the block and connection with present formed road has been made, and about five miles of bridle-track has been constructed. The contractor has still the works in hand, having about one mile and a quarter to construct.

*Maramarua*.—The survey of about eight miles and a quarter of road has been made through this block, but none of the road has yet been constructed.

*Whangamarino District*.—About two miles of dray road has been constructed out of this vote, and four bridges, making a total length of 46ft.; and nine culverts, totalling 21ft.

*Huntly-Kahuhuru*.—Much-needed repairs have been made to this road, and when the works now in hand are completed there will be a good bridle-track connecting Huntly with the Hot Springs and with the Mangapiko Road. To obtain a really good road a deviation is required at Pukemiro, where the road goes over a high range, which I believe could be avoided by following the valley of the Awaroa River. Works on this road were carried out under the co-operative system.

*Waingaro-Ngaruawahia Road*.—This bridle-track is now being formed into a cart-road 12ft. wide. When the works now in hand are completed the road will be available for wheel traffic as far as the Huntly Branch, a total distance of about eleven miles from Ngaruawahia. There is still a further distance of about five miles of road to construct before reaching the Hot Springs Hotel. The works, however, will not prove costly, as most of the culverts which were broken in or rotten have been replaced by pipes, and the road over them formed to the full width (12ft.). Further, about 5 chains of road through heavy rock cutting have been made to the required width. To make the road available for heavy traffic during all weathers it will be necessary to metal portions of it, at an estimated expenditure of, say, £1,000.

*Mangapiko Roads*.—During the year the bridges Kahuhuru Nos. 1 and 2 were completed, the Kahuhuru No. 2 bridge being built with a subsidy from the county of £30, as the vote authorised was not sufficient. A small portion of road between the bridges was also constructed. Unfortunately, during the year very heavy floods have been experienced, which destroyed the bank of the river on the upside of Kahuhuru No. 1 bridge, and necessitated the construction of protective works, which are now in progress.

*Mangaokahu (Karamu)*.—Vote also raised under the Loans to Local Bodies Act, and is being expended in erecting a bridge over the Waitituna River. The small balance of the vote remaining, after paying for the construction of the bridge, will be expended in forming the road where most necessary.

*Waitituna Bridge*.—A tender has just been accepted for the construction of this bridge, which will consist of three spans—one of 40ft., one of 20ft. 6in., and one of 14ft. 6in. The erection of this bridge is absolutely necessary to afford access to the Karamu Block, a portion of which is already taken up.

*Te Aroha-Katikati*.—Nothing has been expended on this track since 1892.

*The Village Settlements.*—Very few works have been undertaken in the various settlements. The roads have, as far as practicable, been kept in repair. In most of the village settlements the main road through them is formed and maintained by the Government. The settlers have, as a rule, been employed on the work.

GERHARD MUELLER, Chief Surveyor.

#### MAIN ROADS.

*Oxford-Rotorua* (33 miles) and *Tauranga-Napier*, including the Lichfield branch and Wairakei loop (206 miles).—These roads have been maintained as unmetalled dray- and coach-roads. The average cost per mile for the past year has been £10 11s. 7d., including everything. The average number of men employed has been 14·3, which gives a length of rather over 16½ miles per man.

During last winter and spring numerous slips occurred on the Tauranga-Napier Road, near the southern end, and several small culverts and embankments were washed away. However, no serious delay happened to the mail-coaches or other traffic, although, from March to December, parts of the roads were very muddy and soft, necessitating the laying of large quantities of manuka fascines, &c.

A contract has just been let for building three new bridges, one of which is 85ft., and the others each 56ft. long, to take the place of the old ones, which, through decay, have become unsafe for heavy traffic.

Several other bridges require repairing, and many culverts must be renewed and repaired during the current year, and the metal on the Titikura Hill must also be renewed. I have allowed for these works in the estimates lately forwarded.

I hope and expect, under the Proclamation recently made regulating the width of tires, to be able to keep these and other roads in better order at the same cost.

#### MISCELLANEOUS ROADS AND BRIDGES.

The *Waitomo Caves* (5 miles), *Rotorua-Waiotapu* (20 miles), *Rotorua-Galatea* (18 miles), and *Maketu-Rotorua* (10 miles, Rotorua to Tikitere) have been maintained as dray-roads, employing altogether an average of 2·9 men, equal to 18¼ miles per man, and an average cost per mile of £5 3s. 9d. for labour. On the Rotorua-Galatea Road, new works to the value of £73, comprising 12 chains rock side-cutting, 2 chains earth, a small bridge, and three miles of tussocking, have been done. The roads are now in good order.

The *Rotorua-Te Wairoa* (10 miles) has been maintained as a bridle-track by piece-work as occasion has required, and is in good order as such. I would again suggest that if funds can possibly be provided this road be reinstated for wheel-traffic, as being the only likely route by which those unable to travel otherwise than on wheels may be able to visit and see the vast effects and devastation of the recent volcanic eruption at Tarawera.

*Alexandra-Kawhia* (42 miles).—I have only had charge of this road since October; the scarcity of money at my disposal has prevented any improvements being made. The road has been kept open for traffic from Alexandra to Oparau, but owing to the punt at that river, and the Waihohonu culvert, close to it, having been washed away by floods, and there not being sufficient money in hand to re-establish them, travellers have had to cross the Oparau by the old Maori track some two miles off the road, or to go across the Kawhia Harbour by boat. No regular men are employed on this road; the repairs are generally done by piece-work. The ferry above mentioned should be re-established, and the culvert rebuilt at once, and some nasty points in side-cuttings taken off, when the road, which is much needed, would be available for wheel-traffic with safety and ease.

*Otorohanga-Kihikihi* (17 miles; bridle-track).—Considerable improvements have been made, and with a little more expenditure this track could be used for wheel-traffic.

*Otorohanga-Te Kuiti* (13 miles; bridle-track).—Improvements in the form of swamp-crossings, culverts, and side-cuttings have been made, and others are in hand, which will make this a fairly good track. Although this and the Otorohanga-Kihikihi track have not been surveyed, care has been taken to choose the sites for the improvements so that they will be of service for the permanent road when made.

*Kawa-Whenuahou* (4 miles).—A few repairs, consisting of fascining, making up banks, and filling in ruts have been made, and the road is now in good order.

#### *Roads to give Access to the Marton-Te Awamutu Railway.*

*Tunnel-Karioi*, north end, Mokau to Waimarino Plain (70 miles).—No new works have been done. The restoration of the small bridges that were floated off their foundations by the floods in 1893 has been completed, and a great number of slips have been removed from the part made some years ago at the south side of the Tunnel Hill. Six miles of old bridle-track have been improved, and the road maintained as a bridle-track as far south as Taumarunui, 43 miles, to which place it is at present in good order. South of that place nothing has been done to maintain the bridle-track, as the traffic is very little, and can find other channels, and a great many of the small bridges and the culverts made by the Public Works Department six or seven years ago are so much decayed as to require either complete renewal or very extensive repairs, which I think should not be done until funds are available to fell the bush at least 1 chain wide, the present track being merely cleared through the standing forest. No regular party is employed on any part of this road.

*Turangarere-Tokaanu*, north end (30 miles).—No new works have been done during the year, but a great deal of improvement to the old part has been done, and a considerable length of catch-water drain has been made by the ordinary surfacemen, and many new culverts have been put in. The average number of men employed has been 3·83, equal to 7 miles 66 chains per man, and the cost for labour about £14 per mile. This high rate is due to the large amount of repairs on the old part, extending for about thirteen miles from Tokaanu southwards, the very light and friable nature of the land over which the road passes, and to the fact that the direction of the road for half its length is across the natural slope of the country, thus intercepting all the drainage from the slopes of Tongariro, Ngauruhoe, and Ruapehu Mountains, which in the frequent heavy rains is very great.

*Rotoaira-Waimarino* (32 miles).—The first twenty miles only, from Rotoaira, have been maintained as a dray-road, and that in a comparatively rough manner. So far there is only one settler, or runholder, who uses the road for the purposes of his occupation. The average number of men employed has been 1·2, giving at the rate of 16 miles 52 chains per man. The road was much scoured by floods during the last two years, and the completion of the necessary repairs should, I think, be put in hand as soon as funds can be provided for the purpose.

*Ongaruhe-Stratford* (north end).—During the year eleven miles of engineering survey have been made, and the road located to the watershed between the Heao and Tangarakau, where it meets the location from the south end. A survey has also been made of eleven miles of an alternative route, and it will depend on the result of the office-work which route is adopted. Plans and sections have been prepared and quantities taken out of thirty miles, and working-tracings of sixteen miles made. There is now a length of seven miles ready for immediate letting, and another fifteen miles could be ready in from six to eight weeks, if necessary.

The six contracts of one mile each in hand at last yearly report have been satisfactorily completed. Nine co-operative contracts, covering ten miles of road, have been let, out of which six have been completed in a very satisfactory way. At the present time the road is completed to 12 miles, and from 13 to 14 miles. The mile from 12 to 13 will be finished in about a fortnight's time, 14 to 15 in about a month, and 15 to 16 in from two to three months. There are no other works in hand on this road, owing to want of funds. For the same reason the survey is stopped. The made part of the road has been maintained in good order, as has also the pack-track beyond it to 38 miles.

I consider this a very important road. From 6 miles right through to Stratford, although the country is considerably broken, the soil is good, and the land will be taken up by settlers as soon as ever it is available in blocks of 200 acres and upwards, and will carry a large quantity of stock. (See page 44 for details of Taranaki end.)

*Taupo-Tokaanu* (36 miles).—This road was a great deal damaged last winter and spring by the heavy and frequent rains, and by the extraordinary height to which the water of Lake Taupo rose. Most of the damage has been repaired, and the road is now open for wheel-traffic, and in fair order, but the Hatepe Bridge, about 30ft. long, requires to be moved, as the stream has left its old course, and is not likely to return to it; and some rock points require blasting away to give more room at sharp bends. No regular surfacemen are employed on this road, the maintenance and repairs having been done by day labour as occasion necessitated. (See also pages 43, 44, and 45, for details of Taranaki end.)

*Awakino-Te Kuiti* (about 50 miles).—From the mouth of the Awakino River for a distance of 18 miles 48 chains inland an engineering survey has been made, and plans and sections prepared. This part is all through bush, and in very broken country, but the soil is good, and experienced settlers have taken up all the land. From the end of the survey northwards to Te Kuiti the country is much less broken, and is nearly all open limestone land, what bush there is being in clumps and belts. The soil is very good. No clearing or construction has yet been done, but I hope to very soon put some clearing in hand, and to take the necessary borings for the Awakino Bridge foundations, and soon afterwards to let a contract for the construction of this bridge, which is a very important work. From the mouth of the Awakino for about twenty-five to thirty miles along the road route the country is now occupied by settlers, who have quite recently gone there. The natural outlet for all, or nearly all, their produce will be by this road to the railway-line at either Te Kuiti or Mokau, from where also they will draw their supplies. Even at the present time a large quantity of supplies are taken from here by pack-horse. During the last three months over a hundred and twenty pack-horse loads have been sent in by one man. I most unhesitatingly recommend the carrying-on of the construction of this road as being one that will in a very short time amply recompense the outlay.

C. W. HURSTHOUSE, Road Surveyor.

#### WELLINGTON NORTH-WESTERN MAIN ROADS.

*Tunnel-Karioi Road, South End*.—During the year the formation of the part between Ohakune and Karioi has been practically completed. There are a few small contracts still in hand, but the road has been used for coach and other traffic for the last six months. This work has all been done by co-operative labour. Several deviations from the original line were made, thereby considerably shortening the distance. The work comprises 420 chains bush-work, 460 chains formation, 50 running feet bridges, besides ten culverts, and other minor work. On this part it is proposed that



next summer about 160 chains of metalling should be done on the soft flats near Ohakune. I also recommend that the bush be felled at least 1 chain wider throughout on the sunny side.

On the part from Ohakune—Waimarino the track has been cleared of scrub throughout, all the bridges have been made safe for horse-traffic, and numerous side tracks have been cut round bad places. On this road I recommend that the track be felled at least 2 chains wide, and cleared at least 20ft. wide at places where most required, all this being done, of course, on permanent lines.

*Moawhango—Karioi Road.*—The maintenance of this road has proved more expensive than anticipated, owing to the damage done to its surface by the heavy bullock-dray traffic last spring, but the road is now in good order. The principal items in the new road done are: 181 chains light formation between Turangarere and Tokaanu, the Moawhango River ford-approaches widened, 12,000 superficial feet of timber sawn and delivered on site of Hautapu Bridge, and the bridge started; also five miles engineering survey and plans between Karioi and Waiouru; also survey and drawings of proposed bridge at Moawhango. About a mile of light formation is now in progress, as well as 21 chains metalling near Moawhango.

It is proposed during the winter to complete about two miles more light formation between Waitangi and Wangaehu, finish the Hautapu Bridge, put in about ten culverts where most required, fall the bush at Turangarere 2 chains wider than at present (this bush shades the road badly, and is besides very dangerous in windy weather, the trees being now very rotten). Next summer it is proposed to metal about two miles of the worst places between Moawhango and the open country.

*Hunterville—Turangarere Road.*—This road has been subjected to very heavy coach and goods traffic during the past year. It is now in very good order. The maintenance last winter was expensive, but this item will probably be much less in future.

About 580 chains of extra bushfelling has been done to allow the sun and wind to get at the road, the total width being now, over this distance, from 2 to 3 chains. This has wonderfully improved the road. At Makohine slip and Bailey's Bush 136 chains of road has been re-formed. A very large amount of metalling has been done: 280 chains have been remetalled, chiefly between Mangaonoho and Three-log Flat, where the traffic has been exceptionally heavy; 725 chains of new metalling have been completed, and 163 chains are still in progress. When this latter is done, a total length of metalling of 26½ miles will have been done, only leaving eight miles and three-quarters to do; of this distance about five miles still urgently require metalling, and this it is proposed to do during the coming summer. Up to the Awarua is now very well formed and metalled, and should carry any traffic likely to be on it for years to come.

This road is becoming a favourite tourist route, and has already proved a splendid arterial road for opening up the country. When the Awarua Block, through which the road runs, is being cut up, special attention should be paid to reserving all places where metal can be suitably obtained, and also suitable sites for townships should be reserved.

*Turangarere—Tokaanu Road.*—This road was completed for through coach-traffic in June, 1893. There has been a considerable amount of mail and tourist traffic over it during the last summer, but the land adjacent is not sufficiently good to induce much settlement-traffic. The road as far as Waihohonu is in good order; the maintenance since completion has been very light, only amounting to about £30. The work done consists of 190 chains formation, 26 running feet bridges, 120 running feet culverts, and 10 chains punice topping. In connection with this road it is suggested that an accommodation-house should be erected at Waiouru Junction, and that Government should guarantee a long lease to any one who would erect such a house there. It is naturally marked out as a halting-place for coach-traffic.

Besides maintenance, I would suggest that an iron shelter-shed be erected on the road in the neighbourhood of the desert, opposite the thirteen-mile peg, and that a small sum be expended in tree-planting of suitable varieties at Waiouru Junction.

*Pipiriki—Ohakune Road.*—The formation of this road is now completed; in fact it has been open for vehicle traffic since the beginning of February. The road is now being used for mail, tourist, and settlement traffic, and is in first-class order. Very heavy expenditure has been incurred on this road during the past year, and all work was done on the co-operative principle. Last winter was an unusually bad one, and work in consequence was carried on under many difficulties, but on the whole the works were pushed on expeditiously, the quality of work done being above the average. The work comprised 620 chains bushfelling, 698 chains formation, 2,800 lineal feet culverts, 200 running feet bridges, 400 chains extra bushfelling, 80 chains metalling, and other minor work. Especial care has been taken in forming this road to make everything of so permanent a character that maintenance will, it is hoped, prove comparatively inexpensive. During next summer it is proposed to metal from Raetihi to Ohakune, and from Raetihi to Mangaetoua, besides a few short pieces near Pipiriki, also to fall the bush 2 chains wider through the Raetihi Block—the part already done has been greatly improved by this extra falling. In passing I would strongly recommend that this Raetihi Block, 13,840 acres, or at least all the lower and flat portion of it, be reserved as a forest reserve. It is all splendid milling timber, easy of access, traversed by the proposed railway, and would give a far better return in a few years by reserving than by cutting up into small sections.

*Mangawhero—Murimotu Road (Field's Track).*—The work done has been chiefly maintenance. The new work comprises seven culverts and eight bridle-track bridges, besides about 20 chains of track at places where slips had carried away the old track. The slips last winter were again very troublesome, an average of three men being necessary all the winter. The returns of traffic are:

Travellers on horseback, 2,421; packhorses, 1,915; sheep, 200; cattle, 247; pigs, 80. Owing to the outlets by the Wanganui River and Hunterville Road, the traffic on this track has not greatly increased. Again I recommend that the Taukora Bridge (30ft. span) and approaches be constructed, so that the 20 chains detour and a bad crossing may be avoided.

The *Mangawhero Valley Road* from Parapara to Raetihi has again been started; seven miles engineering survey and three miles of plans have been done at the south end. At the same end two miles of bridle-track are now in progress, and at the north end (Raetihi) two miles more have just been started. The survey and plans of the whole road (eighteen miles) will probably be completed about August next. The line runs through Native land throughout; still, it is advisable to finish the bridle-track through next summer. When finished as a dray-road it will be the main outlet of the Waimarino Block.

*Watershed Road*.—This is to give access to the Palmerston North Knights of Labour and Somerville Association Blocks. Drays can now get within 140 chains of the Te Kapua Block, and next summer it is proposed to complete this part. The work done comprises four miles engineering survey, 6 miles 20 chains traversing, 360 chains bush-work, 320 chains formation, 150 lineal feet culverts.

*Te Kapua Block*.—In the Knights of Labour Association 180 chains of bush-work are in progress, and during the next year it is proposed to continue this bush-work for six miles along Murray's Track. In the Somerville Association 100 chains of bush-work are in progress, and it is intended to at once start about 200 chains more, chiefly on the Rangoti Road, which will, when completed, give good access to Pohouiatane, northern end.

*Turakina Valley Road*.—This will be the main access to the Pohouiatane, Ruanui, and partly of the Maungakaretu Blocks. During the year the following works were done: Engineering survey of 6 miles 20 chains, 140 chains bush-work, 280 chains formation, 40 chains metalling, 24ft. bridge, 300 lineal feet culverts, concrete ford across the Turakina River. Nearly all the work has been done on the co-operative principle. The character of the work on this part has been unusually heavy, but, with the exception of one bluff, the work on ahead is comparatively easy. It is proposed to push on the road for four miles additional during the coming year, so that dray-traffic may be possible up to the Pohouiatane Block. The road will have eventually to be continued through to the Murimotu open country.

*Makotuku Valley Road*.—This is really a continuation of the Wanganui-Parapara-Raetihi Road, and will in future form part of a main arterial road to Auckland, *via* the Ohura Valley. It is now being pushed forward by co-operative labour, a fair proportion of the men being settlers. The bush-work on the first five miles of this road is extremely heavy; the falling and clearing are being done of standard dray-road width, but the formation (of dray-road width) is only being done in patches where most required. As yet only 100 chains of bush-work has been completed, but 220 chains more are well advanced. It is proposed to continue the construction of this road as rapidly as possible, so as to thoroughly open the country taken up by the Marton Associations, as well as the country beyond them.

*Waipuna Ridge Road*.—This opens up about 4,000 acres of free-selection land, already mostly taken up by settlers on the Atuahae Block. About two miles engineering survey has been done, and several co-operative parties of settlers started on the work.

*Rangataua Road*.—This opens up part of the Clifton No. 1 Association. Co-operative contracts for 150 chains of bushfelling and clearing dray-road width have been let and started by settlers. The engineering surveys were done last year by Mr. H. J. Lewis.

*Wanganui River Improvement*.—The work during the year has been done under the supervision of Mr. J. T. Stewart, on behalf of the River Trust, with the exception of that done since the 26th February last, when the works were placed under my charge. The past summer has been very favourable for operations on the river, but the Natives have proved very obstructive, though by continued firm dealing it is hoped they will not be so much longer. The works comprise—new rough stone groins, improving previous ones at Ohinaina, Upokopoito, Ruapirau, and Matahiwi bends, shifting boulders and snags at various rapids. The total expenditure for the year is £265 17s. 11d. During April it is intended to further improve the rapids at Upokopoito and Hau-moana, and about 1st May stop operations, except the removal of casual snags, till next spring.

The subsidised steamer "Wairere" has made her usual weekly trips to Pipiriki with regularity, except on six occasions during February and March when the river was so low that she could not get up. The steamer has proved very useful in furthering the prosecution of the roadworks in the Waimarino Block and in assisting its settlement, but the element of uncertainty as to her reaching Pipiriki at low water has considerably lessened her usefulness. Another wire rope has been laid down at Hau-moana. This, with those laid down last year at other rapids, assists the steamer greatly in ascending the rapids. The owners, Messrs. Hatrick and Co., have another steamer for the river on the way out from England. Her dimensions are: Length, 120ft.; width amidships, 18ft.; draught light, 12in.; estimated speed, 11½ miles an hour; stern-wheel paddles; estimated number of passengers, 400; horse-power, 122 I.H.P. It is intended next summer to establish a bi-weekly service, with very light loads.

*Hales-Pohouiatane*.—This is a horse-track leading into the Pohouiatane Block, subsidised by the department to the extent of £500. Five miles of engineering survey and plans have been prepared under the Upper Wangaehu Road Board, and contracts for same called for and let. The works are now in progress. The road will give temporary assistance in the settlement of part of the Pohouiatane Block, but will be of no permanent value.

*Rangitikei Bridges*.—The Mangawharariki and Otago Bridge sites were levelled, and approaches thereto laid out. Plans and estimates of approaches were also made.

G. T. MURRAY, Road Surveyor.

## TARANAKI.

*Mohakatino Bridge*.—An engineering survey has been made of the site for the bridge, and borings taken to ascertain the depths to which the piles would have to be driven. Plans and specifications have been prepared for a bridge of a total length of 162ft. The stream is a tidal one, and large trees are at times washed down it from the bush on its banks.

*Mimi-Mangaroa Road* (Vote, £300).—This was intended for a subsidy of pound for pound to the Clifton County Council for metalling a portion of the Mimi Road, from the Main North Road eastward. The Council endeavoured to raise a loan on the lands to be benefited, but failed; and, as the condition of their ordinary revenue fund was unequal to bearing the cost of metalling, no claim for subsidy was made or granted.

*Okoke Road* (Vote, £200).—This item was a proposed subsidy to the Clifton County Council of pound for pound for opening the Okoke Road. The Council propose spending it in the erection of a bridge over the Urenui Stream.

*Junction Road, Tarata to Purangi* (Vote, £1,000).—This amount is for a subsidy to the Clifton County Council of pound for pound for metalling part of Junction Road, Ngatimaru, commencing at the Tarata Bridge. After approval of the plans and specifications, contracts were let by the Council for metalling five miles of the road, and about one mile and a half is completed, and the remainder is being pushed on.

*Bridge over Purangi* (Vote, £300).—No instructions have yet been received for the preparation of plans for this bridge. The bridge will be a very expensive one, as the flood-waters rise to a height of over 40ft. above the ordinary water-level, and the floor of the bridge will therefore have to be about 50ft. above the ordinary stream, by a length of over 200ft.; the main span must be fully 70ft., and the piers boxed in to prevent floating trees catching in them. The cost of a cart-bridge will be fully £1,200.

*Tikorangi-Te Tarata* (Vote, £300).—The balance of the road—two miles and a half—left unfelled last year by the Clifton County Council has been felled 1 chain wide, and a cart-way cleared and stumped 12ft. wide in the centre. The balance of the money authorised will be spent in forming a bridle-road along the sidings.

*Tikorangi Bridge* (Vote, £543).—In July last, during an extreme flood, the whole of the pier-work of the bridge constructed by the contractor was carried away by the mass of trees and logs brought down the river, and it was not deemed safe to again proceed with the work at the same site without a material alteration of the plans. The erection of the bridge has therefore been delayed, in order that fresh arrangements may be made, either by a modification of the plans or an alteration of the site.

*York and Adjacent Roads* (Vote, £100).—The expenditure was to have been on the roads leading to a block of 3,000 acres, on the west side of Midhurst and adjoining the Mount Egmont Forest Reserve. This land was originally set apart for the exercise of scrip by naval and military settlers. As but few applications were made under the above system, it was not deemed advisable to open up the roads, as without settlement and traffic they would quickly be covered with scrub. The block is now being surveyed for settlement purposes, and the roadwork will be gone on with so soon as authority is granted.

*Ararata Bridge* (Vote, £150).—The Hawera County Council has had plans and specifications prepared and approved for the erection of this bridge, which will be over the Ararata Stream, at the junction of the Whareroa, Makino, and Rotokare Roads, and the work is now in the hands of the contractor. The bridge will be a light Warren truss for the main span, with the addition of short end spans.

*Alfred Road* (Vote, £100).—The Waiwakaiho Road Board has had about one mile and three-quarters of this road felled 1 chain wide, and a cart-way stumped and cleared 12ft. wide in the centre, leading to lands in the Egmont Survey District sold on deferred payment and perpetual lease. A further expenditure is still necessary to give access to these lands. None of the money authorised has yet been paid.

*Pukearuhe inland to Mangaroa, Mimi Road* (Vote, £700).—Two contracts were let during the year on this road, one for the erection of the Hoehanga Bridge, 74ft. long, and 9 chains of road-formation (approaches); the other being for felling, clearing, and forming 79 chains as a dray-road, including the erection of one bridge 78ft. long and 250ft. of culverting. The former contract has been finished, and the latter will be in May. This will complete the formation of the Mimi Road to within 30 chains of its junction with the Uruti Road. The continuation of the work for another two miles will be put in hand very shortly.

*Roads East of Waitara-Tanner* (Vote, £1,489).—The work on the roads in this block has been done by the special-settlement selectors in small contracts, let at schedule rates fixed by the Road Surveyor, and includes the felling the bush 1 chain wide, clearing away logs, &c., 20ft. wide, and formation as a bridle-road 8ft. wide, and 927ft. of culverts on fully three miles of the Junction Road, which passes through the block; also the felling 1 chain wide, stumping and clearing cart-way 12ft. wide, of five miles and a half of the Matau and Mangamairi Roads leading to the individual sections in the Tanner Block. A fair proportion of the settlers have made clearings and built houses on their holdings, and are in occupation of them with their families. The expenditure includes the preparation of the plans and specifications for the formation and culverts. The cost for the year ending 31st March was £644 Os. 11d.

*Lepperton Block-Mimi* (Vote, £150).—Contracts have been let to the special-settlement selectors for the felling the road and stumping and clearing cartway 15ft. wide through the block. About one mile and a half of the work is finished, and the remainder is in progress. A considerable area has been felled and grassed within the block, and the settlers with their families will become resident so soon as the road is opened, which will probably be by about September next.

*Oxford Block* (Vote, £150).—Access to this block is through the Milsom Block, and also from the East Road, and the work of opening up the roads within the block is gone on with by the special-settlement selectors as they apply. So far, only a portion of the Mangaoapa Road has been felled and cartway cleared. The other roads will shortly be put in hand.

*Upper Waitara Block* (Vote, £126).—This amount represents the loading put on some lands on the Uruti Road, Mimi District, sold last year. The Uruti Road is now being felled and cleared by the Clifton County Council towards these sections; and the felling, clearing, and formation of the road in front of the sections by the selectors themselves is now being arranged for.

*Milsom Block* (Vote, £300).—The work in this block includes four miles of felling, clearing, and the formation of an 8ft. bridle-road along part of the Junction Road, including about three miles of heavy side-cutting in papa and sandstone rock; also, the felling, grubbing, and clearing cartway of seven miles and a half of the Matau and Mangaoapa Roads leading to the special-settlement selections, the work being done by the selectors in small contracts at schedule prices fixed by the Road Surveyor; the prices in all these private contracts being the ordinary contract rates current in the district.

*Huiroa District* (Vote, £500).—This amount was part of the loan-money under the Government Loans to Local Bodies Act, representing the loading on lands in the Huiroa District on the Motukawa Road. The felling and clearing of the road to the Makino Stream—7 miles 27 chains—was completed during the year, as also two contracts, in total length 1 mile 78 chains, of 10ft. wide road-formation, including two cart-bridges in total length of 79ft., and twenty-five culverts in total length 776ft. Also, 4 miles 36 chains of bridle-road formation, 8ft. wide, by co-operative labour, in small contracts, at ordinary contract rates, including the erection of five temporary bridges, and the construction of twenty-seven culverts in total length 651ft. Access has thus been given to every section on the road, and the selectors have been enabled to fell and grass large areas of their holdings, and can take their stock on to the lands so soon as the pasture is ready. Had it not been for the co-operative labour, the work would not have been put through so quickly. The expenditure for the year ending the 31st March was £1,399 6s. 6d.

*Roads East of Waipuku* (Vote, £200).—This forms part of the expenditure out of loan-moneys, under the Government Loans to Local Bodies Act, on the Douglas, Makuri, and Kiori Roads. 10½ miles of the work of felling the roads 1 chain wide, and stumping and clearing cartway 12ft. wide, has been let to co-operative men in twelve contracts, and the work is now well in hand.

*Mangaere Block* (Vote, £560).—In this block 11½ miles of road-felling and clearing has been done by co-operative labour on the Akama, Mohakau, and Kirai Roads, the work being let in small contracts at ordinary rates, the cost being provided for by the loading on the lands in the block, on which money has been granted under the Government Loans to Local Bodies Act. The work of forming a bridle-road along the siding on the above roads is now being proceeded with by co-operative men, in small contracts.

*Mangaehu Block* (Vote, £300).—Some expenditure has been incurred in making a pack-track leading in to the Kaitangiwhenua Block for use of the surveyors now engaged in surveying the special settlements—Whenuakura, Moeawatea, and Kaitangiwhenua—in that block. The felling of part of the Mangaehu Road will shortly be put in hand.

*Mangamingi Block* (Vote, £1,500).—Two leading roads have been felled and formed through the block—namely, the portion (5½ miles) of the Rotokare Road not done last year, and over six miles of the Anderson Road, the former being formed as an 8ft. bridle-road, including seventy culverts in total length 1,380ft.; and the Anderson Road being formed as a dray-road, with one bridge 24ft. long and one 26ft. long; also, sixty-eight culverts in total length 2,044ft. In parts, especially on the Anderson Road, the work of roading was on steep siding in papa and sandstone rock, and was very heavy. In consequence of the wet season, and large slips which had to be cleared away, the work was very costly, although let at ordinary rates. The whole of it was done by co-operative labour, in small contracts. There has also been felled and cartway cleared four miles and a half of the Wingrove, Waruarau, Mangamingi, and Aorere Roads in the same block, giving access to the various sections in the block. There still remains the Pukengahu and Sangster Roads to fell.

*Rotokare and other Roads* (Vote, £500).—Two miles of 8ft. bridle-road formation on the Rotokare Road, between Whareroa Road and Mangawhero Road, and which was in hand at the close of last year, has been completed, and two extra bridges constructed of a total length of 88ft., necessitated through floods and slips having carried away the culverts and embankments. A bridge is required over the Ararata Stream at the junction of the Mangawhero and Rotokare Roads, also about 16 chains of light approaches, in order to complete the opening of the Rotokare and Whareroa Roads from Hawera to the Mangamingi Block.

*Anderson Roads and Bridges* (Vote, £1,000).—About 5 miles 48 chains of the Anderson Road, from the confiscation-line to the Mangamingi boundary, has been felled 1 chain wide, and a cartway cleared and stumped 15ft. wide. In connection with the opening of the Ngairi Block, and the drainage of the Ngairi Swamps, this road will be culverted and formed, and by a deviation on to the Chapman Road will be opened through to Eltham.

*Mangaotuku* (Vote, £500).—This road for a length of 2 miles 28 chains has been cleared and formed as a 6ft. bridle-road, including twenty-two culverts of a total length of 226ft. The work commences near the Makuri Bridge, on the East Road, and extends towards the Mangaotuku Block, and the formation will be continued to and through the Mangaotuku Block when the surveys now in hand are completed and funds are available.

*Kaimanuka and Rawhitiroa* (Vote, £1,500).—Waitotara Valley Road. Since last year the Patea County Council raised a loan under the Loans to Local Bodies Act on lands in the Kaimanuka Block, and with the money completed the dray-road formation between Waitotara Township and the Waitotara River, at Mangaone Stream, about twenty-two miles. From thence a 5ft.

bridle-road has been made by the Wellington department to the Taranaki boundary, and from this point onwards three miles of bushfelling and bridle-road formation was made by this office last year. This financial year  $11\frac{3}{4}$  miles of the road has been felled, cleared, and a 5ft. bridle-road formed, making a total length of  $14\frac{3}{4}$  miles of road in the Taranaki District, or about forty-one miles of road open from the Waitotara Township. The road now extends to about two miles past the junction of the Omaru and Waitotara Streams, and will not be further continued until the surveys of the Rawhitiroa and Kaitangiwhenua Blocks are completed. The  $11\frac{3}{4}$  miles of formation includes ninety-four culverts, of a total length of 1,410ft.; and two bridges, in total length 158ft.

*Kaitangiwhenua*.—A commencement has been made in forming a road across the Kaitangiwhenua Block from Waitotara Road towards Eltham, and over a mile of the work has been let to co-operative men in the usual small contracts, at ordinary rates. This work will be carried on as rapidly as funds will permit, so as to open up the block and assist the surveyors whilst engaged in the subdivision thereof.

*Miscellaneous*.—This includes the felling and clearing in the usual way of 18 chains of Ngariki Road, Opunake district; the burning and grassing the Makaka and Punehu Townships, Kaupokonui district, previously felled; and the felling, clearing, and formation as a bridle-road of 3 miles 68 chains of the Okahutiria Road, inland of Waverley, the latter giving access to a large portion of the lands in the University Endowment.

*Ongaruke-Stratford East Road* (Vote, £15,000).—During the year an engineering survey of the road has been carried on by Mr. A. L. Sealy, commencing at a point five miles within the Taumatamahoe Block (that is, five miles from the northern boundary of the Pohokura Block), to which point it had been brought last year. Up to the 31st March he had finished about  $20\frac{3}{4}$  miles—namely, to near where the Waingarara Stream flows into the Tangarakau—and the work will be continued during April to about the bridge-crossing of the Tangarakau, which will be at about  $61\frac{1}{4}$  miles from Stratford. It is not deemed desirable to carry on the engineering survey of the road beyond the above point at present, as the lines would grow up and the numbers on the pegs become obliterated before they were required. As the line of road onwards towards Ohura has been located, the work can be resumed when necessary, and at a lower cost. The plans will be made during the coming winter.

During the year two miles of the East Road, between Kahouri Bridge and Toko, has been formed as a dray-road, and three miles (running over the above two miles) has been metalled with machine-broken stone, the metal being laid 12ft. wide by 9in. deep. In addition to this, the Stratford County Council has continued the metalling for a further 19 chains, making a total length metalled from Stratford of about six miles and a quarter.

At about  $10\frac{1}{2}$  miles from Stratford a deviation slightly over a mile in length has been laid off, and an excellent road secured, on which the work of formation by co-operative labour is well advanced, and the formerly much-dreaded Coutts's Swamp wholly avoided. It is expected that the deviation, on which are two small bridges and 293ft. of culverts, will be open for traffic in May.

At near Mangaere Block, 2 miles 62 chains of dray-road, including 674ft. of culverts, has been formed by Messrs. Heywood and Martin, completing the contracts they had in hand last year, and the formation of the road from Stratford, a distance of 21 miles 11 chains. In addition to this, the road has been felled, formed, and culverted as a dray-road through the Mangaere Block, and nearly through the Pohokura Block, by co-operative labour in small contracts at ordinary rates; the work extends over  $10\frac{1}{4}$  miles, but only about  $9\frac{1}{2}$  are completed. When the  $10\frac{1}{4}$  is finished, say in June, there will be a continuous dray-road from Stratford to the Taumatamahoe Block, a distance of  $31\frac{1}{2}$  miles. (See also page 40 for details of Auckland end.)

G. F. ROBINSON, Road Surveyor.

#### HAWKE'S BAY.

*Ormond-Opotiki*.—The maintenance of sixty-six miles of this road cost £647 6s. 3d. The winter floods did great damage, causing numerous and extensive slips, and washing away culverts and small bridges. For a time the traffic was completely stopped, and extra men had to be employed to make it passable. From the nature of the country through which this road runs, and as it is at present only a bridle-track through forest, this trouble will be of yearly recurrence until it is properly formed into a dray-road and metalled, which, on account of the very heavy expense of such an undertaking, is not likely to be in the near future. During the year the new bridge over the Motu River, on the site of the one washed away in the winter of 1892, was completed, at a cost of £450.

*Wairoa County Roads*.—On account of the very serious damage to the roads by floods a grant of £300 was made to the County Council, with which, supplemented by county funds, seven bridges were rebuilt that had been destroyed.

*Napier-Wairoa*.—This is a pound-for-pound vote for opening up a road from Napier to Wairoa. A sum of £625 has been paid over to the county as half-cost of the Waihua Bridge (190ft. in length), 40 chains of horse-track, and 80 chains of dray-road formation.

*Totara Road, Tahoraite*.—The £50 spent this year was a final payment on a bridge of 70ft. across a gulch which previously formed a great barrier to the Crown settlement beyond.

*Waikohu-Matawai*.—Out of a loan that has been obtained under the Government Loans to Local Bodies Act for opening up 33,000 acres of Crown land lately disposed of £781 16s. has been spent in clearing and forming horse-tracks eleven miles and a half in length through the block. Not only is the block on which the money was raised made accessible, but some thousands of acres of adjacent Crown lands are also greatly benefited.

*Frasertown-Waikaremoana.*—The Wairoa County Council has spent £250 in extending the road in the direction of Waikaremoana. Two miles and a half of dray-road have been formed, and a bridge of 30ft. span built. The amount was supplemented by county funds. 9,000 acres of Crown land at Waikaremoana have been open for selection for some time, but the want of a road has prevented their being taken up. This expenditure has brought the road to within about seven miles of the block.

*Nuhaka.*—A sum of £626, the balance of a loan under the Government Loans to Local Bodies Act, has been expended in felling and clearing 581½ chains of road through the block. This work has been let in small contracts to the new settlers at ruling rates.

*Rotokakarangu.*—The vote of £100 for giving access to Crown land in this district was expended, under the supervision of the Wairoa County Council, in the formation of 122 chains of bridle-road.

*Pohui.*—A sum of £538 was borrowed under the Government Loans to Local Bodies Act on the block for the purpose of opening it up with road, but the works have only recently been taken in hand, and up to the present one contract of 81½ chains in length of felling and clearing has been completed, at a cost of £55 7s. Three other contracts are in hand. Tenders were called for the work, but those received were so excessively high that they were rejected, and the work was let on the co-operative principle in short lengths, at half the rate of the lowest tender, to men out of employment, who admit having made good wages, and seek more work at the same rate.

*Umutaoroa.*—A loan was also obtained on this block in the same manner as the foregoing, and 280 chains of road-line have been felled and a 14ft. track cleared, at a cost, including supervision, of £359 5s. 4d.

*Gisborne-Waiapu Inland Road.*—The Cook County Council was granted £180 for work on this important line of road, and 96 chains of new dray-road have been constructed.

THOMAS HUMPHRIES, Chief Surveyor.

#### WELLINGTON.

*Mangawhio Horse-road.*—In my last annual report it was stated this road had been completed up to the Taranaki boundary-line, with the exception of the bridges on the last 4 miles 15 chains. These bridges have been completed during the year, consisting of a truss-bridge of 50ft. span, with two land-spans of 15ft. and 20ft.; two of 38ft. spans; and four plain bridges, varying from 20ft. to 22ft. spans: making a total length of 300ft. completed during the year.

*Weraweraonga Horse-road.*—1 mile 48 chains is under construction, including a bridge of 26ft. span. One mile and a quarter has been completed, including twenty log and punga culverts. A subsidy of £114 has been granted to the Momahaki-Waitotara Road Board to assist in this work.

*Puao Dray-road through University Reserve.*—The length of road is 3 miles 25 chains. Three-quarters of a mile have been completed. £300 has been granted to the Momahaki-Waitotara Road Board to assist in this work.

*Watershed Road, Otamakapua.*—76 chains of forest have been felled and cleared on this road-line.

*Cross Road.*—2 miles 5 chains of this road-line have been felled and cleared.

*Mangawharariki Horse-road.*—This road leads to the Three-log Whare Road at the Rangitikei River. The engineering survey of this line is now being carried on by Mr. F. Fairburn, and is nearly completed. Several deviations from the original survey have been made, which has shortened the distance by over a mile, avoiding at the same time heavy work whilst retaining easy gradients. Three miles and three-quarters of felling and clearing the forest have been completed, and 16 chains additional are under contract. Two miles and a quarter of formation have been let out under co-operative contracts, including the construction of ten culverts of a total length of 136ft. These contracts are nearly completed. The construction of the Wairaki skew-bridge is well under way, the timber having been prepared. With the exception of a mile this road is through dense forest and a broken country.

*Pemberton Improved Settlement Farm.*—There have been 1,034 acres of forest felled, of which about 940 acres have been burnt off. The grass-seeding of this latter area is practically completed. There are twenty-three men awaiting to settle, eight of whom are married and have their families residing on the ground in rough wooden houses they have themselves erected. The cleared land not proving sufficiently large to accommodate the whole of the above settlers, provision is being made for an additional area to be laid off to satisfy their requirements.

*Auputa Horse-road.*—Two miles and a half of felling and clearing forest on this road are under contract and in progress.

*Te Para Para Horse-road.*—1 mile 63 chains of this line have been completed, including the construction of ten culverts varying from 12in. by 12in. to 3ft. by 3ft., and of a total length of 164ft.

*Main South Horse-road.*—3 miles 17 chains of this line of road have been completed, including the construction of 24 culverts, varying in size from 12in. by 12in. to 4ft. by 4ft., of a total length of 473ft.; also the erection of a truss bridge for wheel traffic 40ft. in length.

*Mangahua East Horse-road.*—1 mile 22 chains of this road have been completed, including the construction of five culverts, varying in size from 12in. by 12in. to 18in. by 18in., of a total length of 90ft. Altogether, six miles and a quarter of roads have been completed in these blocks during the year, and which are all through dense forest country.

*From Kimbolton Road to Feilding Special Settlement.*—4 miles 15 chains of this road have been metalled, from the Kimbolton Road, near Birmingham, to the Oroua River, by the Kiwitea Road Board, a sum of £300 having been granted by the Government to assist this work. The road is now in good order. Metalling has also been carried on beyond the river into the Feilding Block, towards Apiti, for a distance of 2 miles 10 chains, £180 having been granted to the Pohangina Road Board to assist in this undertaking. The road is now in fair order the whole way to Apiti.

*Apiti-Norsewood Horse-road.*—The total length of this road through the block is 3 miles 54 chains, of which 3 miles 47 chains have been completed, including the erection of a truss bridge 36ft. in length, and suitable for dray-traffic; also the construction of twenty-nine culverts, varying in size from 6in. by 8in. to 4ft. by 3ft., the total length being 432ft.

*Table Flat Horse-road.*—Two miles of this road have been completed out of a total length of 3 miles 13 chains to be constructed across the block. The portion completed includes the building of thirteen culverts, of an aggregate length of 219ft., varying in sizes from 6in. by 8in. to 12in. by 18in. A total length of 5 miles 47 chains of roads have been made in this block during the year, dense forest prevailing the whole distance.

*Pohangina Block.*—The sum of £200 has been authorised for expenditure on the construction of roads in this block, but the work has not been started yet.

*Main Ridge Road, Oroua Coal Creek.*—The length is 5 miles 31 chains. It was stated in my last annual report that 4 miles 69 chains had been completed. The remaining 42 chains have since been constructed. The whole road is through forest.

*Pohangina Valley Road, through Forest Reserve.*—The length of road is 2 miles 10 chains. The work has been undertaken by the Pohangina Road Board, to whom £500 have been granted to assist in the work. The whole length of this road is through dense forest, which has all been felled and cleared. In addition to this, 65 chains of dray-road have been formed, 10 chains of metalling done over a bad portion of the line, a plain bridge erected 12ft. in length, and two culverts constructed—one 12in. by 12in., and the other 2ft. by 3ft.

*Pakihikura Valley Road.*—This is a dray-road through village reserve, 1 mile 4 chains of which have been let out, including 208ft. of log-culverting 2ft. by 2ft., 48ft. of 18in. by 16in., and 48ft. of 15in. by 15in. Half a mile of bushfelling and clearing, and 25 chains of formation, have been done. The whole of this line is through forest-country. The work is being carried on by the Kiwitea Road Board, £400 having been granted to assist in the work.

*Range Road, North and South (Palmerston North Forest Reserve).*—The length of road to be formed is five miles and a half. The engineering survey of 5 miles 15 chains has been completed, the forest felled and cleared for five miles and a half, and four miles and a half of road formed, which includes the construction of twenty-three culverts of a total length of 255ft. The whole road is through dense forest.

*Pukohai Horse-road, Waiwera.*—The whole of this road, 77 chains in length, has been formed, including the construction of eight culverts, varying in size from 12in. by 12in. to 2ft. by 2ft., of a total length of 164ft. This road forms an approach to the Waiwera Block, and was a heavy piece of work, necessitating a large amount of rock-excavation.

*Pukohai-Manawatu Horse-road.*—57 chains of forest have been felled on this line, and 42 chains formed.

*Kopikopiko Horse-road.*—75 chains of forest-felling and clearing have been done, and 34 chains formation completed. The total length of roads formed in this block is 1 mile 73 chains, and 2 miles 49 chains cleared—all through dense bush.

*Central Dray-road, Kakariki.*—The length is 78½ chains, which has been formed throughout, including the erection of three plain bridges, one being 21ft. in length, and two of 10ft. 6in. each; also, eight culverts 12in. by 12in., of a total length of 173ft. There was a large amount of rock excavated on this line. This road forms an approach to the Waiwera Block, as well as to the northern end of the Kakariki Block.

*Kakariki Dray-road.*—One mile and three-quarters of this road has been completed, and an additional mile and a half is under contract. Sixty chains of the formed line is through dense forest, the remaining portion being in open country.

*South Dray-road.*—This is 1 mile 46 chains in length, all through heavy forest, which has been completed, including the construction of five culverts 12in. by 12in. in size, and 124ft. total length.

*Quarry Road, Eketahuna to Stirling.*—This is a dray-road through the Wellington Settlement Forest Reserve and on to the Mangatainoko River, a distance of 1 mile 34 chains, all through heavily-wooded country. The whole of this road has been completed, including the construction of ten culverts, in varying sizes, from 12in. by 12in. to 12in. by 18in., of a total length of 251ft.

*Mangaroa Dray-road, Stirling.*—This road extends from the Mangatainoko, a distance of 1 mile 7 chains, all of which is under construction.

*Mangaroa Dray-road South.*—This road is 2 miles 3 chains in length, 33 chains of which is under construction, and the remaining portion ready for letting.

*Mangaraupi Dray-road.*—The length of this road-line is 2 miles 5 chains, and 1 mile 45 chains of this is under construction, the work being well advanced.

*Approaches from Mangatianoka Valley Road to the Stirling Settlement.*—Two lines are being made for dray-traffic—one leading to the river opposite Section No. 37, and the other opposite Section No. 44—of a total length of 16½ chains. The total length of road under contract in this block is three miles and a quarter, running through dense bush.

*Mangaone Bridge.*—This is a truss-bridge of 70ft. span over the Mangaone River. It was stated to be under construction in my last annual report. Since then it has been completed. The work has been carried out under the Alfredton Road Board, a subsidy of £250 having been granted to assist this undertaking.

*Mangaone Village and School Reserve.*—Forty-nine acres of forest-felling and burning-off has been completed on this section, which is now being grassed.

*Bridge over Tiraumea River, Alfredton-Weber Road.*—This is a truss-bridge of 126ft. span, with two land-spans of 22½ft. and 10ft., and is being erected under the supervision of the Alfredton Road Board, to whom a subsidy of £1,000 has been granted for the purpose.

*Hastwell Village Settlement.*—In this settlement 34½ chains of clearing and logging have been

done, also 10 chains of formation 12ft. wide. The bridge over the Kopuarangi River has been repaired, and two culverts made of a total length of 40ft.

*Mangamahoe Dray-road, Mount Baker.*—The length of road is 3 miles 30 chains. It was represented in my last annual report that 52 chains of this line had been formed. An additional 34 chains have since been made, making a total completed of 1 mile 6 chains, including the placing of nineteen earthenware glazed pipes, 9in. diameter, and of a total length of 400ft., also one wooden culvert 12in. by 12in. and 14ft. long. This completed portion has been handed over to the Mauriceville Road Board. A sum of £500 was voted for further works on this line, but, pending arrangement being made between the settlers and the local authorities as regards its expenditure, the money has not been utilised. During the heavy rains of last winter large slips took place on this road, necessitating heavy expenditure for repairs. About 12 chains of the completed road is through forest.

*Mangaorongo Horse-road.*—4 miles 15 chains is the length of this road. At its southern end, from the junction with the Mangamahoe line, 2 miles 15 chains of felling and clearing have been completed, and 1 mile 15 chains formed, including the erection of a plain bridge, 32ft. in length, suitable for dray-traffic, and the erection of eighteen culverts, varying in size from 10in. by 12in. to 2ft. by 3ft., of a total length of 244ft. The Eketahuna Road Board has undertaken the construction of one mile and three-quarters at the northern end of this line, for the purpose of forming it into a dray-road 14ft. wide, a sum of £245 having been granted to assist in carrying out this work. One mile 50 chains of this portion have been completed, including the construction of twelve culverts, 12in. by 12in., of a total length of 228ft., and seven pipe-culverts, varying in size from 18in. to 30in., of a total length of 206ft. This road is all through forest-country.

*Baker Horse-road.*—This road is 5 miles 30 chains in length, of which 2 miles 17 chains have been completed at the southern end, including the construction of forty-seven culverts, varying in size from 10in. by 12in. to 12in. by 18in., of a total length of 1,390ft. This section has been handed over to the Eketahuna and Alfredton Road Boards. The northern portion of this road, a distance of two miles and a half, has been constructed by the Alfredton Road Board for dray-traffic 14ft. wide, the Government allowing a grant of £350 to assist in the work, which includes the construction of thirty-six culverts, varying in size from 8in. by 10in. to 12in. by 18in., of a total length of 933ft., and one framed culvert, 3ft. by 4ft. by 37ft. in length. The whole of this road is through forest.

*Maungatakatō Horse-road.*—The total length of this road is 2 miles 12 chains, all through forest. One mile and a half of bush has been felled and cleared, and one mile formed, including the construction of eighteen culverts, varying in size from 12in. by 12in. to 12in. by 18in., of a total length of 363ft.

*Barton Horse-road.*—2 miles 36 chains of bush have been felled and cleared, and two miles formed, including the erection of a plain bridge, 24ft. in length, made for dray-traffic; also the construction of thirty-two culverts, varying in size from 10in. by 12in. to 12in. by 18in., of a total length of 785ft. A total length of 12 miles 49 chains of roads have been constructed in this block during the year, a further two miles having been cleared.

*Alfredton-Weber Dray-road.*—Since my last annual report only one mile and a quarter of this line has been formed, making a total distance constructed from the Whatawhiti Stream of 12 miles 54 chains. The small progress made is owing to the exceedingly heavy damage caused last winter by the excessive rainfall, principally between Deep Creek and end of formation, a distance of six miles, which in many places entirely destroyed the road, the deep surfacing having slipped down over the papa for chains back beyond the tops of cuttings, and for long distances along the line, necessitating practically a fresh engineering survey of a large portion of the line, which was carried on by Mr. D. A. Grut, so soon as the earth was sufficiently dry to insure its remaining in position. A large proportion of the road had to be entirely reconstructed, entailing a very heavy extra expense. In consequence of the great havoc caused to the road, the works on this line had to be suspended for several months, it being impossible to transport supplies to the men, who were in the meantime removed to works on the branch lines. The work carried out during the year includes the construction of a truss-bridge of 41ft. span over the Deep Creek, fifty-five pipe-culverts placed in position, varying in size from 6in. to 12in. diameter, of an aggregate length of 682ft., and fourteen wooden culverts, varying from 12in. by 12in. to 4ft. by 4ft., of a total length of 623ft. In re-forming the road, a large quantity of papa rock has been excavated. I anticipate heavy damages will again occur during the coming winter, owing to the peculiar shaky, slippery, and precipitous nature of the country. It is to be deplored that great reductions in the number of men had to be made since the month of February last, when the work might have been pushed ahead during the most favourable season of the year. That portion of the road lying between the Waitawhiti Stream and Deep Creek, a distance of 6 miles 36 chains, has been handed over to the Wairarapa North County.

*Utewai Road.*—Of four miles and a quarter, the first two miles is to be for dray-traffic, and the remainder for a horse-road. During the year 75 chains of dray-road have been made, which completes the two miles of dray-road required with the exception of 8 chains and the erection of a bridge at the Tiraumea River crossing, which remains in abeyance for want of funds. Thirteen pipe-culverts have been placed in position, from 9in. to 12in. diameter, of a total length of 380ft., and four wooden ones, varying in size from 8in. by 5in. to 2ft. by 2ft. There were 1,200 cubic yards of rock excavated, some of which was exceptionally hard. The horse-road, from two to three miles, has been formed with the exception of a collective distance of about 6 chains, consisting of uncompleted portions left for bridges and culverts to be yet built.

From the three miles to the end of the four miles and a quarter the road has been opened at the smallest possible cost according to instructions; the road having been only made over such places as were quite impassable, and temporary bridges constructed with round timber at the



bottoms of steep gullies. By doing this the road has been made passable for horse-traffic; but some of the rough bridges are unavoidably at low levels, and run a chance of being carried away during the rainy season, thereby debarring communication. The timber for all the culverts up to three miles, and for a truss-bridge, is stacked ready for use. Five pipe-culverts, varying in size from 9ft. to 12ft., of a total length of 110ft., have been placed in position, as well as a timber culvert 18ft. by 24ft. Three bridges of about 45ft. each and several culverts have still to be erected; but these, together with the Tiraumea Bridge, remain in abeyance for want of funds. The last section of two miles and a quarter is through dense forest, whilst the first two miles are in open country. All the men have been withdrawn from this road and placed on the Alfredton-Weber line.

*Rakaunui Horse-road.*—This road, to a distance of 2 miles 4 chains, has been completed, including the erection of sixteen culverts 12ft. by 12ft. in size, and of a total length of 420ft., all through dense forest-country.

*Makuri-Aohanga Horse-road.*—The length to be formed to meet Mr. Reaney's work is 4 miles 38 chains. In this line there are 34 chains yet to complete at the western end, and 9 chains at the eastern, where it junctions with the Alfredton-Weber Road, which latter cannot be completed until a bridge is erected near the junction. There is also a collective distance of 34 chains not yet completed between the ends, which has had to be left for culverts and bridges. Thirty-five culverts, 12in. by 12in., of a total length of 646ft., have been constructed. About 3,700ft. of timber for culverts had been cut when the men were withdrawn from the works, in consequence of the reduction in number of men ordered. This work is now at a standstill, pending further instructions. Two bridges are required—one of 50ft. and another of 80ft.—but remain in abeyance for want of funds.

*Aohanga Valley Dray-road.*—The work in question commences about seven miles above the Aohanga Ferry, and includes the formation of two miles of road, needing the construction of seventeen culverts, varying in size from 12in. by 10in. to 2ft. by 2ft., of a total length of 490ft. This work is in progress under the Akitio Road Board, a subsidy of £500 having been granted to assist in the undertaking.

*Levin Village Settlement.*—The work of felling and clearing the timber on 1 mile 17 chains of road-lines has been nearly completed. A sum of £97 has been granted to the Wirokino Road Board to assist in this work.

*Waikanae-Hutt Road.*—Of this road 2 miles 49 chains was formed last year to give access to the Wellington Fruitgrowers' Association Settlement. A sum of £200 has been authorised for the purpose of extending this line as a dray-road, and easing the present grade into the settlement. The engineering plans are now prepared, and the work ready to start. A subsidy of £150 has been granted to the Horowhenua County Council for metalling and otherwise improving the line between the railway-station and the Wellington Fruitgrowers' Block, which is now being proceeded with. An additional £150 has been granted to the Hutt County Council to assist in forming 24½ chains of dray-road, metalling 38½ chains, removing slips, and constructing four culverts, 12in. by 12in., which are also in progress.

*Horse- and Foot-bridge over the Waitangi Stream, Wharekauri.*—Plans and specifications have been prepared for the construction of this bridge, 93ft. long, of three spans.

In all the foregoing works, with the exception of those undertaken by Road Boards, the co-operative contract system has been carried out, 232 contracts having been let during the year. (For other roadworks in the Wanganui portion of the district, see Mr. Murray's report, pages 40, 41, and 42.)

A. C. TURNER, Road Surveyor.

*Makairo Road.*—Five miles of engineering surveys, seven miles and a half of bush-clearing and horse-road formation, half a mile of dray-road formation, with 1400ft. of culverts, have been made, and nine miles and a half of the road have been maintained. Included in the total expenditure for the year is £80 for surveys, £1,675 for formation, &c., and the balance for maintenance. The work done extends the road for horse-traffic over the Waewaepa Range into the Mangatoro Township Reserve, where it connects with the Upper Makuri and Towai Roads, and will doubtless be of great service to the settlers on the Coonoor and adjoining blocks. It is naturally a dry road for the greater portion of its length, but for some time to come will be subject to slips, owing to the precipitous nature and formation of the adjacent country. The road-formation near dangerous rocky cliffs has been made 10ft. wide, which has increased the cost of the work; and, as the bulk of the supplies for the co-operative workers on the roads beyond, as well as for the Coonoor settlers, have to be taken along this road, I would suggest that its maintenance remains for the present in the hands of the Government, as, the Pahiatua County roads being mostly newly formed, the Council is, during a heavy winter, burdened almost beyond its resources, and the roads suffer in consequence. The county has metalled that portion of the road that was gazetted last year, and is erecting bridges over the Makairo Creek.

*The Upper Makuri Road.*—Three miles of engineering plans have been prepared, and three miles of dray-road formation have been done, with 1,000ft. of culverts, completing the road from the Makuri Township to the Mangatoro Township Reserve. The whole of the road between those places, a distance of 10½ miles, has been maintained, having been cleared of slips from end to end, metalled, and pugas laid in bad places, in order to keep supplies going during the last winter, and four platform bridges of 20ft. span each, with their approaches, &c., have been constructed. The expenditure includes £1,238 for formation, bushwork, culverts, &c.; also £250 for the bridges; the balance was for maintenance, plans, and supervision. During the past summer the county have metalled about four miles at the Makuri end of the road, being also the portion that required it most. The maintenance of the road is, however, still in our charge.

*The Towai Road.*—This is an extension of the above road. On it one mile of engineering surveys has been done. A mile and a half of dray-road formation, two miles and a quarter of horse-road formation, with three miles and a quarter of bush-clearing, and 413ft. of culverts, have been constructed, and the work has been maintained since its completion. The expenditure includes £794 for formation, bushwork, and culverts, and £86 for survey and maintenance. The dray-road formation was extended to Mr. Whilta's homestead. In order to give access to the intending settlers of the Rising Sun Block, this road should be continued as soon as funds will allow.

*The Mangatoro Road.*—This road runs from the township bearing its name down the Mangatoro Valley, and connects with the Danevirke-Wainui Road at a point where the latter crosses the Mangatoro Stream. Engineering surveys have been partially made for a distance of about seven miles, from the Mangatoro Township Reserve to Section No. 4, Block VI., Tahoraite Survey District, where it meets the dray-road formation from the Danevirke end of the road recently done by the Kumeroa and Danevirke Road Boards. Several deviations from the original location will be necessary in order to make a good road, your attention having been already drawn to them. About three miles of pack-track have been cut through the bush and kept open to enable settlers to get in to their work of bushfelling and grass-seed sowing; and 40 chains of dray-road formation, with bush-clearing and culverts, have been constructed. The expenditure includes £140 for bushwork, formation, and track-cutting, and £90 for surveys. The work for the first three miles will be costly, being heavy, and containing much rock. It will, however, be a road of considerable service to settlers on the Coonor and adjacent blocks, the total distance from the Mangatoro Township Reserve into Danevirke being about twenty-four miles, with easy grades obtainable all the way. The settlers in the Mangatoro Valley, in making their improvements, labour under great difficulties for want of this road, which, for their sakes only, if for no other reason, should be pushed on without delay.

All the construction work on the above roads was done by co-operative labour, with the exception of the bridges on the Upper Makuri Road, which were constructed by day-work. The average number of men employed right through the year was fifty-five. During the last winter, owing to the bad state of the roads and the exceedingly bad weather, these men suffered considerable hardship; many of them were seriously ill, and three died. Since the completion of the Makairo Road the supplies are more certain and far cheaper; and it is to be hoped the coming winter will not be so trying. I would, however, point out that for the above reason it is undesirable to send any but robust men to work on rough inaccessible blocks during the winter months. Mr. William Campbell was the overseer in charge of all the Coonor works, and conducted them in a very creditable manner.

*The Makuri Gorge Road.*—This road was gazetted a county road last winter, prior to which £215 was spent on it in the construction of two bridges, the completion of the formation, and maintenance of the road.

*The Makuri Township Roads.*—A mile and a half of dray-road formation, with bushfelling and culverts, have been constructed; one 20ft. platform bridge, with approaches, and three fords, two of which cross the Makuri River, have been made; and one mile of the road has been metalled; all of which work has also been maintained. The metalling cost rather more than was anticipated, owing to the gravel in the first pit running out, and another having to be opened at some cost and trouble. It is, however, there ready for future use.

*The Makuri-Aohanga Road.*—One mile of bushfelling and horse-road formation have been done, and six miles of the road maintained and put in repair for the coming winter. Protective works near the site of the proposed bridge over the Makuri River have also been done, consisting of about a chain of the bank being fascined, two fascine groins, some booms, and the channel cleared. Engineering plans have been received, and authority obtained, for the extension of this road from its junction with the Upper Mangatiti Road to its junction with the Utiwai Road, a distance of 2 miles 17 chains, which will connect it with the formation now being done from the Alfredton-Weber Road. This work will be put in hand at once, and should be finished in about three months. The maintenance of this road is still in our hands, and I would suggest that it remains so, for similar reasons to those given in the case of the Makairo Road.

*The Mangatiti Road.*—Seven miles of engineering plans received in an uncomplete state have been completed, and contracts prepared from them. Six miles of bush-clearing and horse-road formation, with 1,530ft. of culverts, have been made, and the road maintained and put in order for the winter's traffic, and to enable us to keep the works going ahead. This road should be pushed on to the Township of Pungaroa, the settlers there being already at work.

*Aohanga-Waewaepa Road.*—This is marked the Woodville-Aohanga Road on the maps. Three miles of engineering surveys have been done, and one of them is let for formation as a horse-road, starting at the end of the county dray-road formation, about two miles from Makuri Township. Other contracts will be let as soon as the work can be prepared. For the convenience of settlers, about three miles of pack-tracks were cut through the bush as a temporary means of access.

*Mangaramarama Village Settlement Roads.*—A mile and a half of bush-clearing was done by the village settlers, at a cost of £153. As already reported, this work should be supplemented by formation, in order to give the settlers a fair chance of making their settlement a success.

*Makuri Township.*—Sixty-six acres of this reserve have been felled and burnt, at a cost of £130, all trees having been cut down.

On all roads the bush has been felled a width of 66ft., and stumped and cleared a width of 33ft., and all overhanging trees likely to be dangerous to traffic have been cut down. The prices paid for this work have ranged from 10s. to £1 10s. a chain, the average being about £1. The horse-road formation has been made from 6ft. to 10ft. wide, the latter in dangerous places near cliffs, &c. It has in all cases been formed on the best grades obtainable for the dray-road, so that by simply increasing its width the latter is made. The dray-road formation has been made 14ft. wide

in through cuttings, 16ft. wide in side-cuttings, 18ft. wide on embankments, and 20ft. wide on surface-formation. The culverts have ranged in size and price from 9in. square, at 1s. 6d. per foot, to 4ft. by 3ft., at 11s. per foot. They have been constructed of totara under heavy banks, and of rimu near the surface, on horse-roads, in places where other timber was not procurable. An additional 6d. per foot has been allowed in cases where the timber has been carried some distance.

The whole of the works in the Makuri District were done by co-operative labour, with the exception of the bridges and the metalling, which was done by day-labour, all being done under the supervision of Mr. Boyden, overseer, who has carried them out in a very satisfactory way, the average number of men engaged being about thirty-five. The work has been done at reasonable rates, and fair wages have been earned.

Compared with previous years' there has been a considerable increase in the output of work in all branches during the past twelve months, about 12 per cent. more men having been kept in employment all through the year than in the previous year. Sixteen miles of engineering surveys have been made, with an additional five miles of plans; eighteen miles of horse-roads and seven miles of dray-roads have been constructed through bush-country; one mile of metalling has been done, and over forty miles of new roads have been maintained, the greater part of which work has been done on co-operative principles, the total expenditure being about £8,000. All this has entailed a considerable amount of office-work in the preparation of plans, contracts, and vouchers, ninety-five contracts having been prepared, let, and paid for during the year, in all of which work I have been greatly assisted by the steady and reliable aid of Mr. C. F. Dowsett. In addition to this, I have had to report on many matters connected with settlers and local bodies, the latter work being neither pleasant nor profitable, and have dealt with a considerable amount of correspondence, imprest matter, and book-keeping, not to mention the large portion of my time that has been absorbed in the preparation of periodical returns.

ROBERT H. REANEY, Road Surveyor.

#### MARLBOROUGH.

*Kenepuru-Manaroa.*—This is the continuation of the bridle-track from Gullery's, at Torea Neck, on the Kenepuru Sound, skirting that sound towards Waitaria, where it will connect with the track already formed over the Saddle into Manaroa. During the year 8 miles 4 chains have been made. Four men and an overseer have been continuously employed. It is expected that connection with Waitaria will be made about June.

*Nydia Bay-Havelock.*—This is also a continuation of a bridle-track along the shore of Pelorus Sound, commenced at about three miles from Havelock. A party of four men and an overseer have completed 18 miles 16 chains. The work was stopped at the end of January for want of funds. There are still three miles at each end, or six miles in all, which require forming before the track will be complete.

*Ronga Valley.*—This is a bridle-track commencing on the Main Road to Nelson, near the Brown River, and running up the Ronga Valley; over the Saddle by an easy zigzag, and down into the Croiselles Harbour. The distance formed was 9 miles 66 chains. There is little or no traffic at present on this track; but, should the land in the Ronga Valley, which was surveyed for a special settlement, and also the available land beyond, be thrown open, it will be useful.

*White's Bay-Robin Hood Bay.*—A sum of £40 was spent in forming a mile and a half and in improving two miles and a quarter of this track.

*Nelson-Havelock.*—The Pelorus Road Board spent £100 in the construction of two small bridges, which cost £71, and the balance was spent in metalling 17 chains. There is a long stretch of this road on both sides of and near the Pelorus Bridge which is in a very bad condition for several months in the year, and the funds at the disposal of the Board are quite inadequate to keep it in proper repair.

*Havelock-Mahakipawa.*—A sum of £570, being part of a Government loan, was spent by the Pelorus Road Board in forming 1 mile 67 chains. And the Havelock Town Board has let contracts for two bridges, having an aggregate length of 127ft., and 26 chains of embankment faced with stone. These works are across the flat at the mouth of the Kaituna River; to be paid for out of loan and subsidy. It is expected they will be completed about the end of April. The completion of this road, connecting as it will Mahakipawa and the Grove with Havelock, should prove a great boon to the public. If the bridle-track between the Grove and Picton were widened into a cart-road, wheeled traffic between Picton and Havelock would be established; but at present there appears to be no necessity for this.

*Kaituna-Tuamarina.*—The Pelorus Road Board has formed and metalled 1 mile 45 chains, at a cost of £200, out of Government grant. As the traffic between Blenheim and Havelock, *via* Renwicktown, is frequently interrupted by floods in the Opawa and Wairau Rivers, this road is an important one, and should be kept in good condition.

*Redwood Pass.*—The sum of £500 was granted to the Omaka Road Board for forming and widening this road, of which 1 mile 45 chains has been completed. As the Redwood Pass is several hundred feet lower than the Taylor Pass, and there are not any rivers to cross this side of the Awatere, this road will probably become the main south road.

*Spring Creek Wharf.*—A further grant of £25 was made to the Spring Creek River Board for the completion of this work.

SIDNEY WEETMAN, Chief Surveyor.

## NELSON.

*Nelson-Havelock Bridge.*—On fifteen miles of this road, which is within this district, the Waimea County Council has expended £43 4s. 6d. out of county funds on repairs. Owing to late floods the road is in a bad state from want of metalling, and will become almost impassable unless a further amount is expended before the coming winter.

*Nelson, Westport, Greymouth, Hokitika Main Road.*—The Waimea County has expended the sum of £225 5s. 9d. on maintenance, and repairs of damages by floods. The Buller County has spent the sum of £500 on maintenance, and the Inangahua County £824 11s. 4d. on repairs and maintenance, including renewal of one bridge, 56ft. span, at the White Cliffs.

*Belgrove-Tophouse and Tarndale.*—The Waimea County has expended £80 8s. 5d. in general repairs on a length of thirty-eight miles between Tophouse and Belgrove. The part of this road between Tophouse and Tarndale requires the expenditure of £150 for repairs of road over slips and renewal of a bridge in the Wairau Gorge, now unsafe for traffic. A sum of £50 has been granted for protection works and repairs on the Slips Road. These works are in hand, and will be completed about the end of April next.

*Riwaka Valley Bridle-track.*—There has been no expenditure upon this track during the year.

*Takaka-Riwaka Road.*—£200 has been expended in improving and metalling this road from Bates's to Lindsay's, a distance of about three miles. Contracts Nos. 1, 2, and 3 have been let on the East Takaka road extension for a length of three miles of construction, by the Collingwood County, for the sum of £1,509 8s. 4d., and is now in progress. Tenders will shortly be called for contract No. 4 for a further length of 50 chains for widening and metalling, and No. 4A for the construction of a bridge of 41ft. span over Gorge Creek.

*Little Sydney Road.*—A further extension of one mile and a quarter of bridle-track, 5ft. wide, through rough hilly country, has been constructed with necessary box culverts, ford-ways, &c.

*Pigeon Valley-Dovedale.*—A contract is being prepared for a further section of 60 chains of dray-road 16ft. wide. An additional sum of £250 is urgently needed to enable the Waimea County to complete this road, as the old road now partly in use has been so much injured by floods that to make any extensive repairs would only be a waste of money, as when the present road now under construction is completed, the old line with very steep grades will be abandoned.

*Wairoa Gorge Road.*—The old track over a very steep bluff has been abandoned, and 11 chains deviation of a 6ft. wide track has been formed, at a cost of £71 10s., principally rock-cutting.

*Ngatimoti Bridge.*—A contract for the erection of this bridge has been let for £528 13s., and the work is in progress. The span is 309ft., over the Motueka River, and the structure is a wire-rope suspension bridge. The anchorages are completed; but, in consequence of the looseness of the banks, extra work will be required, and it is necessary to have a competent inspector over the work. The cost will be defrayed from a vote of £430, and a loan under the Loan to Local Bodies Act for £400.

*Mud-flat, Karamea River.*—No work has been done on this road during the year.

*Karamea-Wangapeka.*—About two miles of this bridle-track, with dray-road grades as far as can be obtained, will be surveyed shortly, and work put in hand at the Karamea end. A further survey, in continuance of the track existing up to the Wangapeka Saddle, will be put in hand as soon as the snow permits.

*Matakitaki Road.*—The widening of the old bridle-track into a dray-road has been completed for a distance of two miles and three-quarters at a cost of £1,024, of which half is borne by county.

*Mangles Road.*—Two contracts were completed early in the year for a length of 1 mile 64 chains, including clearing, culverts, formation, and metalling of 9-foot dray-road, at a cost of £354 10s.

*Larry's Creek.*—No work has been done on this during the year.

*Fox River Bridge.*—A contract has been let for the partial re-erection of this bridge, and the construction of a new embankment on the north bank, and the work is in progress.

*Railway (Beach)-Millerton.*—The Buller County has constructed 2 miles 58 chains of bridle-track, at a cost of £861 8s. 2d.

*Graham River Bridge.*—A substantial bridge of 30ft.-span has been erected by the Waimea County over the Graham River, on the Nelson-Blenheim Road, at a cost of £154 19s., of which £125 has been contributed by the Government and the balance from county funds.

*Purchase of Land for Roads.*—A sum of £14 has been paid for land taken for road through Section 169, Square 6, Waiiti Survey District, to give access to back lands.

*Takaka and Mount Arthur.*—No expenditure on this has been undertaken during the year.

*Lyell-Eight-mile Road.*—A special sum of £600 was granted to the Buller County for repairs after floods. Repairs have been made extending over a length of nine miles, including two new bridges and repairs to two others, fifteen box culverts, and remetalling seven miles in length. This work is now completed.

*Promised Land to Johnson's.*—Three contracts have been let by the Buller County. The work in hand consists of widening horse-track into dray-road, 60 chains; re-erection of bridge of 40ft. span over Johnson's Creek; erection of small bridge over Jordan's Creek, with approaches, and redecking two others; widening road in places, and general repairs. The work will be completed about the end of April next.

*Totara and Nile Bridges, Repairs.*—The sum of £95 has been granted to the Buller County. A contract has been let for repairs to the Totara Bridge, but no work is in hand on Nile Bridge.

*Brooklyn Valley Road.*—The Riwaka Road Board has completed 1 mile 16 chains of bridle-track 6ft. wide on siding ground, with necessary culverts, ditching, &c., and 20½ chains of 5ft. track, with stone retaining-wall.

JNO. S. BROWNING, Chief Surveyor.

## CANTERBURY.

*Pukaki to Mount Cook Road.*—A sum of £290 18s. 3d. was expended on this road during the year, being £40 18s. 3d. in excess of the amount voted. The work, which was carried on between the 10th November and the 20th December, comprised 147 chains formation, 12ft. and 16ft. wide, through rough stony country, 20 chains being through swamp; besides all necessary drains, culverts, repairing fords after flood, and opening water-tables in cuttings made last year. The work being found unsuitable for the co-operative system, the fourteen men were employed at the rate of 8s. per day, the overseer receiving 9s. 6d. per day. Mr. District Surveyor Brodrick, who laid off and supervised the work, reports that the road may now be considered good between Glentanner and Birch Hill, a part which was formerly an exceedingly rough section; and, as a whole, that, considering how extremely hard some of the boulder-beds were, the work has been well and creditably done.

*Le Bon's Bay Jetty Road.*—This work comprises repairing the existing sea-wall, building new portions in rough rubble set in cement mortar, constructing a raised coping, breaking and spreading metal, and cutting away projecting cliffs in places. The works were carried out by the Le Bon's Bay Road Board, at a total cost of £607 9s., the Government subsidy being £375, and was completed in January last. I have deferred passing the balance of the subsidy—£75—pending an opportunity of finally inspecting the works.

*Akaroa Lighthouse Road.*—This work, which is to be carried out by the Akaroa and Wainui Road Board, under grant of £100, is deferred, pending an understanding being come to as to the portion of the road to be formed. It is proposed to divert the road through private property.

*Gough's Bay and Waikerakikari Bay Roads.*—These works, which were carried out by the Akaroa and Wainui Road Board under Government subsidy, pound for pound, to the amount of £300, were reported to me completed in October last, at a total cost of £600 18s. 6d. On inspection I found that they had been carried out in a satisfactory manner. The amount voted—£300—has been paid to the Road Board.

*Summit Road.*—The only work carried out on this road during the year by the Akaroa County Council, under pound-for-pound subsidy to the amount of £300, was improving the formation of 27 chains, at a cost of £39 14s., at the old Pigeon Bay Saddle. I inspected the road, and found the work completed in a satisfactory manner, and therefore recommended that the amount due to the Council to date be paid over; this amounted to £71 1s. 3d., being £51 4s. 3d. due on works completed last year, and half this year's expenditure, £19 17s. The balance of the subsidy—£3 18s. 9d.—is to be expended in metalling the improved formation.

*Hokitika-Christchurch Road.*—This road has been well maintained during the year, at a cost of £1,548 10s. 6d. The works comprised the usual re-forming, shingling, bringing the road up to a uniform crown, repairing damages caused by heavy rains and floods, and the erection of a roadman's hut at Porter's Pass, at a cost of £64 5s. In June, owing to two days incessant rain, a flood occurred, which destroyed the fords, and carried away three portions of the new road at the Bealey. Again, in March, owing to the same cause, the heaviest flood known during the last six years took place, delaying the coaches at Bruce's Creek from Friday till Sunday, blocking the Waimakariri cutting in three places with slips and boulders, besides carrying away, in many places, the outer edge of the road in the Bealey Valley, destroying all the Waimakariri fords, and undermining  $1\frac{1}{2}$  chains of the cribwork at the new cutting in the Bealey. By engaging additional labour, and by the men working overtime, the road was put into a passable state in two days. As frequently reported, there are many miles of the road worn out, and which consequently require re-forming and shingling. (See also pp. 55, 56, and 57 for details of Westland portion.)

*Hokitika-Christchurch Road, Bealey Valley Deviation.*—This work was carried out between the 1st April and 15th September, 1893, at a cost of £1,129 13s. 6d., on the co-operative system, with the exception of a small portion which could not be very well let by contract. The work comprised flat formation, sideling, block-cutting, cribwork, log culverts, open water-crossings, &c. Several slips and four breaches occurred during progress, which made it necessary to cut the road back into the solid in order to secure a width for safe traffic. The road as now completed will require very little metal.

*Road in the Hurunui Gorge Village Settlement.*—This work was carried out by the Waipara Road Board, under a Government grant of £25, to enable the settlers who have built on the flat below the terrace to gain easy access to the main road above the terrace, and also to serve the settlers in the back portion of the block, who were previously obliged to cart their firewood six miles from the bed of the Hurunui. The work as agreed upon was undertaken exclusively by the settlers, who completed it in a very satisfactory manner.

*Alford Forest Village Settlement Roads.*—These works, which comprised 81 chains formation, in addition to draining and shingling, were carried out by the Mount Somers Road Board, at a total cost of £97 13s. 2d., the Government finding £50 of the amount. The works were completed entirely by the villagers in a satisfactory manner.

*Lake Ellesmere Drainage-works.*—This work is being carried out by the Selwyn County Council under a Government grant of £750, and comprises excavating the bed of the canal cut to form an outlet to the Halswell River to an average depth in the centre of 1ft. from the present bed, and a top width of 30ft. The same width and a uniform depth of 3ft. is to be secured along the old bed of the River Halswell, from the intake of the canal to a point in the Ahuriri Lagoon, and a cutting has to be made through an elbow in the river near the outlet of the canal. A contract for the sum of £550, which was let in December last, has made satisfactory progress.

*Cheviot Roadworks.*—The report of Mr. F. Stephenson Smith, District Surveyor, who has control of these works, show his operations on that estate.

J. W. A. MARCHANT, Chief Surveyor.

## CHEVIOT ESTATE.

*Homestead-Waipara Road.*—The length of this road is 581 chains. This includes the road from the white gate near The Willows to the north end of the Hurunui-Greta Bridge, all the formation of which may be said to be completed with the exception of about half a chain forming the south abutment of Benmore Bridge. This cannot be completed until the stringers are across to support the abutment. The formation has cost £4 15s. 6½d. per lineal chain, which includes all the pipes, ditches, hollow fords, &c., but when the works are completed we shall have probably to increase this slightly. The shingling, of which 184 chains have been completed, has been done well, at a cost of £1 6s. 3d. per chain, exclusive of supervision, searching for gravel-pits, &c.

The only bridge on the line is the Benmore Bridge, the total cost of which is £496 6s. 10d. This includes all the charges to date, but not the cost of erection, which will be about £50 more. The carting done on the timber from the Port cost 2s. per superficial hundred, which I think is very reasonable.

Turner's Creek concrete culvert cost £82 14s. 3d. The cost per cubic yard has been for concrete £1 4s. 5½d. This includes the foundations and everything. The shingle was good, abundant, and handy. The three small bridge-culverts cost £90—carting, labour, &c.—but does not include the timber on hand at the Port, the value of which is probably fully £50.

The temporary bridge at Benmore cost £60 17s. Much of the timber will be recovered, and used in other works.

The engineering and supervision cost £531 2s. 2d., including Messrs. Thornton, Napper, Hutton, and part of Mr. Fraser's and my own charges. Considering the amount of attention required for this class of work, and the numerous changes of management, I do not think this is excessive, because, although it may appear a large sum, it should be remembered that, when the road is completely metalled, the bridge finished, &c., it will considerably increase the totals; but little will have to be added to the supervision. This road, when it is completed, will, I believe, speak well for Mr. Thornton's skill and attention, and be a credit to the department.

*Homestead, Port Robinson Road.*—The formation is 440 chains out of 530 chains, the total length from the Port to the township, and has been nearly completed. The uncompleted portions are a portion of the big bluff, and a small piece near the Buxton. The cost per chain is about £16 17s. 6d., but, by the time the shingling, bluff, and other things are completed, I fear this will be exceeded. Metalling, of which about 114 chains have been completed, cost £1 10s. per chain. This is due almost entirely to the fact that a great part is broken stone, as gravel is only available in a few places. The cost of quarrying and breaking varies very much, as there is a great difference in the hardness of the stone. I fear we shall not be able to greatly reduce the cost per chain on the remainder of this road, as the gravel is confined almost exclusively to the Gore Bay Section. Jed Bridge, £331 17s. 8d., has been charged against this bridge, and includes everything except cost of erection of superstructure, which should not exceed £20. The concrete cost about £1 17s. 4d. per cubic yard in this place, as the sand and much of the gravel had to be carted from the beach. This is slightly heavier than at Turner's Creek.

The two concrete culvert-bridges at Gore Bay cost £183 11s. 2d. The concrete for these cost nearly £2 per cubic yard.

The bridge at Seddon Street has cost, so far, £69 13s. 9d. This is chiefly survey charges, progress-payments, &c. The bridge has one abutment up, the centre pier made, and part of the other abutment well forward. It was found necessary to add another span to this bridge, as the recent rains showed conclusively that it would not be wise to attempt to keep the stream within 25ft., as the volume of water which came down in the recent floods was most surprising.

The concrete culvert at Limestone Creek cost £116 5s., or at the rate of £51 1s. per cubic yard of concrete. The reason of this is that a bad rock foundation had to be taken out. Wooden box culvert, 4ft. x 4ft., cost £22 5s. 4d. I fear this will not last long, as there is so much travelling slough in the streams here when in flood that the timber will soon be scoured away.

Surveys and supervision and general management cost £714 11s. 7d. This large item is mainly due to the intricate nature of the surveys on the bluff and the necessary close supervision required in works of that nature. It has also been viewed as a kind of stock job, and a great deal of broken-weather charges has gone down against it, when perhaps it should have been fairly charged against other services.

*Port Robinson-Hurunui.*—The distance from the Port to The Willows, on the Waipara Road, is about 530 chains, 240 of which have been completed only so far as the formation goes, at a cost of £1,112 15s. 10d., or at the rate of £4 12s. 9d. per chain. This merely includes the earthwork, pipes, drains, &c. The gravelling done is only a few chains in the soft places. The concrete culvert at Puschell's Creek cost £70 8s., and is a thoroughly good job, although the late rains tested it pretty well, as it was *quite* full, and only just managed to take the storm-water. The cost per cubic yard of concrete was £2 0s. 4d., which is due to the long way the shingle had to be carted (from the Hurunui river-bed).

Surveys, supervision, management, &c., cost £209. This, of course, includes the whole of the survey, from about half a mile from the Port to The Willows. It was made considerably heavier than it should be on account of the difficulty in getting anything like a fair grade over the hills.

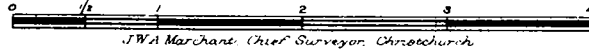
*Homestead, Leamington.*—Length, 522 chains, out of which 207 chains of earthwork have been completed, but only a few pipes have been placed, and no gravelling has been done. The cost of formation, so far, has been £6 1s. 10¼d. per chain. This is owing to the heavy cuttings out of Frog-hall Creek. Bridges: Only £5 has been put down against this, which represents surveys and plans for No. 2 Creek. The supervision and surveys have cost £102 5s. 11d.; this includes the surveys of the remainder of the road down to the township. The construction of this piece will not cost very much, because it is all easy flat formation. I would suggest that this work be not undertaken yet, as the road is as good as it can be until metalled; but the gravelling of the portion already formed

# THE CHEVIOT ESTATE

Messrs M<sup>c</sup>Clure, Mathias & Montgomerie,  
District Surveyors,  
& Cunningham, Roddick, Farnie & Adams  
Assistant Surveyors.

1894

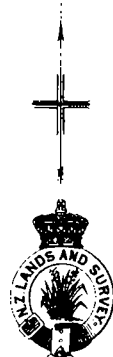
Scale of Miles



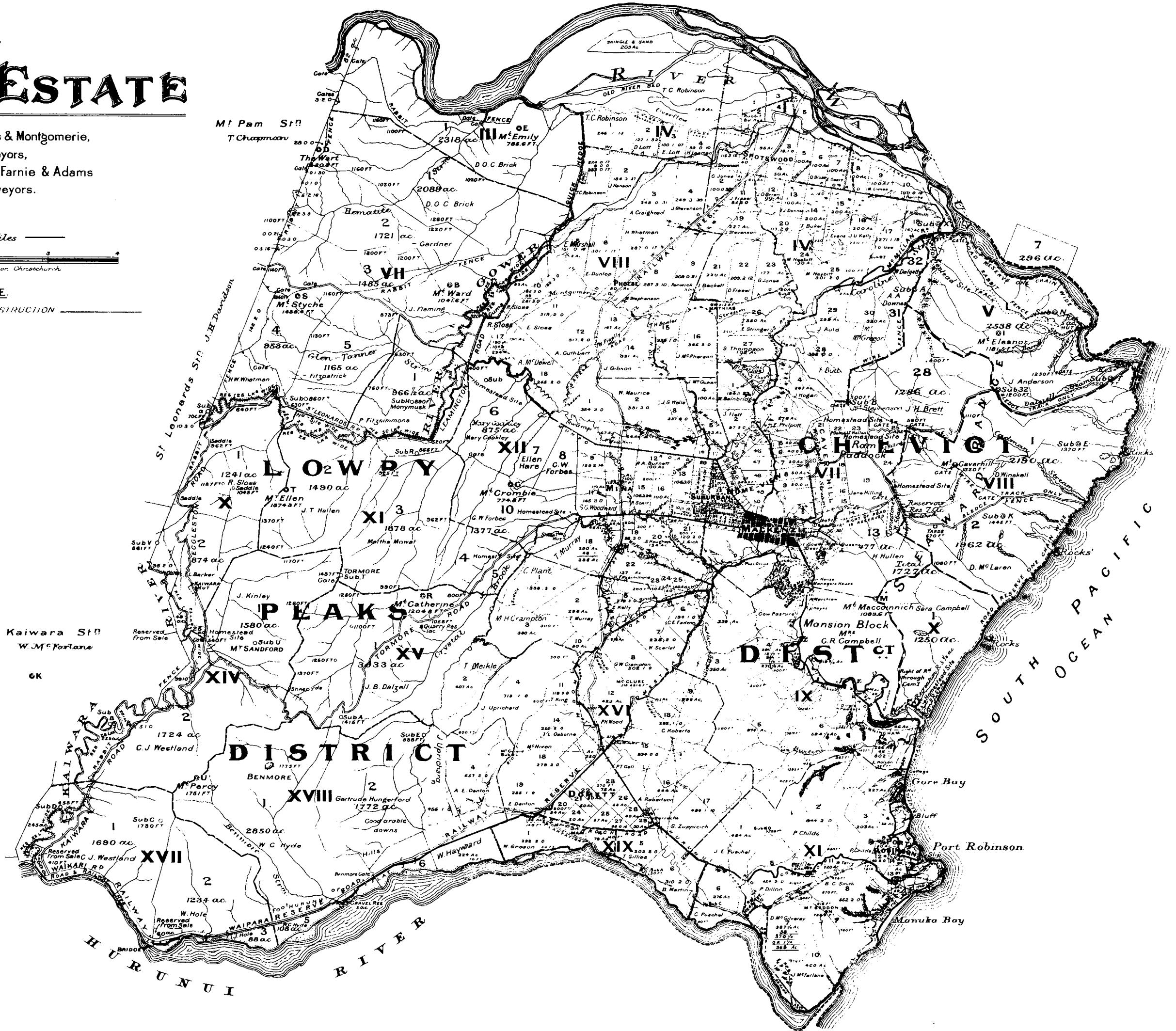
J.W.A. Marchant Chief Surveyor Christchurch

REFERENCE.

ROADS CONSTRUCTED AND UNDER CONSTRUCTION



S. PERCY SMITH  
Surveyor General







between Froghall and the Leamington Junction should be done, if possible, to preserve the cutting. This road appears to be more used than any of the roads except the Port roads, Hurunui Flats, and the Waiiau Road.

*Sinclair Road.*—Length, 255 chains, all of which has been surveyed, but only about 20 chains formed. This is the cuttings into and out of Swamp Stream, and the bank over the stream flat. The cost has been for formation, £87 10s., or £4 7s. 6d. per chain. The total cost for surveys, formation, and supervision has been £124 18s. 9d.

*Parnassus Road.*—Length, 518 chains, 25 only of which have been completed, but more is in hand. We have three parties of settlers, and three of co-operative men, also one contractor (Corcoran), working at schedule rates. The cost of formation has been £263 13s. 8d., but, as most of it has been progress-payments, and cost of some material, it is not worth working out at per chain. The surveys have cost £110 7s. 5d., and the supervision £19 8s. 9d., which, with tents, tools, &c., makes a total of £393 9s. 10d. up to date. This road is gradually getting fenced in, which has obliged us to do just the most urgent parts first. This, of course, considerably adds to the cost of the work.

*East Waiiau Road.*—Total length, 211 chains, of which 91 have been completed as far as the earthwork, at a cost of £512 2s. 3d., or £5 12s. 6d. per chain, the high cost of which is due to its being through a swamp, where a high bank is required to keep it dry. The stuff has been got out of the ditches, and, although it has made a splendid road, it will not be of much use to the settlers until it is consolidated and gravelled. We have let a small contract to some settlers to continue the ditching lower down, and, when a few cuttings are made down the river terraces, access will be given to the river-bed, &c., but a gate will be required through the rabbit-fence first. The cost of surveys, supervision, &c., has been £29 6s. 8d., and the total expenditure, £541 18s. 11d. It will be necessary to put in a box culvert on the stream near Mr. Kelly's house to open this road to the eastern end.

*McMillan Road.*—Length, 240 chains. Only one cutting and bank of 3 chains has been made, costing £9 14s. 2d., or £3 4s. 9d. per chain. This was simply a deep gut, which had to be filled in to allow the settlers to cross. A small contract has been let to some settlers to make a ford over the Swamp Stream near the junction with Parnassus Road, and a considerable amount of work has to be done to give access down this road to the second crossing of the stream, where a 50ft. bridge will be required. I am sorry we are not able to push on with this road faster, as it forms the only means of access to the holdings at the bottom end, and also will be the road to the trans-Waiiau bush. We propose shifting the men from the East Waiiau Road over to the heavy cutting at the lower end of this road. This road forms the best access to Grazing Farm 1, of Block V., and Mr. Anderson cannot well get his fencing on to the ground until it is opened.

*Campbell and Elizabeth Roads.*—The former has only been partly surveyed, and nothing has been spent on either of them beyond the cost of surveys; but some bridges, banks, and drains are urgently required on the Elizabeth Road, as several settlers are living up that road, and have a long way round to go to get at their homesteads. It is too late in the season to do more than put in the culvert-bridges and open drains; to form it would only make it worse.

*Domett Saddle Road.*—The contractor has made good progress with the post-office section of this road. I do not see the slightest prospect of his being able to complete this road this winter, and, even if he did, we could not, I fear, shingle it, as the ground is too soft to cart over, the shingle not being handy to this road. We are endeavouring to get the banks, &c., past the post-office shingled while this dry weather lasts. If we fail in that we shall be in a bad case there this winter.

A large amount of work has been done this month in repairing the road to the Port, especially the piece by the white gate between Puschell's and Darroch, on the Hurunui-Port Road. The rain formed a large lagoon on this flat, and we had to cut a drain to get the water off the road. This drain was cut through Section 7, Block XI., Cheviot Survey District, to drain the water off the lagoon on Section 6 of Block XI.

According to our measurements 1,607 chains of road have been formed, at a total cost of about £18,750 2s. 6d. This sum includes many things that have not been paid for, chiefly material. Our actual expenditure is £17,464 12s. 7d. up to date. This also includes material. No proper cost can be got out at this period of the works, as they are all only in progress. The engineering and supervision, as shown here, come to over 10 per cent.; but it should be remembered that this includes surveys for the whole 4,098 chains, and will not be materially increased when the works are all completed. The necessary fragmentary style of the works adds very much to the cost of both surveys and supervision.

I do not see how we can well reduce this item. We have, besides myself, two Road Surveyors and parties, one draughtsman and clerk, one Inspector, and one timekeeper for about 150 men, or about thirty parties, scattered all over the estate. Both Road Surveyors' time is now fully taken up in affording access to the various holdings, so that I do not see any prospect of doing with less.

Every class of labour is now offering from among the settlers, who, now they have carted most of their material, are offering their carts and themselves. The difficulty is in finding work for them; in fact, we simply cannot do so and keep within the authorised expenditure per month.

I attach two lithos showing roughly—first, the state of the surveys; second, the state of the work; also a general table and a report on co-operative works.

F. STEPHENSON SMITH, District Surveyor.

#### WESTLAND.

*Hokitika-Christchurch Road.*—The portion of road under the charge of the Lands and Survey Department, Westland, extends from Arthur's Pass, Otira Gorge, to within seven miles of Kumara, and from this point about three miles along the old road towards Hokitika.

The principal works undertaken on this road during the year have been the construction of several deviations between the Taipo and McDonald's. These were necessary for several reasons. The first was that at various points the grades were difficult and objectionable both for coaching and general traffic; the second was that in many places the Teremakau River had been steadily encroaching for years towards the road, and had thereby destroyed a great extent of good land, and would no doubt ultimately take the road with it. This had necessitated several alterations in previous years, and the former Chief Surveyor had decided upon carrying out some extensive alterations of the route, so as to obviate the difficulty in so far as the worst places were concerned. As it was decided to carry out these works on the co-operative system, careful surveys were made and the work was laid out on the best lines obtainable. This enabled the Inspector to accurately estimate the value of work to be done and to allocate the contracts and the parties to the best advantage. The prices were fixed so as to give fair wages to the men. The weather, however, greatly interfered with this arrangement, making the results in a few cases somewhat unsatisfactory. The co-operative system had in these works a fair trial. Taking into account the broken time, and also the fact that a great many of the men were inexperienced at roadwork and bushfelling, the average wages earned proved satisfactory.

The total length of the deviations was 315 chains, and the cost, including the rock-work benching previously referred to, amounted to £3,672. This gave employment to a good number of men for upwards of eight months. These deviations have greatly improved the road for general traffic, besides removing it clear of encroachment of the river; and already the old road has in several places been completely washed away by recent floods. Another benefit, although not primarily intended to be such, is that the Midland Railway Company will be enabled to get past a difficult place without interfering with the road, as they otherwise would have done.

The remainder of the road almost throughout the year was in splendid order—the cribbing had been renewed in many places, the river- and creek-crossings were clear of boulders and safe to ford, and everything promised a moderate expenditure for the ensuing year. A heavy rainfall, however, set in on the 16th and 17th March, flooding the Teremakau and Otira Valleys, and sending an immense stream against an extended piece of cribbing at a point known as Selby's. This ultimately gave way, scouring the road with it for 10 chains. Immediately the flood subsided fords were made to allow the traffic to pass, and a party of men are now at work restoring the cribbing, at an estimated cost of £300. Unfortunately, at this point there is no way of taking the road except along the river, and, as the trend of the stream is towards this place, the work of maintenance will always be a source of anxiety and expense. Should the Midland Railway Company's works go on the embankment necessary for this line will be on the river-side of the road and thoroughly protect it from any future encroachment.

The Gorge portion of the road is now in good order, with the exception of the two wooden bridges crossing the Otira River. These have been strengthened and secured to the best advantage, but all that can be done is only patchwork, as the bridges are not only too light for traffic, but are practically done. (See also p. 53 for details of Canterbury portion.)

*Greenstone-Teremakau Road.*—I received instructions to proceed with the expenditure of this vote nearly two months ago. The surveyor I sent to take the necessary cross-sections on the old surveyed line found that the route as laid out under the direction of the Grey County many years ago was not only a very expensive but also an unnecessarily tortuous route. This necessitated a resurvey of the greater part, with the result of a saving of 48½ chains in a distance of 3 miles 51 chains, besides taking the road on less difficult grades and over easier country.

*Cook's River Southward Road.*—There has been no expenditure in connection with new works on this road during the year.

*Gillespie's to Manakaiiau Road.*—The works undertaken in this locality are the survey of a new track commencing about a mile and a half north of Cook's River and terminating half a mile south of Ohinetamatea River. In addition to this, works are now in progress making a deviation of the track at Karangarua River.

*Makawiho to Mahitahi and Jacob's River to Bruce Bay.*—These two votes have been grouped, and the expenditure spread over the road between Hunt's Beach and Bruce Bay. The portion of the main road from Hunt's Beach to a point a mile south of the Makawiho River, which had been originally badly constructed, was put in thorough repair, and a new bridge erected across the Manakaiiau River. From the point above referred to it was deemed advisable to deviate towards Bruce Bay, leaving the unconnected portion of the main south road to be undertaken at some future time. This deviation, including a bridge across the Papakiri River, has also been completed. These new works, repairs, and bridges have cost a considerable sum, but the advantages to southern travellers and settlers more than counterbalance the outlay.

*Lake Mapouriki to Franz Josef Glacier.*—This vote has been expended on the construction of a tourist track along the south bank of the Waiho River to the Franz Josef Glacier. During the progress of this work a great flood occurred (the highest on record), which destroyed portion of the constructed track, necessitating a further outlay and a deviation from the original line. This road opens up the beauties of the glacier most easy of access in Westland, and will no doubt be used by many during ensuing seasons.

*Haast Pass Track.*—The works undertaken during the year have been limited to repairs of track, renewing culverts, clearing trees from track, and keeping it open for traffic. The expenditure necessary in connection with a new track round the Clark Bluff proved to be in excess of the money available from vote. I intend asking for a further sum for this necessary work.

*Nelson, Westport, Grey, and Hokitika Road.*—Towards maintenance of this road I have certified to the following expenditure, viz.: Grey County, £300 (vote £600); Westland County, £412 10s. (vote £450); Brunner County, £67 (vote £67); total, £779 10s. These roads I have inspected from the boundary of Inangahua-Grey Counties to Hokitika.

*Westbrooke Protective Works.*—Prior to taking charge, the late Chief Surveyor passed the first portion of this work. The remaining contract was passed by me, and the unexpended balance of grant to Grey County Council exhausted by this payment.

*Paroa to Teremakau Road.*—This road has been partly formed and metalled, and the work passed by the Resident Engineer, Greymouth.

*Hungerford Bridge.*—This bridge has been extended and repaired by the Westland County Council, and the work and expenditure of vote duly certified by me. The contract and extras exceeded the vote by £55 9s. 6d. This amount the Council now asks should be refunded.

D. BARRON, Chief Surveyor.

#### OTAGO.

*Te Anau to Sutherland Falls.*—Last December Mr. Donald Ross and three bushmen were employed to look after the track during the tourist season. They kept the track free from undergrowth, repaired the bridges, &c., and, in addition to carrying a monthly mail from Te Anau to Milford Sound, they erected a substantial two-roomed hut at Half-way Camp, and it is now called "Terrace Hut." The arrangements this year were spoken so well of by the tourists that I have recommended (in the estimates) a similar arrangement for next year.

*Waitati Road.*—A contract for re-forming and metalling 25½ chains of the worst portions of this road was satisfactorily carried out under the supervision of Mr. Nicolson. The contract for breaking the metal required was let under the co-operative system.

*Ratanui Road.*—This road was made (to standard width) along the south side of Catlin's Lake for a distance of 57 chains. I trust that a sufficient sum will be available this year to continue this road further down the lake.

*Hunt's Road.*—A distance of 3 miles 4 chains was cleared, stumped, and partly formed, so as to give the settlers access to the school. On this road the stump-extractor was used to advantage.

*Main Catlin's-Waikawa Road.*—The portion completed during the past year extended from 16 miles 58 chains to 17 miles 52 chains, a distance of 74 chains. This was all the vote would allow. I trust that this year we will be able to complete the unfinished portion of this road, and thus have access through to Waikawa. A contract was let for re-forming and claying about 25 chains of the main road from McKenzie Bridge to Moncur's. This contract has now been completed, and the remainder of the vote will be spent in claying the worst parts of the road between the swamp and the saddle.

*Roads in the Woodland District.*—*Long Point Road:* A distance of 3 miles 16 chains of this road was formed during the year. The bush was felled 40ft. wide, with the formation 10ft. This had afterwards to be reduced to 6ft., so as to make the money go further. The bridge over the Purakanui is now in course of construction.

*Kaler's Saddle and Purakauiti Roads (2½ miles).*—This road was completed shortly after the close of last financial year. The bridge over the Purakanui and the removal of several rocky points were undertaken and completed by the gangers during the winter months.

*Block VIII., Woodland:* The contracts (1 mile 17¾ chains) on this road were completed shortly after the close of last year.

*Pomahaka Estate Roads.*—There are now twenty-seven men on these roadworks, and they are pushing on fairly well with their work. The absence of good building-stone has somewhat delayed the forming of the culverts.

*Vincent County Council.*—Road Kawarau to Nevis: This work was let in two contracts, and consisted of 85 chains of sidling formation, culverts, and retaining-wall. The cost to the county was £200. Approximate area opened up, 1,000 acres.

*Waihemo County Council.*—Road in Run 109: This vote was spent on re-forming 69 chains of the main road through the run, and thus benefiting generally the area of the whole of the run, subdivisions containing approximately 18,000 acres.

*Maniototo County Council.*—Roads in Swinburn Homestead Block: This work was let in three contracts, and comprised 285 chains of formation and 110 chains of chipping, or a total of 4 miles 75 chains. Twenty-five chains were gravelled, and twenty culverts put in. Roads in Gimmerburn and Naseby Districts: This work was let in three contracts, and comprised 301 chains of formation and 160 chains of chipping, making a total of 5 miles 61 chains. One hundred and sixteen chains were gravelled and twenty-two culverts put in. Roads in Swinburn District: Four contracts were let for this work, and 2 miles 42 chains of formation were completed. Of this, 85 chains were gravelled and ten culverts put in. The total cost of these works to the county was £850. The formation of these roads has given access to, approximately, 12,850 acres.

*Bruce County Council.*—Roads in Block XI., Clarendon District: A sum of £100 has been spent on forming road leading to Taieri Mouth Special Settlement through Block XI., Clarendon District. The total length of road made was as follows: Formation, 67 chains; stumping, 36 chains; and bush-clearing, 70 chains: making a total of 2 miles 13 chains. Area thus rendered better accessible, 800 acres. Roads in Block II., Clarendon District: With this vote the road along Sections 29, 30, and 32, Block II., Clarendon District, has been re-formed for a distance of 66 chains.

*Clutha County Council.*—Road in Block II., Catlin's District: With this vote a distance of 50 chains of road has been cleared opposite Sections 18 and 19, Block II. Road in Block I., Woodland District: With this vote the road between Sections 5, 15, and 6, 16, and 17 has been formed for a distance of 60 chains.

*Tuapeka County Council.*—Roads in Tuapeka West and Rankleburn Districts: During the past year the bridge over the Black Cleugh (one 30ft. span and two 15ft. spans: total, 60ft.) was constructed. The cost of this bridge was considerably over the Government grant. 1 mile 7½

chains of road-formation and culverting was carried out in the Tuapeka West and Rankleburn Districts, giving better access to 1,200 acres of land.

C. W. ADAMS, Chief Surveyor.

*Maruenua to Kyeburn.*—Mr. G. M. Barr, who has been engineer in charge of this road, reports:—

These works are seventeen miles from the Tokerahi Railway-station, at an altitude of from 2,300ft. to 3,100ft. above sea-level, and are on the line of road Maruenua to Kyeburn, *via* Dansey's Pass. They consisted of 111 chains of new formation, and the removal of a few small slips, and the placing of a few creek-crossings upon the portion of road partly formed the previous year. The new work extends from the saddle between the Otekaike and the Maruenua, at the head of Turnbull's Gully, on to within 17 chains of the highest point between the Maruenua and the Kyeburn water-areas. The average grade is 1 in 9 $\frac{1}{4}$ , the width of formation is 16ft., whereof 12ft. is in the solid. The material was mostly rock, with a cross section of from 12° to 50° of inclination, but in general running about 25° to 33°. The average cost was 1s. 4 $\frac{1}{2}$ d. per cubic yard, including cost of plant and explosives, the lowest rate being 10d., and the highest 1s. 9d. In almost all cases the rock was lying badly, and was of a texture difficult to blast, and in several of the contracts the whole quantity to be taken out was not great, so that the measurement was small in comparison to the amount of work done. The average price per chain was £6 12s. The average wage was 6s. 4 $\frac{1}{2}$ d. per day, the lowest 3s. 6d., and the highest 8s. 11d., the last being a ten-hour day. I took 6s. per day as a standard in fixing the price of the work, but it is almost impossible to get that as an exact average in practice, partly by reason of the difficulty in fixing a price before the work is opened out, and partly by reason of the great differences in working capacity of the men employed. The number of men varied from forty-eight to fifty-four.

These works filled up the interval between shearing and harvest; and I am pleased to say that when the bulk of the work was completed, and I wanted six or seven men for the slips, &c., on the previously-formed portion, I could not get the full number to remain, the most of the men being of opinion that they could do better among the farmers.

The bridge over the Maruenua River on this line of road has been somewhat delayed, the cause being the indisposition of the contractors for the labour, in erecting it, to go on with the work at the amount of their tender. I am now arranging to have it done by day-labour.

#### SOUTHLAND.

*Kisbee-Wilson's River Tramway.*—This work, which was initiated by the Mines Department, was placed under my charge in May last, and was started for the purpose of developing the auriferous reefs at Wilson's River. Beginning at a point above high-water mark in Preservation Inlet it extends to a distance of 5 miles 5 chains, where it terminates on a claim immediately above Wilson's River. The earthworks, bridges, and sleepers were done under the co-operative system, and a contract has been entered into, and partly completed, for laying the rails and ballast, the amount of this last being £555 1s. 3d., which, added to the cost of construction, will bring the total cost up to £3,895.

*Mossburn-Te Anau Road.*—A vote of £250 was authorised for expenditure on formation and gravelling near Central Hill Station, but tenders have not yet been accepted.

*Mossburn Bridge.*—A vote of £350 has been authorised for expenditure on a stock bridge over Oreti River, near Mossburn. This amount will be subsidised by an additional £350 from the local bodies and large landowners, and plans and specifications are now ready for tender, pending approval of the Head Office.

*Tracks to McLaren's Run.*—The vote of £120 is still unexpended.

*Lillburn Roads and Bridges.*—A good summer road has been formed from the Clifden Ferry as far as settlement extends towards Waiiau mouth; and the remaining portion towards the coast, which is forest, is being felled, logged, and formed where necessary. From the ferry up the Lillburn Valley several contracts are in progress, all under the co-operative system, in the report on which full details will be found. The funds for these works have been furnished mainly out of a loan raised under the Government Loans to Local Bodies Acts, as has also the expenditure on the equipment and maintenance of the ferry at Clifden, amounting to £282, for the period under review.

*Waiiau Bridge.*—This was one of the works noted in last year's report to be proceeded with during the year just ended, but, as it is understood designs are being prepared by the Public Works Department, the matter has proceeded no further.

*Orepuki-Wairaurahiri Road.*—No works since last year, but three contracts, aggregating about £312, have just been let for gravelling, formation, stumping, and ditching, extending over about 140 chains.

*Block XVI., Longwood.*—A loan of £1,400 has been raised under the Loans Acts, and the principal roads have been felled and logged, and formation works are now in progress, all being done under the co-operative system. The details will be found under the separate returns.

*Riverton-Orepuki Road.*—No operations to report, but it is proposed to use the unexpended balance of £100 on further formation, and on a railway-crossing near Pahi, for the convenience of settlers.

*Otautau Bridge.*—The Wallace County Council has been authorised to expend the vote of £500 on this work, subject to the approval of the department.

*Riverton and Colac Bay Road.*—No works to record, but a vote was taken for £200, authority for which has not yet been issued.

*Aparima*.—A vote for £100 was taken, but no expenditure has been authorised.

*Wallacetown-Spar Bush and Waimatuku Flat*.—The vote for £150 has been expended on formation and in gravelling, under the immediate supervision of the Southland County.

*Wright's Bush*.—No works executed since last year.

*Waianiwa to Spar Bush*.—A sum of £100 was spent on gravelling and formation by the Southland County.

*Centre Bush Village*.—An expenditure of £50 has been authorised, but no work done before close of year.

*Centre Bush and Otapiri*.—The vote of £300 was expended in bushfelling, logging, and formation, and a further sum of £250 will be spent in completing this and gravelling the worst parts. This road will give access to some 14,000 acres of Crown land now under settlement survey, besides being a great boon to the settlers already located in and around the Otapiri Valley.

*Forest Hill (Tramway) Road*.—Tenders have been called for 40 chains of formation, ditching, and clearing, but these have not yet been accepted. £100 is available.

*Makarewa-Hedgehope*.—No work since last year.

*Makarewa Village*.—A sum of £15 was spent on bushfelling one of the roads through the settlement.

*Makarewa to Grove Bush*.—A vote of £150 was handed to Southland County, and spent on formation and gravelling.

*Dipton Railway-station to Okaiterua Bush*.—A sum of £50 was spent on formation and gravelling by the same county.

*Reaby Retreat*.—Handed to same county, to be spent on formation and gravelling.

*Gow's Creek Stock Bridge*.—A sum of £50 was voted, but no expenditure yet authorised.

*Gore Bridge (£1 for £2 subsidy)*.—A vote for £1,000 was taken, and plans and specifications prepared, but tenders not yet called for.

*Mabel District*.—A vote of £200 was expended in formation and gravelling by Southland County.

*Invercargill Hundred*.—The sum of £200 was spent in bushfelling and formation, under the same body.

*Seaward Bush Township*.—Arrangements have been made for expenditure of £200 on clearing, formation, corduroying, fascining, and gravelling, under the immediate control of the South Invercargill Borough, subject to work being passed by this department.

*Tisbury-Waimatua*.—The vote of £300 was intrusted to the Southland County, subject to the usual conditions, and was spent on bushfelling and formation. This work will be of material benefit in giving access to portions of Seaward Bush, but it requires to be extended in order to open up that locality properly.

*Clifton to Seaward Bush*.—Although under a different name, the vote of £200 taken for the year 1892-93 was really spent on the Seaward Bush Township roads, referred to above, and was also intrusted to the South Invercargill Borough Council. 2 miles 42 chains were partially formed, drained, gravelled, &c.

*Woodend Streets*.—The sum of £75 was authorised to be spent on clearing, formation, &c., of 51 chains.

*Campbelltown Borough*.—A vote of £500 was taken, but has not yet been authorised for expenditure.

*Campbelltown Hundred*.—The Southland County has let a contract for 80 chains of gravelling, principally on the Bluff Road.

*Oteramika*.—A contract for formation and gravelling has been let under the same county.

*Block I., Oteramika*.—The Oteramika Road Board was authorised to spend £100 on formation and tussocking near the present terminus of the Seaward Bush Railway.

*Waikawa-Otara*.—Two sums of £1,437 and £500 have been authorised for expenditure out of a loan raised under the Acts, and preparations are now being made for expenditure of these by co-operative labour—the first to give access to the recently-opened lands in Blocks II. and VII., Otara, and the second to construct a bridle-track from the Waikawa Township to connect with the road to Waipapa and Fortrose, in order to avoid the inconvenience of crossing a tidal arm of Waikawa Harbour.

*Scrubby Hill*.—Since last report a further sum of £320 has been authorised for expenditure, to complete the road system as far as possible, and works are now proceeding under the co-operative system.

*Makoreta-Tahaukupu*.—The vote of £250 has been diverted from the line named to the Wyndham Valley Road, this route being of more importance to settlers in the immediate future, owing to its being the most direct road to the stock markets at Wyndham. The work will be done by co-operative labour.

*Takanui-Niagara*.—Nothing has been done since last report, as the Southland County was unable to subsidise the Government grant of £300; but as this is a portion of the main Fortrose-Waikawa Road, largely used by settlers and others, it is desirable that the part referred to should be gravelled as soon as possible. The estimate for this is £1,000.

*Waikawa*.—No works since last report.

*Waikawa-Cattin's*.—A large number of men has been employed all the year under the co-operative system on the formation of this road, about thirteen miles and a half of which is now finished and open for traffic, leaving an unformed gap of about four miles to connect with the Otago end. As the whole of this road is in forest country it will be absolutely necessary to make provision for maintenance, and I shall shortly submit proposals for dividing it into sections and offering it to the Chaslands settlers at a fixed price per annum.

*Improved Farm Settlements—Chasland's*.—A separate report on this settlement having been already furnished, I need only state here that so far it promises to be a very successful operation.

*Village Settlement Roads.*—No operations to report.

*Stewart Island Roads.*—A good horse-track has been opened from Half-moon to Horseshoe Bay, and it is desirable to extend this to Lee Bay and Port William as soon as funds will permit. Proposals have recently been submitted for small and miscellaneous works in other parts of the island, including the improvement of the track from Half-moon Bay to Port Pegasus. Some of the blocks recently opened for settlement were brought under operation of the Loans Acts, but so far there has not been much demand for the land.

*Miscellaneous and Engineering.*—Two engineers have been employed—one for part of the year only—and, as the road-works are scattered, and the votes, as a rule, of small amount, it is necessary to utilise the services of the survey staff where possible, and also the local bodies' engineers.

The following is a summary of the work done during the year out of votes or loans under "The Government Loans to Local Bodies Act, 1891": Dray-roads—Length surveyed during the year, 31 miles 45 chains; length completed during the year, 29 miles 29 chains; length in hand incomplete, 44 miles 25 chains. Horse-roads—Length surveyed during the year, 5 miles; length completed during the year, 2 miles. Bridges over 10ft. span—Number completed during the year, 6; length, 242ft.; number in hand incomplete, 3, length, 820ft. (not including Waiau Bridge, about 400ft.).

The above represent the principal works only, as the extent of works to be paid for out of some of the smaller votes cannot be given with any certainty where these have either only just been commenced or not yet started.

*Future Operations.*—These will comprise the completion of Waikawa-Catlin's Road (4 miles), extension of Lillburn and Longwood Roads to amount of loans, gravelling and other works on Orepuki-Wairaurahiri Road, completion of Wilson's River Tramway, roads through Waikawa-Otara Crown lands surveyed and in progress, besides many other minor works which cannot well be enumerated, but most of which have been referred to in this report.

*Land Revenue payable to Local Bodies.*—During the year £2,518 6s. 3d. accrued, but, owing to difficulties which these bodies raised over carrying out the instructions issued by the department, no funds were handed over, and consequently none were expended; but arrangements have now been made which it is hoped will lead to the removal of the obstacles referred to.

G. W. WILLIAMS, Chief Surveyor.

---

## APPENDIX No. 4.—CO-OPERATIVE WORKS.

### AUCKLAND.

A CONSIDERABLE amount of work has been performed under this system.

On the Otau roads a maximum rate of wage (11s. 7d. per day) was earned by a party of men who worked, on the average, twelve hours daily. On the Huntley-Kahuhuru Road the minimum rate of wages was earned by a party of miners who evidently had no inclination for the work, and seldom if ever performed a full day's labour.

The works generally have been well carried out. In some instances, when the men had no previous experience, they did not trim or finish off their work as well or neatly as the more practised hands, otherwise everything has been satisfactory. When the works undertaken are considerable, so that many parties of men can be employed, the cost of the work is practically the same as if let by tender. When the expenditure is small the cost of tools, tents, &c. (which the men will not buy), and the pay of the timekeeper or inspector, absorb too large a percentage of the amount voted; in such instances work has been let in a manner similar to the co-operative system, but it was stipulated that the men found all tools, tents, and other requisites themselves, and finished the works within a stated time; thus only periodical visits of an inspector were necessary, and he was available for other works.

GERHARD MUELLER, Chief Surveyor.

*Stratford Road (Ongaruhe to Stratford).*—In June last five contracts were let, extending over a length of six miles of road. The contract amounts varied from £453 to £629. Four were taken by Europeans and one by Maoris. Work was begun on all at the end of June, or early in July, and all but one of them were completed by the end of December, the other a month later. Four more contracts, of one mile each in length, were let in September and October, one of which has been completed. The average number of men per party among the Europeans was 10.2, or fifty-one men for five contracts. The Maori party averaged 20, but half of these were old men and boys, who should not be counted as average workmen. The highest average wage per man per day earned by the Europeans was 7s. 6½d., and the lowest 6s. 8d., giving a maximum difference of 10½d. per day. The average for the whole five European parties was 7s. 1½d. The Maori party averaged 4s. 1½d. Just one-fifth of the time was lost through wet weather and other delays. Considering the cost of living, which on this work is about 18s. per week, and the hardships endured by the men, in addition to the time and expense in getting to the work, I do not think the wages earned are exorbitant.

The work done comprises formation-works for a road 16ft. wide in side-cuttings and 20ft. wide on the flats, and consists of felling, clearing, grubbing, side-cuttings, cuttings, and banks in earth and in papa rock, drains, small timber bridges, and timber culverts.

It should be noted that the majority of the men engaged on the work are not what would usually be understood by the term "unemployed"; they are mostly men who have had experience

## TARANAKI.

The difficulties in dealing with the co-operative men enumerated in last year's report have this year been considerably lessened, as the men who were sent here last year have become used to the various classes of work, and the local men who have been taken on this year had already a knowledge of bush-work. With earthwork formation all men have, apparently, some knowledge, and at fair rates the poorest man can make a living-wage; and good men can make good wages. The bush-work, however, is different, and new men, especially those from towns, cannot at first make 6s. per day, even at fair rates. Usually, fully one or two months elapse before the men get accustomed to the work, and can make current wages, and this is a fruitful cause of complaint amongst men who are sent here, and have no previous knowledge of bush-work.

As local work has become more scarce in the district, and prices of contracts let by local bodies have declined, so a corresponding reduction has been made in the co-operative prices, and our average now is about the regulation rate—viz., 9d. per hour, or 6s. per day of eight hours. A great disparity, however, exists in the class of men, as, though the average wage may be about 6s. per day, some parties will not make 4s., and others will make 8s. The strongest and most skilled men on a road gravitate together, and the weaker ones are left to form parties amongst themselves. As we cannot have two prices, one for the strong and one for the weak, it naturally follows that the rate per day earned by the various parties varies considerably, and this is accentuated by the fact that the strong men will work longer hours than the weak ones, and thus greatly increase their earnings per working-day.

One of the chief difficulties in dealing with the co-operative men is the frequent changes that are made in the parties. The men show no desire to co-operate with or assist each other; each one simply tries to do the best he can for himself, by joining in with a stronger and better working party than his previous one. As regards the class of work done, it is fully up to the standard of any local work, some of it being exceedingly well done, and the prices of the work will bear comparison with the local bodies' works, excepting that done in towns, when, of course, the competition is keener.

The complaint made last year by settlers that the co-operative men wasted their earnings in drink has now little or no foundation, as any man known to drink or squander his earnings is at once dismissed off the works. The works are therefore now being carried on with fair regularity, by a fairly steady, hard-working lot of men, and at fair prices.

*East Road.*—On the 1st April, 1893, there were but nineteen working on this road. These were gradually increased until, at the beginning of March, 1894, we had 120 men, which number was decreased on the 31st March to seventy-four men, an average for the year of about sixty-one men. The work has been all dray-road formation, including felling 1 chain wide and clearing 33ft. wide. The average wage earned was 7s. 5d. per day, but the average hours worked were 10½, so that the rate was slightly under 9d. per hour. Of course there was the usual disparity in wages, Watson's party making only 5s. per day, and Corcoran's party—specially good men—making 11s. 1½d. per day. This latter was in November, 1893, and the men worked over twelve hours per day. With the exception of the crossing of the Mangaotuku Stream, in the Mangaere Block, over which there is only a pack-bridge at present, there is now a fair summer dray-road to near the saddle between the waters of the Mangaotuku and Makahu Streams.

*Rotokare and Anderson Roads, Mangamingi.*—On the 1st April, 1893, there were fifty-three men working on the Rotokare Road. These varied in number from thirty-nine on the 15th May to seventy-eight on the 22nd August on the Anderson Road, to which they had been transferred on the completion of the Rotokare Road, which, in turn, was completed on the 18th December, 1893, the average number working on the above roads being about fifty-five men. The average wage earned was 6s. 9½d., working ten hours; the highest was 9s. 9d., the lowest 4s. 11d. per day. The work was felling the bush 1 chain wide, clearing 33ft. wide, and forming Rotokare road as an 8ft. bridle-road, and Anderson Road as a dray-road.

*Waitotara Valley Road.*—The number of men on this road on the 1st April, 1893, was nineteen; the lowest number was on the 8th January, 1894—fifteen—and the highest was on the 2nd October, 1893—forty-three—the average number for the year being about twenty-nine men. The average daily wage has been 6s. 6d. for ten hours' work, the highest was 8s. 2d., and the lowest 2s. 3d. This latter was a man working by himself, and, though a fair worker, he spent more time in fixing his camp. The work consisted of felling the bush 1 chain wide, clearing 20ft., and forming bridle road 5ft. wide. Part of the formation was in shell rock, exceedingly hard to pick or blast.

*Motukawa Road.*—The average number of men on this road was about thirty-two, the highest being thirty-five, and the lowest thirty. The work was undertaken by co-operative labour in consequence of the high tenders received when invited in the usual way, and there is no doubt that in this instance the settlers gained both in value and time by the co-operative men being put upon the road. The men were taken from the Anderson Road, which they had just completed, and consequently understood the class of work, and, as reductions were being made, we kept on the steady married men. The average daily wage was 7s. 1d. for 10½ hours' work (in February and March), the highest wage being 8s. 4d. and the lowest 3s. 7d., the latter being a weak party, and who were absent part of the time from their contract. The work was exceedingly well done, and was finished in time to enable the settlers to get in their grass-seed for sowing their clearings, which result could not have been attained by the ordinary contract system.

*Mangaere By-roads.*—This was the felling 1 chain wide and clearing and stumping 12ft. wide of the Akama, Kirai, and Mokakau Roads, and, the work being performed by men removed from the East Road, and who possessed previous experience in this class of work, the wage earned was

slightly above the usual one, the average being 7s. 2d. per day for nine hours' work, or rather over 9½d. per hour, the highest wage being 7s. 6d. and the lowest 6s. 4d. per day. The work of forming bridle-roads along the sideling parts will be also performed by co-operative labour.

*Mangaotuku Road.*—This was the formation of a 6ft. bridle-road of 2 miles 28 chains of Mangaotuku Road, in the Huiakama Block, and on which twenty-nine co-operative men, reduced from the number on East Road, were employed. The work consisted of removing the logs and stumps in the felled clearing (in parts very heavy work), cutting down scrub, and forming a 6ft. bridle-road. The average wage earned was 7s. 6d. for nine hours' work, or 10d. per hour, one specially-good party earning 8s. 4d. per day (the highest), (the lowest wage earned being 3s. 10d. The knowledge possessed by some of how to quickly saw logs, grub stumps, and jack off timber made the difference in the wage, as the earthwork formation was very simple.

*Tikorangi-Tarata Road.*—Eleven men were employed on the felling 1 chain wide, and clearing 12ft. wide of about two miles and a half of this road, this being the portion remaining unfelled by the Clifton County Council from the previous year. The men earned an average wage of 6s. 8d. per day of nine hours, the highest wage being 6s. 10d. and the lowest 6s. 6d.; the work was very plain, and the men had previous experience of the same class.

The total number of co-operative men at work in the Taranaki District on the 31st March, 1894, was 118, most of whom are fairly experienced in the various classes of work done in the district, and I anticipate that in future there will be fewer disparities in the rate of wages earned by the various contract parties, excepting amongst men sent here from the towns, and who have no previous knowledge of the work. During the past year but little has been lost of the fares advanced to the men, and, as a charge has been made for the use of tools, and a charge is now made for the use of tents, these items of expense will in future be recouped. The work is in all cases being done at fair rates, not exceeding the rates at which work is being let by local bodies (excepting in centres where there is keen competition), and the class of work will bear favourable comparison with any done in the district in the ordinary contract manner.

G. F. ROBINSON, Road Surveyor.



in the kind of work, and include sawyers, rough carpenters, navvies, drainers, and farm-labourers, besides a few who have small holdings in the colony, but have to go from home occasionally to earn a little ready money. There is a process of "natural selection" goes on by which those who, owing to inexperience, physical weakness, or lack of energy, leave the work, and their places are taken by the more robust, experienced, and energetic. I do not think there is now a single second-class man on this work, after the process has been going on for nine months, and many good men have left for want of more work.

The whole work has been well and satisfactorily done, without grumbling, and without a single misunderstanding or dispute.

C. W. HURSTHOUSE, Road Surveyor.

#### HAWKE'S BAY.

IN the newly-settled part of the Nuhaka North district five contracts have been let to settlers, the money coming from the loan with which the land was loaded when selected. The work—which was felling road-line 1 chain wide and clearing a 14ft. track—was let in about one mile lengths to parties of three men, at the ruling rate in the district for the kind of work. Only occasional supervision was needed, as the work was straightforward; consequently there is no record of what time the men have worked, &c. The average daily wage earned is gathered from the men themselves, and from the time the work took them to do. The other contract—a mile of similar work in the Pohui district—also one of loading on the land, was given to some men out of employment. Tenders were called for several miles of this work, but those received were so excessively high that they were declined, and the work let to men out of employment at half the rate of the lowest tender, and at which they have earned good wages. In this case, also, it would have been waste of money and quite needless to have appointed an overseer. Three other parties of three men each are at work in this locality at the same rates on one mile length contracts.

THOMAS HUMPHRIES, Chief Surveyor.

#### WELLINGTON.

ON the Mangaramarama Village-settlement roads two contracts were let for bushfelling and clearing to the village settlers, the average earnings per man being 4s. 5d. for all weathers.

On the Makuri Township roads and reserve, the Makuri-Aohanga, and Mangatiti Roads, thirty-two contracts were let for bushfelling and clearing, horse- and dray-road formation, and the construction of culverts. The minimum wage earned per man per day was 3s. 8d. for all weathers, the maximum being 9s. 8d., the average 5s. 9d., the total average loss of time for bad weather per man for such work being six days and a half.

On the Upper Makuri, the Makairo, the Towai, and Mangatoro Roads similar work has been done, the number of contracts let being sixty-one, the averages being as follows: minimum, 4s. 5d.; maximum, 10s. 4d.; average, 7s.; loss of time, 3½ days.

On all the above works the average number of men employed during the year was eighty-four, located as shown on the accompanying table, which also shows the average totals for each month, and their location. The earnings during the last quarter have been slightly higher than those of the rest of the year, owing doubtless to the fine weather. The men have been supplied with such tools as timberjacks, barrows, rock-tools, and crosscut saws free of charge, new arrivals being in most cases provided with tents.

The prices paid have been as follows: Bush-work—From 10s. to £1 10s. per chain. Earth-work—Dray-road, side-cuttings, 5d. to 6d. per yard; horse-road, side-cuttings, 6d. to 8d. per yard, according to quantity in face, with from 2d. to 6d. per yard added in through cuttings for wheeling. Rockwork—Papa, 9d. to 1s. per yard; limestone, 1s. to 1s. 6d. per yard. Drains—From 10s. to £1 per chain. Culverts—From 1s. 6d. per foot for 9in. by 9in. to 11s. per foot for 4ft. by 3ft., with 6d. per foot extra in places where there has been a difficulty in getting timber.

As recommended in my report last year, I think that in a district like this, where the majority of the settlers depend on getting employment so as to obtain the necessary means of doing the improvements on their holdings, and many of whom are tenants of the Crown, employment on the co-operative works should be given to them as much as possible rather than to people outside the district, who might be settled on the land in other parts, and given the work that is to be done there, first passing through the State farms if they are inexperienced in bush-work; and those of the unemployed who wanted work without wishing to get land might be employed on works in those districts where the land is unsuitable for settlement, or where the majority of the settlers are not so much dependent on outside work as they are here. I also think that, instead of the men on the works having the free use of such tools as jacks, barrows, &c., they should pay a fair rent for their use, as the outlay on them in a few years is considerable.

During the year the men under my charge have conducted themselves exceedingly well, both in their general conduct and in working well together, not only in their own gangs, but the gangs themselves co-operating so as to make the best possible arrangements with storekeepers and others, showing, I think, that they appreciate what the State is doing for them. In a few cases I have found it necessary to deal summarily with men for intemperance and misconduct, in order to preserve the general discipline, but these have been very few, considering the number of men employed. In such cases I generally warn a man for the first offence, so as to give him every chance, but dismiss him for repetition, giving the men to understand that unless they show a disposition to benefit themselves by the work they will have to make room for those who will.

RETURN showing Number of Men employed in the Pahiatua District from the 1st April, 1893, to 31st March, 1894.

Month.	Upper Makuri Road.	Palmerston-Pahiatua Road.	Makuri-Aohanga Road.	Makuri Gorge.	Makino Road.	Makuri Township Streets and Reserves.	Mangamarama Village-settlement Roads.	Towai Road.	Upper Mangatiti Road.	Waewaepa-Aohanga Road.	Mangatono Road.	Total.
April ... ..	39	1	6	15	8	11	10	...	...	...	...	90
May ... ..	36	1	9	9	12	19	10	...	...	...	...	96
June ... ..	37	...	12	3	13	22	4	...	...	...	...	91
July ... ..	38	...	17	8	17	12	...	...	...	...	...	92
August ... ..	42	...	16	...	17	11	...	...	...	...	...	86
September ... ..	30	...	...	...	29	16	...	...	21	...	...	96
October ... ..	24	...	1	...	31	13	...	...	23	...	...	92
November ... ..	23	...	...	...	30	...	...	...	30	...	...	83
December ... ..	8	...	...	...	26	...	...	14	25	3	2	78
January ... ..	2	...	...	...	20	9	...	13	18	...	4	66
February ... ..	2	...	...	...	9	7	...	14	19	2	19	72
March ... ..	2	...	1	...	8	3	...	10	24	...	20	68

Average for year, 84.

RETURN showing Average Earnings of Men working on Co-operative Contracts for the Quarter ending 31st March, 1894.

Contract No.	Name of Road.	Days worked.	Average.	Days on Work.	Average.
173	Upper Mangatiti Road ... ..	169	s. d. 8 11	183	s. d. 8 3
166	Makairo Road ... ..	167	8 4	169	8 3
160	Towai Road... ..	197	7 7	202	7 5
172	Makairo Road ... ..	134	9 5	137	9 4
175	Upper Mangatiti Road ... ..	129	8 0	143	7 3
170	Makairo Road ... ..	160	8 0	165	7 10
171	Makairo Road ... ..	146	8 3	152	7 11
174	Mangatiti Road ... ..	208	6 3	231	5 8
181	Mangatiti Road ... ..	159	6 5	169	6 0
178	Towai Road ... ..	160	5 6	180	5 0
177	Towai Road ... ..	210	6 3	215	6 1
176	Makairo Road ... ..	136	8 2	138	8 0
179	Towai Road ... ..	114	6 7	116	6 6
182	Mangatiti Road ... ..	141	8 5	149	8 0
183	Mangatiti Road ... ..	98	8 7	120	7 0
184	Mangatiti Road ... ..	110	8 1	120	7 6
192	Mangatoro Road ... ..	204	7 6	204	7 6
190	Towai Road ... ..	120	10 2	121	10 1
191	Towai Road ... ..	155	8 1	157	8 0
	General average ... ..	...	7 9 $\frac{5}{19}$	...	7 5 $\frac{8}{19}$

R. H. REANEY, Road Surveyor.

During the past year the whole of the works under my supervision, with the exception of those undertaken by the local bodies, have been carried on under the co-operative system, and have, so far, worked fairly well, although, at times, disputes have arisen between the contractors and overseers, as well as myself, and complaints have been made by some of the men direct to Ministers, and through Members of Parliament, which have turned out but of little moment after investigation. This, I conclude, must be expected, as there are always to be found a few dissatisfied individuals among a large number of men. I have, however, made every endeavour to get on amicably with the men, and have instructed my overseers to use all possible discretion and patience, and to treat the men fairly.

The co-operative contracts, no doubt, create considerable extra office-duties, owing to the numerous small payments and accounts that have to be kept. Considerable difficulties have been experienced on the arrival of men sent to the works, coming, as they do, to a strange locality where they are not known, in obtaining supplies, owing to merchants demurring to granting stores without payment being guaranteed by the overseers or myself. This I hardly think fair to the officers, and

might be remedied by the Government becoming responsible for the first order. Another drawback which cannot well be avoided, and which somewhat enhances the cost of works in some cases, is the absence of horses and drays, which the men are unable to obtain, for carting material where long hauls are needed, and they consequently have to convey the earth in wheelbarrows, which considerably adds to the cost when the distance exceeds 1 chain.

Some of the men's earnings have been as low as 3s. 4d., and others as high as 11s., per day. In all cases the works have been estimated to enable the men to make as near as possible the same wage. I must, therefore, attribute the apparent discrepancy to the want of experience of some of the men in road-making, particularly in bushfelling and clearing, such men having previously been used to very light employment. In such cases, experienced men would do three times the amount of work that the inexperienced could do.

A. C. TURNER, Road Surveyor.

#### WESTLAND.

THIS system has been carried out to a considerable extent in this district during the last twelve months. Early in April a number of men were sent over by the Labour Bureau, Christchurch; these were supplemented by contingents from Brunner, Waimea, and other places, making up a total of nearly sixty, all of whom were employed on the Christchurch-Hokitika Road deviations. The work was divided into suitable sections by Inspector McIntosh, and the men, as soon as they could arrange among themselves, were set to work in parties averaging from four each. The prices fixed, of course, varied considerably with the nature of the work; the estimates were, however, based on a working wage of 8s. 6d. per day. It will be seen by schedule No. 9 that this average would have been 9s. had it not been for the exceptionally broken weather experienced. The average of 7s. 1d. per day in all weathers shows that the prices were carefully arranged, and not only this, but it must also be pointed out that, had not the men stuck to this work during a great part of the wet weather, they could not have earned this fair average. Great credit is due more especially to the East Coast men, who were unaccustomed to such broken weather, for sticking to the work under the circumstances. There were, of course, a few who could not and apparently had never done manual labour; taking them upon the whole, however, they did their best to earn fair wages.

The co-operative contracts at Bruce Bay and the Franz Josef Glacier tracks were carried out by Southern men. The former of these was constructed under most unfavourable conditions. The country through which this track passes lies very low and flat, so that during, and for some time after, a rainfall it is often several inches under water. This was the experience of two or three parties for the greater part of their contracts. They, however, manfully stuck to their work; in fact, had it not been for their indomitable pluck (more especially one party), they could not have earned anything like wages.

In both of these contracts work was as cheaply done as it was possible under such conditions, while the quality will more than favourably compare with old contractors' work in the same locality.

Taking the system as it has been tried, I can say it has proved a success in this district; and to Inspector McIntosh, on the Christchurch Road, I must give a word of praise for the successful manner in which he carried out the co-operative works under his control.

DAVID BARRON, Chief Surveyor.

#### OTAGO.

First, as to earnings.—According to instructions, the men were supposed to earn current rates throughout the district—viz., 7s. per day. On this basis all along I have let the various works we are called upon to perform in forming the roads. Take bushfelling for road purposes: I examined the bush chain by chain, and priced it—first of all at per acre, as if to be felled for farmers' purposes; then, according as it is light or heavy, I put a price on for the logging. When in camp I strike the average for the number of chains I intend to let in each contract, and let the bushfelling and logging at this price. The stumping is valued the same way, stump by stump, in each chain, and an average struck for each contract, so that the party with a heavy bit of bush and big stumps is as well paid as the party with light bush and small stumps. Earthworks I let according to the length of lead, the season of the year, and the isolated position of the works relative to main roads, &c. These prices vary from 8d. to 1s. 3d. per cubic yard. Culverts I price according as the timber is handy or not, amount of excavation, and extra logging that may be required. By estimating my work in detail, as described, my valuations hit to a nearness the wages intended—viz., 7s. per day. Good workmen, of whom I have had a number, sometimes earn a little more by working longer hours, when the length of day permits it, and sometimes it happens that alterations from the original plans are in favour of the contractors, and help them a bit. Inferior workmen, of whom I have had a good many, do not earn 7s. per day, though, as before stated, the prices are all regulated for the workmen to earn that amount.

The only question that arises is, are my prices sufficient for the men to earn 7s. per day? And my reply is, "Yes." I have had the culverts built, earthworks excavated, and stumps extracted by day's wages formerly, and the time and other circumstances were noted, so that from the experience of five years in this district alone enables me to say with confidence that good workmen can always earn 7s. per day, but not much more.

2. The kind of work most suitable for the class of men to be provided for.—As this is a new district, and a large number of the settlers are poor men who have taken up the land, and as it takes a few years before their bush-farms can be self-supporting, it is necessary that they should leave the

work on their farms periodically, and earn some ready cash to keep them going. The work we are engaged upon, so far as they are concerned, suits them very well, as all of them are accustomed to bushfelling. But the class of work we have does not suit the town men. Many of them never did hard work in their lives, and at the best they earn very little over food and clothing. Others are past their best, and, although accustomed to hard work, do not do well. Again, the change of work, say from quarrying or navvying to bushfelling, for a time handicaps even a young able-bodied man who may have been brought up to manual labour. So that on the whole the work suits the settled population, but not the townsmen. It would be a difficult matter to say what would suit the class of men I have at various times had sent me, but this I would suggest, that employment be found for them in open country. It is a comparatively easy matter to make a navvy, but to be an expert bushman requires early experience.

3. Their energy and capacity in carrying out the works that have been intrusted to them—Generally speaking the settlers and more pushing men from the town are eager to get through their work as quickly as possible—to earn as much as they can, and get as much of the work going as they can. But there are exceptions, notably some of the small village settlers, who hang over their work, and seem quite indifferent what wages they earn so long as their credit is good at the store. These men cry long and loud for work, and, on the strength of being small settlers, expect to get an undue preference for work over others. They are neither good settlers nor good workmen, and would go back to the towns to-morrow only that they know from former experience that they would have no show competing in the labour market. My experience is that settlers as a whole, and many of the hard-working townsmen, do not dally over their work, but try to earn as much as they can in as short a time as possible.

4. The cost as compared with the works done under the former contract system.—So far as the works under my charge are concerned, I do not think the work could be done any cheaper under the ordinary contract system, that is, so far as the actual work itself is concerned. The men pay for all material supplied them, they get a price to earn 7s. per day, and so would contractors' men. Contractors would sublet their work, and their men would, no doubt, in some cases earn a little more than wages. As regards the cost of supervision, that may be and likely is a little more costly than under the ordinary contract system, due to the fact that we are not busy all the year round and gangers wages are running on. A contractor would slack off his on-cost men under similar circumstances. One thing I must say in favour of the ordinary system of contracts: that better work is done and carried out nearer to the requirements of the plans and specifications and with less trouble to those in charge of the works. On the whole, the ordinary contract system gives better satisfaction as regards workmanship, and naturally so, as only experienced men are competent to tender. I need not repeat to you the difficulties I have had to contend with in getting work done fairly by some of the co-operative contractors, nor the means they took to have "satisfaction;" and until the workmen learn that civility and good workmanship must be given the same difficulties will recur again and again.

5. The prospect there is of useful works for the coming season.—So far as this district is concerned there is plenty of scope for useful work for this season and for a number to come.

6. Whether the men, when finished their work, are likely to settle in the district.—Hitherto very few have settled on the land, but no doubt some have come here this season with that intention. For men to settle down in bush-country they require to have some backbone, and a liking for country life. The latter qualification you do not always find in men accustomed to town life.

7. Whether they have had an opportunity of settling, and have availed themselves of it or otherwise.—I am not in a position to say whether facilities have been given to men to settle in this district, excepting the improved settlement farms, commenced last winter. The men got the preference of the land they had been clearing, but, with the exception of one or two, none of them seemed to care about settling, although the farms are above the average for quality of soil. More might settle on the land provided the co-operative works were regulated somewhat on the lines I suggest under clause 10.

8. Whether the wages expended in the district have been prudently utilised by the men, or whether they have been intemperate or otherwise wasteful.—So far as the settler workmen are concerned, I believe they have put their earnings to a good use in improving their farms, and the majority of the others no doubt expended their earnings in supporting their families in town. There were those, and as likely as not one or two may yet put their money to a bad use, and periodically have a spree, but these are the exception. On the whole I am glad to say that the men are very thrifty in their habits.

9. What is the result of co-operative works upon the supply of labour required by settler farmers, runholders upon saw-mills, and other industries.—I cannot say of my own knowledge what the result of co-operative works have on other industries as regards the supply of labour. So far as this district is concerned there are comparatively few employers of labour, and I have never heard of any complaints being made while we had a number of men on the roads. Those that may have felt a little difficulty in getting a man or two possibly could not afford to give current wages, and men naturally prefer a long spell of work than, perhaps, only a few days' wages being equal. The effect may be felt more up country, but of this I have no personal knowledge.

I saw in the papers lately that the Bruce County could not get tenders for some drainage works, although advertised twice. The co-operative works in this district were not the cause, for during the last two months we have been nearly at a standstill. More likely the harvest operations were against them getting offers for their work. Naturally, the fact of the Government employing a large number of men would affect other industries provided labour was scarce, but where the supply of labour is abundant, as I believe it is throughout the colony, I would not expect that other industries would be appreciably affected; but, if injuriously affected, the only remedy

would be to reduce the wages to be earned by co-operative contractors somewhat below current rates.

10. Any suggestions as to the settlement of the unemployed upon lands as to enable them to provide for themselves and families in the district in which they are at work, &c.—Referring to this district, to induce the unemployed to settle on the land, the system prevailing of locating them on twenty- or thirty-acre village settlements will not suffice. As there are no employers of labour to help the settler to eke out a livelihood, and the land will not keep him, I would suggest that nothing less than 80 to 100 acres be offered to him, and that of fair quality and accessible. Supposing you put a dozen of these men with their families on one block to enable them to live till the land was self-supporting, I would adopt the following means:—

First, the Government would fell and log up the road-line right through to the furthest section, and make the road passable by culverting, &c., for a pack-horse. The unemployed settlers could be put on to do this, or it could be done before they were put on the land, and I would make the time that they took possession of the land the beginning of the summer season. Having built their huts or erected their tents, as may be, give them work to form the road; say, contracts that would keep them employed from October till the end of March. They would earn a cheque sufficient to provide them in food and clothing during the winter months. Give them no work during the winter, but let them devote their time till October again in felling bush and improving their sections. I may here state that the winter season is the time a settler should be at home felling bush for the burning season. Work given him in the winter time, owing to so much broken time, does not do him half so much good as it would if given during the summer months. During the six or seven months the settler would be at home he would fell ten or twelve acres of bush single-handed, and do other improvements besides. Repeat this for two or three seasons at the most, and the settler would have something like thirty to forty acres of grass, and be independent of outside work in a great measure. I may state that I have spoken on this subject to a number of our workmen settlers, and they all agree that if they had a year or two's work on the lines indicated they would not trouble the Government for any further work. The system of doing the work during the winter months retards this idea, because it takes two months to do six weeks' work, if not longer, and the money is pretty well eaten up as soon as earned, and the work done is more costly to the department. It would be necessary that the settlers get the work on road-lines near their sections, if possible, to be at home every night, so that, if it came a wet day, they could do a little work at home when they could not on the roads. So far as the settlers unemployed are concerned, all at present looking for work would be off the books in a year or two's time, and might even be able to give a little employment themselves to outsiders. Their leaving the labour market would make room for others, and so on. To facilitate the independence of the settlers, I would suggest that the department turn its attention to the metalling of the main roads as a means of enabling the settlers to cart on them summer or winter, and as there is a prospect of a dairy factory being established here it is essential that the settlers have every facility for bringing in their milk. Another source of income to many poor settlers if the roads were metalled would be the sale of posts. Mine-props and even hewn railway-sleepers could be had in considerable quantity by the Railway Department when the railway comes up a little closer to the settlement. At present the timber is going to waste that otherwise would be a source of income. The unemployed from outside the district would, I have no doubt, take up the land if work was given them on the lines indicated, and become as steady and hard-working members of the community as the settlers already here.

A. Cross, Inspector.

#### SOUTHLAND.

Work on the co-operative system has been considerably extended in the Southland Land District during the past financial year, and, in addition to the construction of the Waikawa-Catlin's Road, work has been done on the Lillburn roads, Waiiau Bush Road, Longwood Roads, Kisbee-Wilson's River Tramway, and a small amount of work on the Waiiau-Preservation Inlet Road.

*Waikawa-Catlin's Road.*—Good progress has been made, and a substantial road has been constructed for a length of 10 miles 58 chains. Fifty-one co-operative contracts have been completed, and there has been an average of five men engaged on each contract. In addition to forming a cart-road 18ft. wide, portions of it (altogether 1 mile 35 chains) have been metalled. Also log culverts, 151 lineal feet in the aggregate and bridges over the Long Beach Creek, Chasland, and Little Chasland Rivers (130 lineal feet altogether) have been built. Fascines have also been laid on short lengths, 23 chains altogether. The minimum daily wage earned per man has been 4s. 4d., and the maximum 9s. 2d., making an average of 6s. 9d. The average number of hours worked per man per day, all weathers, has been seven, and the total average loss of time by bad weather per man has been thirty days. About 37 chains of formation are in progress, and should be finished about the end of April; and about 33 chains are still untouched up to the fifteen-mile peg, or sixteen miles from the junction. The bridge over the Tautuku River is well in hand. Considering the amount of traffic on this road, which is a bush-road, and mostly of clay formation, the road has stood wonderfully well.

*Lillburn Roads.*—Work was begun on these roads in June last, and has been continued up to the present time. The road has not been formed continuously, but only those portions which were too swampy to carry traffic have been drained and formed, and side-cuttings have been made at the terraces. Twenty-five co-operative contracts have been completed, and the average strength of each gang was three men. The total amount of formation completed is 4 miles 20 chains; and 6 miles 74 chains of ditching has been made to drain swamps. Two small bridges, one 10ft. and one 13ft., and log culverts aggregating 900 lineal feet have been built. The minimum wage earned per man per day, all weathers, was 2s. 2d., and the maximum 10s. 8d., giving an average of 6s. 5d. The

average number of hours worked per man per day, all weathers, was 7·4, and the total average loss of time by bad weather per man was sixteen days.

*Waiau Bush Road.*—This is really a continuation of the Lillburn roads down to the mouth of the Waiau River, but, as it is beyond the limit of the land loaded for road-construction, the cost has been kept separate. The cost of inspection and engineering survey charged against the Lillburn roads, however, covers the cost of inspection and engineering survey on this road. Three co-operative contracts have been completed. The average strength of each gang was four men. The total length of bush felled, 1 chain wide, and cleared is 1 mile 47 chains. The minimum wage earned per man per day, all weathers, was 2s. 2d., and the maximum 8s., making an average of 5s. 1d. The average hours worked per man per day, all weathers, was 7·4, and the total average loss of time by bad weather per man was sixteen days.

*Longwood Roads.*—The sections abutting on these roads have been loaded for their construction. Nineteen co-operative contracts have been completed. The average strength of each gang was four men. Bushfelling and clearing have been pushed forward vigorously, but only towards the end of the financial year was the formation begun. There has been 63 chains of formation completed, and 8 miles 32 chains of bush felled, 1 chain wide, and cleared; also 18 chains of drainage have been done. Culverts aggregating 114 lineal feet have been built, and 56 chains of grubbing have been done. The minimum wage earned per man per day, all weathers, was 1s. 1d., and the maximum 7s. 7½d., making an average of 4s. 4½d. The average hours worked per man per day, all weathers, was 7·2, and the total average loss of time by bad weather per man was twenty-three.

*Kisbee-Wilson's River Tramway* (Mines Department Vote).—The formation, bridges, and culverts in connection with this tramway, which is intended to enable miners and others to get machinery, tools, and supplies up to the Wilson's River reefs, have been carried out on the co-operative system. Sixteen co-operative contracts have been completed, covering the total length of the tramway—viz., 5 miles 5 chains, and 6 chains of sidings. The average number of men per gang was five. The bush and scrub along the whole length of the tramway has been felled and cleared. There has been completed 194 lineal feet of bridging, 1,351 lineal feet of log culverts, and 79½ chains of drains. The sleepers and logs for covering the bridge-openings, to the number of 9,398, have been cut and delivered alongside the formation. The minimum wage earned per man per day, all weathers, was 4s. 3d., and the maximum 11s. 6d.: making an average of 7s. 10½d. Owing to the difficulty of getting stores, and their cost, 9s. per day of eight hours should be reckoned a fair wage in this district, instead of 8s. The average hours worked per man per day, all weathers, was seven. The total average loss of time by bad weather per man was twelve days.

*Waiau-Preservation Inlet Road.*—This work was begun by the Mines Department, and it was not until May, 1893, that it came under my control. From the vouchers which have passed through this office, and the disbursements made by me, I have compiled these particulars: Eleven co-operative contracts have been completed. The average strength of each gang was 2·5. A horse-track seven miles long was surveyed. The minimum wage earned per man per day all weathers was 2s. 2d., and the maximum 10s. 4d., making an average of 6s. 3d.

*General.*—From the experience of last year's transactions, I have come to the conclusion that in some cases working on the co-operative system is very advantageous, while in other cases the system does not apply nearly so well.

On the Waikawa-Catlin's Road very good results have been obtained. The work is comparatively heavy, which favours the system. Had the 10 miles 58 chains which were completed during the year been let in the old manner to a single contractor that contractor would probably have employed only such a number of men as could be worked on a limited portion of the road, and the work would not have been done so quickly; whereas, by working on the co-operative system, contracts have been let, and works have been in progress, extending over nearly four miles at one time. Thus a very much larger number of men has been employed throughout the year, and most of the money has been spent on manual labour, whilst a contractor would have spent a large proportion on horse labour.

Where the work is very light and scattered, as was the case on a considerable portion of the Lillburn roads, the system cannot be worked so advantageously as could be desired. If the district had been settled a little longer, and there had been small farmers with teams and horse-feed, the work could have been done more cheaply by the settlers; but, as it was necessary to give the settlers access to their sections, it is difficult to say whether a better course could have been adopted.

I am, however, satisfied that, in order to obtain good results by means of the co-operative-contract system, the work must be fairly heavy and continuous.

G. W. WILLIAMS, Chief Surveyor.

## APPENDIX No. 5.—THERMAL SPRINGS.

## ROTORUA.

REPORT BY MR. C. MALFROY.

*The Baths.*

THE bathing-accommodation has been further increased during the past year by the addition of four baths, with two dressing-rooms to each bath, giving an additional capability of about 120 baths daily, or total capability of about 340 baths daily in connection with the Rachel Spring, 360 in connection with the Priest Bath, and 300 at the Blue Bath; grand total, about 1,000 baths per diem of ten hours. This should fairly meet the demand, provided there is a system to regulate the time of bathers. The great want at present is a ladies' swimming-bath. The present arrangement of giving ladies from 11 a.m. to 12 noon and 4 p.m. to 5 p.m. every day, and two whole evenings, from 7.30 to 9 p.m., at the Blue Bath does not, for obvious reasons, give satisfaction.

The total number of baths taken during the year has been 17,052, and the cash received £313 4s. 6d., being a decrease of 786 baths, and an increase of £24 17s. 6d. in the cash received upon the previous year, the decrease being in the hospital patients' baths, which is 2,248 less than last year. The sixpenny single baths have increased considerably, and the ten-shilling course of twenty-five baths decreased in about the same proportion, thus showing that bathers have been irregular in their attendance, a very large number of them patronising outside baths. This is specially the case in connection with a sulphurous acidic spring similar to the Priest Bath, situated on the south shore of the lake, and known as the "Postmaster Bath," previously reported upon by me; also to the large number of visitors who put up at Whakarewarewa, where the proprietor of the hotel has erected baths for the "free" use of his patrons.

The district is keeping up its reputation well as a sanatorium. During the year several former patients from Australia have returned here, perfectly cured, to spend their holidays, thus substantiating what I said in my last year's report respecting the growing popularity of the place and the desirability of improving the accommodation and appliances. Within the last month a professional "masseur" has been treating patients in connection with the baths; and, though the time is very short, he has already obtained certificates from invalids respecting the efficacy of his treatment combined with the baths.

*Sanatorium Gardens and Grounds.*

Beside keeping the gardens and grounds in good order, considerable improvement has been effected in what may be called the park; 4,000 trees were planted last season, and a couple of miles of roads, avenues, and paths were formed, which greatly contribute to the attractions of the place.

*Town of Rotorua.*

Since the sale of town and suburban lots (28th December last), it is surprising to see the great improvements which have been carried out by the different leaseholders in the form of clearing, ploughing, fencing, and building. Over a dozen new buildings have been erected, some being substantial and commodious, and would do credit to any township. There would have been still more buildings erected if it were not that people are waiting for the completion of the railway to the terminus, in order to avoid the heavy cartage charges on building and other material.

*Fresh-water Supply.*

The number of services now being provided out of main is fifty-seven—namely, four hotels and one boardinghouse, at £5; four boardinghouses, three stables, and one sulphur-works, at £3; seventeen private residences, at £1 10s. a year; besides seven public fountains, two bath-houses, and fifteen public buildings or residences free. The works are in good order; but the remarks in my last year's report *re* the necessity of constructing a "catch-pit" at the head of the pipe are still more applicable this year, and I think that it will be indispensable when the Railway Department take the necessary supply for the station, &c.

*General Remarks.*

The number of visitors (as collected by me) to the hotels, boardinghouses, &c., during the year ending the 31st March, 1894, is 3,880, or 1,320 in excess of previous year. This is a very large increase, but, though it is admitted that there was a large increase, I am led to believe, from personal knowledge and information received, that some of the returns handed to me have been exaggerated, with a view to boom certain hotels, and if we set the actual increase at 1,000 it will be nearer the mark.

I would again urge on the Government to take into consideration the desirability of compelling hotel- and boardinghouse-keepers to furnish the authorities quarterly with a correct list of the number of visitors to their respective establishments; also for the licensing of boardinghouses, for reasons explained in last year's report.

The cost of board and residence is from £1 10s. to £3 per week in hotels, and from £1 1s. to £2 2s. in boardinghouses, and there are a few cottages which may be rented at from 7s. 6d. to 15s. per week.

*Re Springs and Thermal Action generally.*

The first portion of the year was excessively wet. This, as usual, had the effect of swamping some of the springs; whilst the larger quantity of water percolating in the hot grounds and fissures started others, especially on the south-east shore of the lake, near the Native village of Ngapuna, where several small eruptions have taken place lately, throwing up mud and water to a considerable height; but matters were quiescent from the 27th March to the 16th April instant, when, at about 11 a.m., a much larger eruption than any of the previous ones took place in the delta formation at the mouth of the Puarenga Stream. It threw up a solid column of mud and water 300ft. high, lasting only a couple of minutes; it then subsided, and has been silent ever since. This eruption left a hole about a chain in diameter, into which the river ran, and soon filled it up; it also threw up a mound of mud all about the surrounding ground, in places as much as 5ft. high. The ground for a radius of 2 or 3 chains is all cracked and fissured and sliding into the hole left by the eruption.

The new geyser—the “Terrific”—at Orakeikorako is in all probability attributable to the same cause—namely, the excessive rise of the River Waikato, which diverted some of the old vents on its bank. Being instructed to visit and report on this new geyser I did so, and on the 15th July last forwarded a full report, a copy of which is appended hereto.

With regard to the scene of the Tarawera eruption, owing to ill-health I have not visited the place since March, 1893 but from information received from Mr. A. Warbrick, the guide, it appears that the excessively wet season has caused a considerable rise in the new Rotomahana Lake, and that the steaming pinnacle rock which stood in the centre of the lake, near the site of the White Terrace, and fully 15ft. above water, is now completely submerged. I am also informed that a spring of considerable volume has made its appearance on the shore of Tarawera Lake, near the site of the buried native village of Te Ariki. This, in all probability, is due to percolation from Rotomahana Lake, and if this is the case it would have the effect of preventing the lake from rising any higher, thus removing the cause of any apprehended disturbance, as expressed in my last year's report.

## REPORT BY MR. C. MALFROY ON THE GEYSER AT ORAKEIKORAKO.

I HAVE the honour to report that on receipt of your wire of the 8th July I took immediate action, and made arrangements for the journey. Leaving Rotorua on the 11th for Atiamuri in a buggy, with a Maori to act as guide and interpreter, we arrived in the evening, slept there, and at 7 a.m. on the 12th we started for Orakeikorako on horseback.

We followed the Taupo Road for about two miles and a half, when we turned off to the left into a gully following a Maori cross-country track for about three miles, which took us to the western bank of the Waikato River. This we followed up for about four miles, reaching Orakeikorako at 9.30 a.m. The track is by no means bad; but it is very narrow, overgrown with tussocks and manuka on each side, and cut down deep by traffic and rain. This renders travelling very slow. It could, however, be made into a good horse-pack track at a small cost; but from information gathered I am led to believe that a shorter, more attractive, and interesting road could be made to Orakeikorako by following the south-west bank of the Waikato all the way from Atiamuri. It would pass by the Rainbow Fall, and the several rapids of that part of this beautiful river, and open up a country which, judging from the abundance of tussocky grass, should be well adapted for general grazing purposes.

The geyser is situated on the Tutukau East Block, on the south-west bank of the Waikato River, about 10 chains from said river, and the same distance in a northerly direction from the first whares of the Native village. It is at the foot of a clayey bank and upper end of an old silica terrace-formation, of light-salmon colour, 2 or 3 acres in extent, and reaching down to the river-bank. It is 50 yards in a north-west direction from the old *ngawha* known as the Orakeikorako Pool, which latter has become quiescent since the abnormal eruption of the geyser started, about the middle of June last.

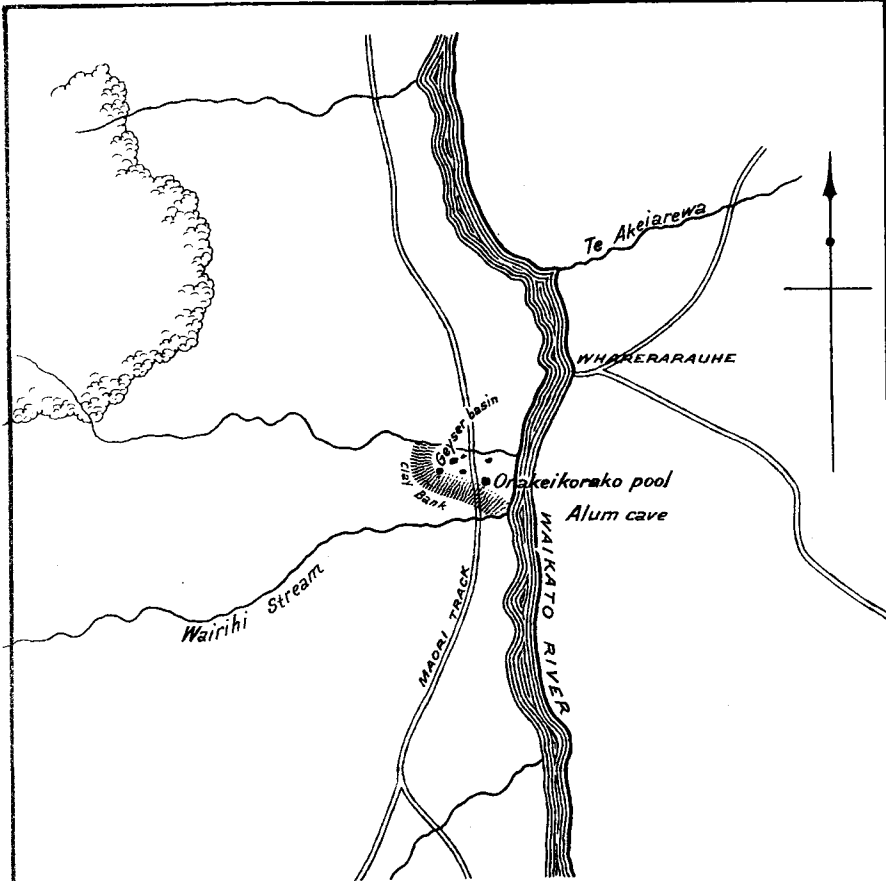
The actual geyser-spring consists of an oyster-shell-shaped basin, 12ft. to 15ft. long, and 6ft. to 8ft. wide, starting from nothing at the outer edge to about 5ft. deep at the geyser end, with two well-defined apertures—one a vertical hole about 12in. diameter, now blocked up with two large stones silicated fast into it; and the other is a horizontal fissure, 18in. long by 4in. or 5in. wide, emerging into the vertical hole almost at right angles, at a depth of about 4ft. below the level of the terrace-formation, and just above the obstruction of the vertical geyser-pipe, as shown on plan.

The Native ferryman, Watene, told us on our arrival that the last eruption took place at about 4 o'clock a.m., and that it would play again about noon. Arriving at the geyser-basin at 10 a.m. we found it full, and the water flowing out gently through an old drain cut in the silica formation years ago into a second basin (which has also become cold since this new geyser-action started, and the water of which seems to leak out during the period of quiescence of the geyser). This outflow continued for an hour and a half, increasing gradually. The water in the geyser-basin then began to boil up, first slowly, then more and more fiercely, for about half an hour, when the first phase of the eruption started. The steam or eruptive force coming out of the side-fissure herebefore described with great force, it ejected the water out of the geyser-basin, part of which ran back into the basin, to be ejected again and again by the force, thus causing a great commotion of the water and great thudding noise as the water and steam were battling together. This lasted for about fifteen minutes, when the eruptive force had cleared all the water out of the basin, throwing it in a parabolic spray to a distance of over 50 yards.

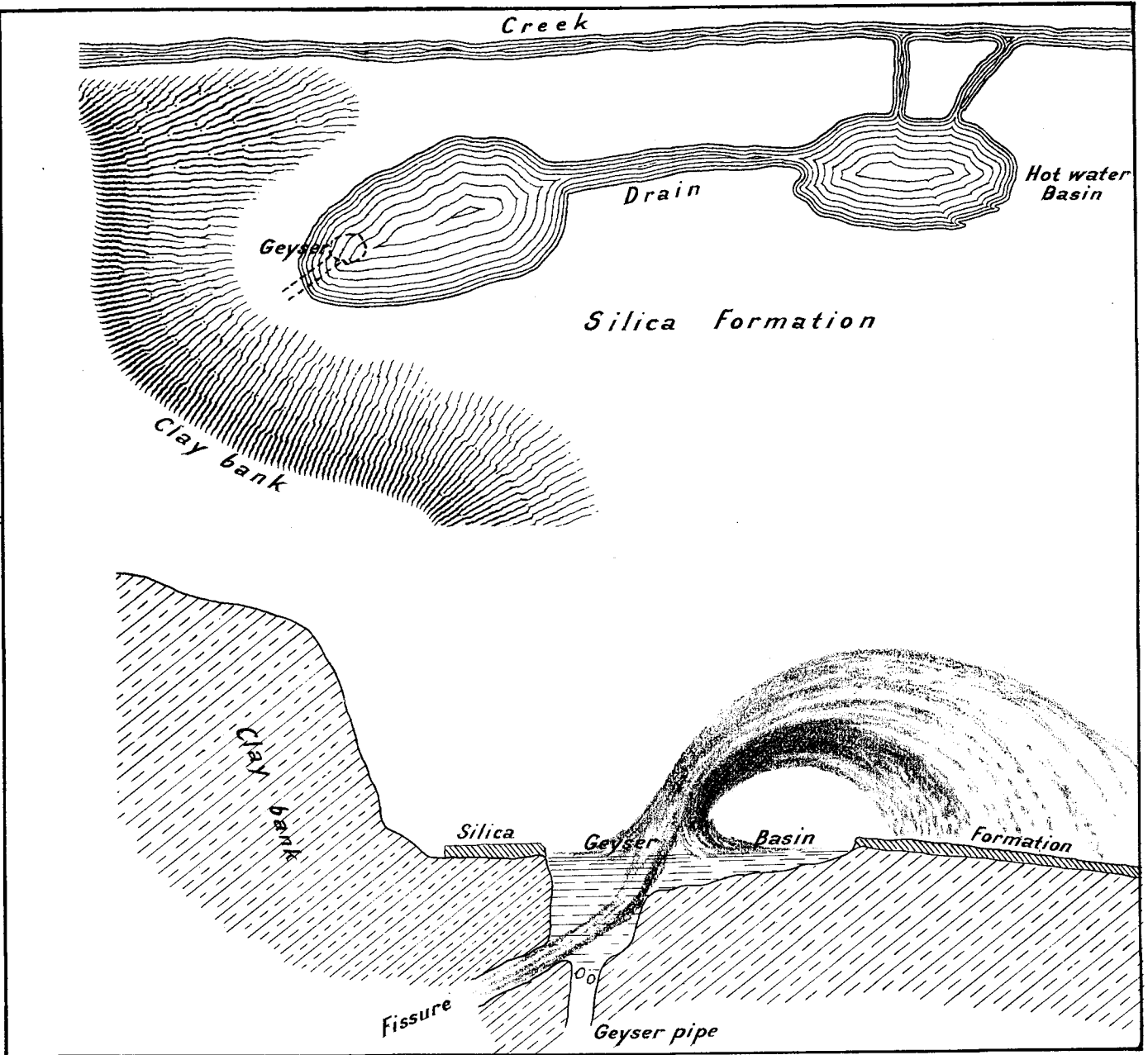
When what I call the second phase of the eruption started—consisting of a jet of superheated steam and water of a bluish-purple tint, and into which I could not thrust a pointed stick—the water emerged out of the fissure, and, striking against the projecting rock, it was lifted up at an



— Plans & Section of Orakeikorako Geyser. —



— **Locality Plan** —  
— Scale, Half mile to an inch —





angle of about 45 degrees, throwing a fine spray for a distance of fully 70 yards. The terrific force at which the steam is ejected against the rock, and its sudden expansion as it emerges out of the fissure, make a terrific roaring noise, which can be heard at a considerable distance, and it is with great difficulty that one can be heard to speak in the vicinity of the geyser.

This second phase continued for over an hour, the pent-up force dying away gradually, the water falling back into the geyser-basin re-entered and disappeared in the fissure, and the geyser-action stopped altogether. We could then see in comfort the apertures herebefore described. The edges of the fissure were blacky-brown, smooth on the inner side, but there was no sign of volcanic heat or fire—no glassy formation, though the Natives say that some sixteen months ago tongues of flame were seen by them issuing from the orifice.

We only saw one eruption, but Watene says they are all similar, and take place at intervals of about six hours, with two to two and a half hours' duration, thus giving about three eruptions in the twenty-four hours.

Having seen Pohutu, Wairoa, the Crow's Nest, and Wairakei Geysers, also the blow-hole Karapiti, in action, I have no hesitation in saying that they sink into insignificance when compared with the "Terrific" of Orakeikorako—which is the very appropriate name given to it by Mr. R. S. Thompson, who first saw and described it.

I notice that this same geyser is described by the late Sir William Fox, K.C.M.G., in 1874, "as being in a state of constant and violent ebullition," which fairly represents the first phase of the eruption. As to the second, it being due to the exhaustion or expulsion of the water out of the geyser-basin, two other causes may produce it, without any increase of thermal activity properly speaking. Firstly, a change in the direction of the eruptive force from the vertical geyser-pipe, now choked up, to the horizontal fissure would have the effect of emptying the basin by throwing the water out sideways, and thus cause the second phase of the eruption, which would hardly take place with a vertical pipe, as the water of the basin would be thrown up in the air, falling back cooled in the basin, thus acting as a valve, and preventing a full display of the steam-jet; and secondly, the removing of a certain quantity of water from the pool or geyser-basin by means of drain or otherwise would allow the eruptive force of the jet to overcome the reduced pressure of the water in the basin to eject the whole of it out, and thus bring about the second phase of the eruption.

I am, however, inclined to think that the increased activity of this geyser is due to the very wet season we have had, causing the Waikato River to rise, I am informed, over 6ft. higher than its usual winter-level, and thus flood or block back some of the numerous vents on its banks, diverting the force into this geyser, which, being high and sheltered, is not materially affected by atmospheric influence. These three foregoing causes I have often observed and experimented upon with springs and geysers about Rotorua, having, as in the case of the geyser in the sanatorium grounds, brought about geyser-action throwing water 30ft. to 40ft. high where there was nothing but an insignificant spring pool of a temperature of 140 degrees to 160 degrees Fahrenheit; and at the great Pohutu Geyser, Whakarewarewa, which throws the water 60ft. to 80ft. high, I have on several occasions brought about eruptions at a few hours' notice after a long spell of quiescence of over five months' duration at one time, and by the manipulation of the ejected water I can silence them and many other springs for an indefinite period.

If the Orakeikorako geyser-action is due to the flooded state of the river it will resume its normal action with the fine weather, and when the river is again at its normal height; but I have every reason to believe that, by the manipulation of the surface-water in the manner before indicated, the present abnormal and fierce action can be produced if required. However, independently of this new geyser attraction, the other numerous wonders of the locality—its numerous and extensive multi-coloured terrace-formations, geysers, *ngawhas*, mud-holes, the Alum Cave, and the grand river-scenery of the vicinity—are well worthy of a visit; and I trust that the Government will see their way at an early date to secure the whole of that most interesting district for the colony, and render it accessible by the construction of a coach-road to it.

---

#### HANMER SPRINGS.

REPORT BY MR. ROGERS.

THE buildings and works are all in very fair repair, but the four baths in the old bath-house require to be renewed, as they have been in use a number of years. I would recommend that they be replaced by concrete ones, lined with white tiles. This would greatly improve their appearance.

The extension of the water-race 27 chains to Dog Creek has greatly added to the supply of fresh water for use of baths and grounds.

The 60 chains of new plantations now made will greatly improve the appearance of the springs when the trees grow up. I propose next spring to plant trees on the south and west boundaries. This will then enclose the whole of the grounds with a belt of trees 1 chain wide.

There has been a decrease in the number of baths taken this year as compared with last year, which may be accounted for by the wet and cold weather, which has no doubt prevented many people from coming to the springs.

The number of baths taken for the year under the different headings, and cash received for same, was as follows: Baths by ticket, at 1s. 6d., 4,269; single baths, at 1s., 215; swimming-pool, at 6d., 2,314; free baths, 125: total, 6,923. Cash received for bath-fees, £217 18s. 5d.

---

## APPENDIX No. 6.—EXPLORATIONS.

## ON RUAPEHU.

By W. H. DUNNAGE.

SIR,—

Raetihi, Pipiriki, 8th April, 1894.

I have the honour to forward, under separate cover, photographs of the crateral lake on Ruapehu, and other places of interest on the mountain, as they may be of some departmental value.

Taking advantage of the fine weather and clear state of the mountain at Easter, I made an ascent with the object of taking some photographs of the lake in the crater. As I have been a good deal on the mountain, a short report may be of interest and value.

No. 1 photograph shows the start of my party from Ohakune, with a general view of the mountain in the distance, showing the peaks from the south to the north-west. The highest peak of the mountain is the second peak from the south; a spur clear of snow is shown leading up to it, with snowfields on either side. The extreme southern peak is a comparatively low one, but very precipitous. The western side is part of the lip of the upper crater falling precipitously into it. (See photograph with the men in it.) It forms two small peaks, which are not distinct in the photograph, as the distance is too great. From here there has been a rent in the upper crater, which is formed again by the north-west peak, just visible in the photograph above the snow and a fog-cloud. The intervening rent is covered with a large snowfield, which is very much crevassed, and the side of the mountain below is cut into deep ravines. I send a view showing the interior of the upper crater of this part, but it is somewhat marred by my indulging my men in their wish to be photographed on the top, and the only space was a ledge of rock too near the camera.

From the north-west peak to Parateitaitonga, on the north-north-east, the upper lip of the crater is pretty regularly defined, and filled with a large snowfield to the inner crater or lake, as shown in the view of the lake. The snow comes right down to the water on the north west, but on the north-east and south-east the lake is bounded by a rock bank, precipitous in most parts, but sloping off a little to the east and south-east.

A descent to the lip of the inner crater might be made anywhere along the northern side, but care must be made to avoid crevasses, which, however, are not very numerous in this part.

The easiest descent to the water is from the east or south-east, down the bare rocks shown in the lake view. This is steep—nearly precipitous, and the rock is probably brittle, or loose and treacherous, so that a rope should be used as a precaution. I should think that 80ft. or 90ft. of rope would be sufficient, and with it a party could reach the water with but little risk. There appears to be a rift on the south-east between the bare rocks and the snowfield that extends from the west to the south. I had not time to examine this, but I believe the water from the lake finds egress here, and forms the source of the Wangaehu. The varying amount of sulphur in the Wangaehu also points to its having its origin from the lake in the crater.

A yellow, apparently sulphurous, deposit lay on the east margin of the lake, some of which was carried out into the lake by the wind. The lake was to all appearance quite cold.

I should have liked to examine the lake more carefully, but I had to get back to Karioi that night, in order to get back to my camp on Monday; but I think I should have been justified in taking an extra day to have examined the lake and the source of the Wangaehu.

There is a rent on the side of the mountain on the south-east, and, should there be a flow of lava at any future time, it would run down the south-east side to the "desert," or to the south of the "desert."

Large flocs of lava have formerly run down the mountain-side there, and Mr. Parkes, of the Geological Department, examined some of these when I was with him in January, 1885 or 1886, the year of the Tarawera outbreak.

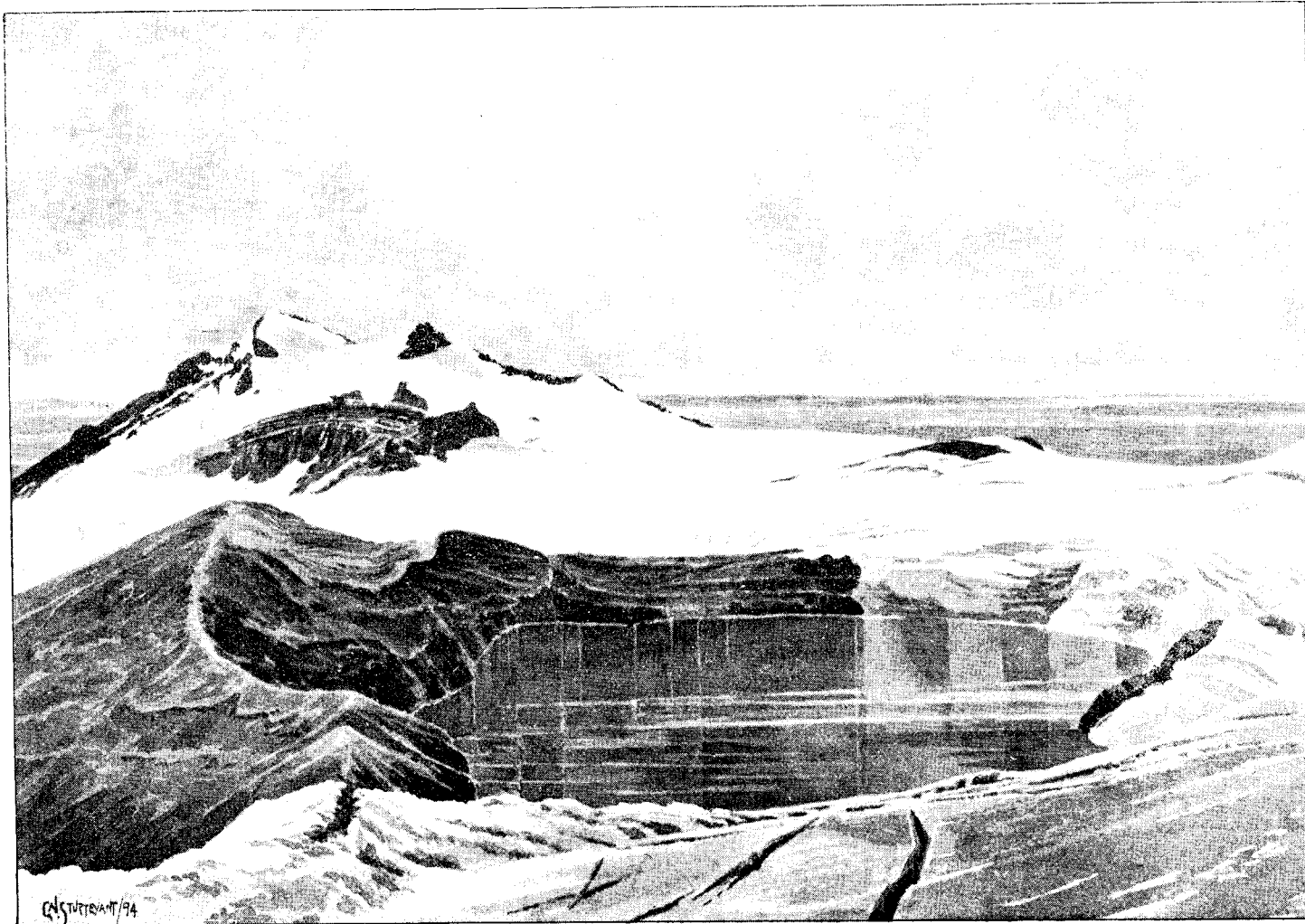
Ruapehu is particularly clear of snow this year, and the ascent was a very easy one. We were on the top for an hour and a half, and a cold wind blew from the north-west. No sign remains of my old trig. station; but when it was erected the mountain was deep in snow, and I could not get down to the rock, and it has been carried away with the snow. In some places there is 20ft. less snow than when I was up last. The photographs were taken under shelter of a rock, just below the old trig. station. The cliffs below are now bare of snow, whereas not a rock could be seen on my previous ascents. Tourists, or people wishing to climb the mountain, have plenty of choice, as there are four or five different peaks. Those on the north-west, north, and east are the easiest to ascend, and each commands a good view of the lake. But any one wishing to tread the highest point in this Island must climb the one that I have just been up, and the main spur should be chosen, and the sharp, extreme southern peak must be given a wide berth, as it is beset with precipices and dangerous snowfields, a view of one of which is given. Horses can be taken to the head of the bush, and two hours' tramp along the side of the mountain will give a good camping-ground. I have climbed the extreme southern peak once, and must warn any one from trying to reach the main peak that way.

We went from the Raetihi Township up the mountain and back to Karioi in fifty-eight hours, or two days and a half, without the aid of horses, which is very good time. I have made this longer than I intended, and I must close.

The Assistant Surveyor-General.

I have, &amp;c.,

WALTER H. DUNNAGE.



CRATERAL LAKE, RUAPEHU.

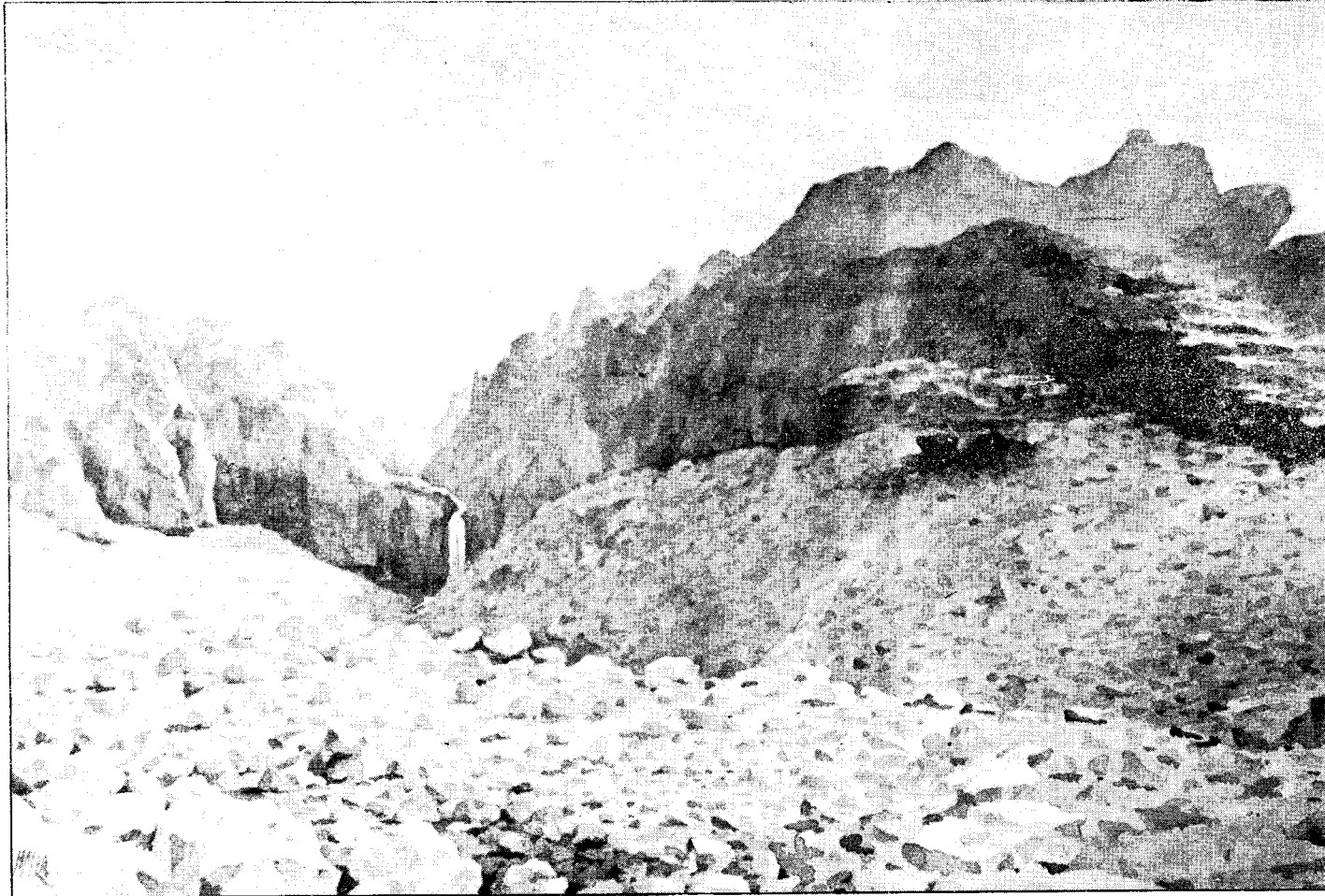




OHAKUNE, WITH RUAPEHU IN THE DISTANCE.







VIEW ON RUAPEHU.



## ON THE WESTLAND ALPS.

By MR. C. E. DOUGLAS.

IN accordance with instructions, a reconnaissance survey has been made of the Upper Waiho country. I was accompanied by Mr. A. P. Harper, whose ability as a photographer and sketcher, and his past experience on the Swiss and Canterbury ice-fields, rendered him invaluable on the Franz Josef Glacier, on which he schemed out and headed every excursion. A separate report by Mr. Harper is enclosed. We are extremely sorry that, owing to bad weather and state of the ice, we were unable to reach the upper *névé*, and to map the upper ice-fields. The routes marked on the map will show how frequently we were baffled.

We also, as instructed, blazed a route for the proposed road up to the glacier, and cut a track up the Moltke Spur to "The Outlook."

The road-line, river, and terminal face were traversed with chain and compass, but the glacier was too rough for measurements; hence we ran a compass ray-trace as far as we went, fixing numerous points *en route*. Two aneroids were used, and temperatures duly recorded. Checks on our horizontal and vertical measurements were obtained by reference to the trig-station on the Sentinel Rock, and the positions and heights of Cape Defiance, Unser Fritz Waterfall, and point G, all of which had been previously fixed by the trig. survey. To write a glowing account of the scenery can hardly be expected from me, as I have travelled so much in the inland parts of Westland, and the general appearance of the country is—in my eyes, at least—very similar, whatever the locality; what would appear wonderful to a stranger, I take a matter of course.

As to adventures, I cannot dilate on hair-breadth escapes, or relate tales of privation and suffering, such as having a camp blown away in the middle of the night in heavy rain and hail, and matches not to be found. This sounds horrifying, and is suggestive of untold discomfort to outsiders; but to us, and those who foolishly leave civilization for a life of exploring in new country, such mishaps are accepted as a matter of course.

It is sad to have to repeat the same old story of the gradual extinction of the native birds up every river in Westland, and the Waiho is no exception. Cats, when they run wild in the bush, would, in the course of a few years, become extinct, not through want of food, but by the young dying of starvation, or being picked up by the maori-hens, as the mothers either lose the run of them or cast them adrift before they are able to skirmish for themselves. The supply is kept up by more running wild from deserted diggings, survey and road camps, and that sentimental feeling which prompts the solitary digger to keep kittens as long as they are kittens, and then to kick them out to find a living for themselves. This is really the cause of the scarcity of birds. Dogs are little to blame, as they kill very few. Ferrets and stoats are now up to the Waiho Forks, and will soon be over the northern districts. They will finish the birds, and no doubt will get all the blame; but the process of extinction had commenced long before they arrived in the country. The Norwegian rat, which was no doubt responsible for some destruction, and which swarmed in the country at one time, is now becoming extinct from some cause or other, and the native and black rats are taking its place—two animals perhaps not quite so destructive as the grey gentlemen. Perchance the ferrets will go the same way. Now that the country knows what they really are—namely, a perfect pest—it is not likely that they will be deliberately bred and turned out to plunder, as is the style at present on the Wanaka; and it is to be hoped that the native birds will learn some of the hereditary instinct of the imported Home ones, which can take care of themselves, and are swarming everywhere. But I fear that the kiwi and kakapo are doomed. There is talk of putting some on islands in the Sounds or elsewhere; if so, the Government had better be quick about it, as it is quite possible that a few years will see the last of them. The eggs and young are being destroyed, and the birds are loth to pair; a year or two of the total loss of increase, and a bird species becomes extinct. It is extraordinary the number of bachelor and old-maid maori-hens and kiwis one now finds during the breeding season in Westland. An unknown terror has appeared, and they become depressed in spirit, and ignore the cares of matrimony. Mrs. Kiwi says, "What's the use of my laying that awful egg which Nature has given me, if that stoat sucks it; yes, actually sucks it while we are sitting on it? No, I'll be stuffed or roasted first."

The natural courage and fighting abilities of the maori-hen may enable it to hold its own, especially as he is evidently learning caution. Away in places where he could never have seen either a dog or a man, he has found out that from the dog his safety lies, not in running along an open flat, but in keeping in the dense scrub. He is just as curious as ever about a tent; but try to snare him in the old way, and he scratches his nose, winks slowly with his left eye, and says "Not this time."

If bird-life is scarce on the Waiho the variety is scarcer: two grey ducks, a pair of blue ducks with five young ones, a solitary exploring shag, and a misanthropic old gull represented aquatic bird-life. The blue ducks we tried to preserve; but the road-party exterminated them, of course. In the bush are plenty of kakas, a few pigeons, kiwis and hens; but no bell-birds, few saddle-backs and tuis. There were, however, numerous crows, storm-birds, and canaries; but, what is most singular, we saw no tom-tits, only one robin, and very few mountain wrens, although we found a lot of the latter birds lying dead on the glacier. As a rule, where the tui and crow are, there you will find all the other small birds; but here it was different. On the ice, 4,000ft. up, we found numbers of dead mountain wrens in all stages, from complete skeletons to ones covered with feathers; lower down, a few remnants of maori-hens, and one swamp-hen, were found lying on the ice. Keas are fairly numerous. The maori-hens fell, no doubt, from cliffs on to the ice, and were killed. They often perish in that way over the sea bluffs. The wrens are a bird with a very short jerky flight, and no doubt they, in trying to cross the glacier, got caught in a fog or confused among the ice-hummocks, and perished from cold. As for the swamp-hens, I have often found them lying dead on the main divide, and on snow-fields away south, as if they had been trying to cross and fallen through exhaustion.

It is hard to say where life begins and where it ends, or what degree of heat and cold this mystery called life can stand. There is a fish somewhere in the world who lives, marries, and is happy away down in the bowels of the earth. The volcano fish rejoices in earthquakes, lava eruptions, and a general temperature that, I suppose, would cook any civilised being. On the Waiho Glacier we found insect life in the streams and pools in the centre of the glacier, and 4,000ft. up. This apparent singularity was a small worm-like thing, from a sixteenth to an eighth of an inch in length. We had no chance to examine it properly as we had no microscope, but a few of them were sent to Hokitika. They were very active, and when chased dived into the almost invisible holes in the honeycombed ice. A small pool with a stone or two in it, or a little silt, contained more of them; but we got them in pools perfectly free from any shelter but the ice. What they are I do not exactly know, but I have my own idea: they are there simply by accident, and are the larvæ of a small spinning-jenny, numbers of which were crossing the glacier, where they deposit their eggs in the pools.

Another curiosity on the glacier is the number of spiders to be found on the ice. They are the ordinary spiders to be found anywhere in the bush. But what are they doing on the ice, and how do they pass across the crevasses? On the morainic drift, lying in places on the ice, there are plenty of webs and prey to be got, but I cannot say I saw any web fast to the ice. Perhaps they have lost themselves. Perhaps they are practising for a polar expedition sort of *arachnidæ nanseaii*; but the puzzle is, How do they cross the crevasse? Why they do not get their feet frozen? I dare say while the sun is shining they are comfortable enough, quietly freezing towards evening, and then thaw out again next day and proceed on their journey. We saw no dead ones lying about—they are active enough on the ice, and, when chased, go tumbling down a crevasse, as if it was a haven of refuge for oppressed spiders. Whether they ever come back again I cannot say.

In the bush, and off the ice, all other insects can be put down in the one word "mosquitoes." They were so enthusiastic in their attentions that all else was forgotten. Tourists visiting in summer would require to provide themselves with two necessary articles—a mosquito net to sleep under, and a calico bag to put clothes and blankets in during the day; this latter article is required in Westland both summer and winter.

Reports connected with Westland might be expected to give glowing accounts of the forests of marketable timber up every river; but the real truth is, that in the ranges and all along the face of the outer hills, there is no marketable timber whatever. The only useful forests are on the flats and broken morainic hills near the sea; but we have nothing to do with the lower country at present. Along the hills there are certainly a few totaras, pines, and cedars, but they are so scattered over spurs and gullies that they never will be of any use, except for a bridge culvert and other local purposes. The whole mountain forest, from the Mahitahi to the Arahura, is kamahi bush, as the typical tree, with the before-mentioned pines and totara, a few ratas and inos, with ribbonwood in patches, and the usual underscrub of geige, supplejack, lawyers, and pepper-tree. Climbing up a spur, the geige or kiki disappears at about 500ft., and the supplejack ranges, according to situation, from 800ft. to 1,500ft. About the 3,000ft. level the mountain scrub commences. This is composed of akeake, black scrub, grass-tree, and pepper-tree, various unclassified varieties of tree heath, and the curious pineapple-topped neinei, which is, I believe, also a heath. Ribbonwood, rata, and even pines are to be found up to the grass-line, which begins at from 3,400ft. to 4,000ft., but in certain situations scrub grows on the hills 5,000ft., and I have seen a stunted species of yellow-pine nearly to the 6,000ft. This is the furthest limit I ever boiled a billy. As to where the vegetation ceases I really cannot say; we were not high enough to run it out in the Waiho District; but in other places on the coast I have seldom seen grass much above 6,500ft., and then only in sparsely scattered stunted tussocks. The highest vegetation I ever found was a solitary anemone of a pale-yellow colour (the only life other than minute lichen), and it was growing on a bare patch surrounded by snow, at an altitude of nearly 8,000ft. Some of the spurs towards point S and Cairn XXX. were beautiful with alpine flowers—lilies, anemone, eidelweiss, flowering heaths, and violets. The pine-topped neinei gave a singular semi-tropical appearance to the landscape. This neinei ought to be more generally known. If once introduced into the Old Country it would be the rage. Its singular foliage, and its still more singular manner of growth, are very striking. One tree will be straight as a palm, with one top of crested leaves; close to it will be another throwing out branches in every sort of fantastic form. It has a smooth bamboo-like bark, very unlike the usual moss-grown wrinkled outside covering of West Coast trees and scrub. I am certain it would make a useful ornament in artificial parks, and, although what would be called a true mountain scrub, yet I have often found it in patches in the low country. The neinei grows to a height of 30ft, and some are nearly 1ft. in diameter. The trunk has a thin outer skin as hard as rata, with a pith inside that can easily be cut out with a knife.

There are two other notable shrubs to be found up the Waiho, on the spurs near the grass-line, and on open slips and moraines. I do not know their names, but they are allied to each other: one we call the musk plant, the other the incense plant. They are not handsome shrubs; the foliage is dull sage-green, and their scent is not noticed unless they are burnt, or wet and squeezed in the hand. A small twig burned in a room gives an odour as from a censor, and completely drowns that of the coarsest totara. It is a very common plant all over Westland, and sometimes is to be found in the coast country, but it has a weaker scent at low altitudes. I also hear it is plentiful on the eastern slopes of the divide.

The terraces down the river are in general low—from 4ft. to 10ft. The slip above the wire bridge is about 200ft. high. It is not moraine, but river-wash, deposited in comparatively still water, possibly caused in ancient days by the Callery ice damming back the Waiho, but probably only for a brief period.

There is one thing I would like to impress on any one with eyes who visits the Waiho during the next few years, and it is this: Some eighteen months ago an immense slip came down on the



S. PERCY SMITH  
Surveyor General.

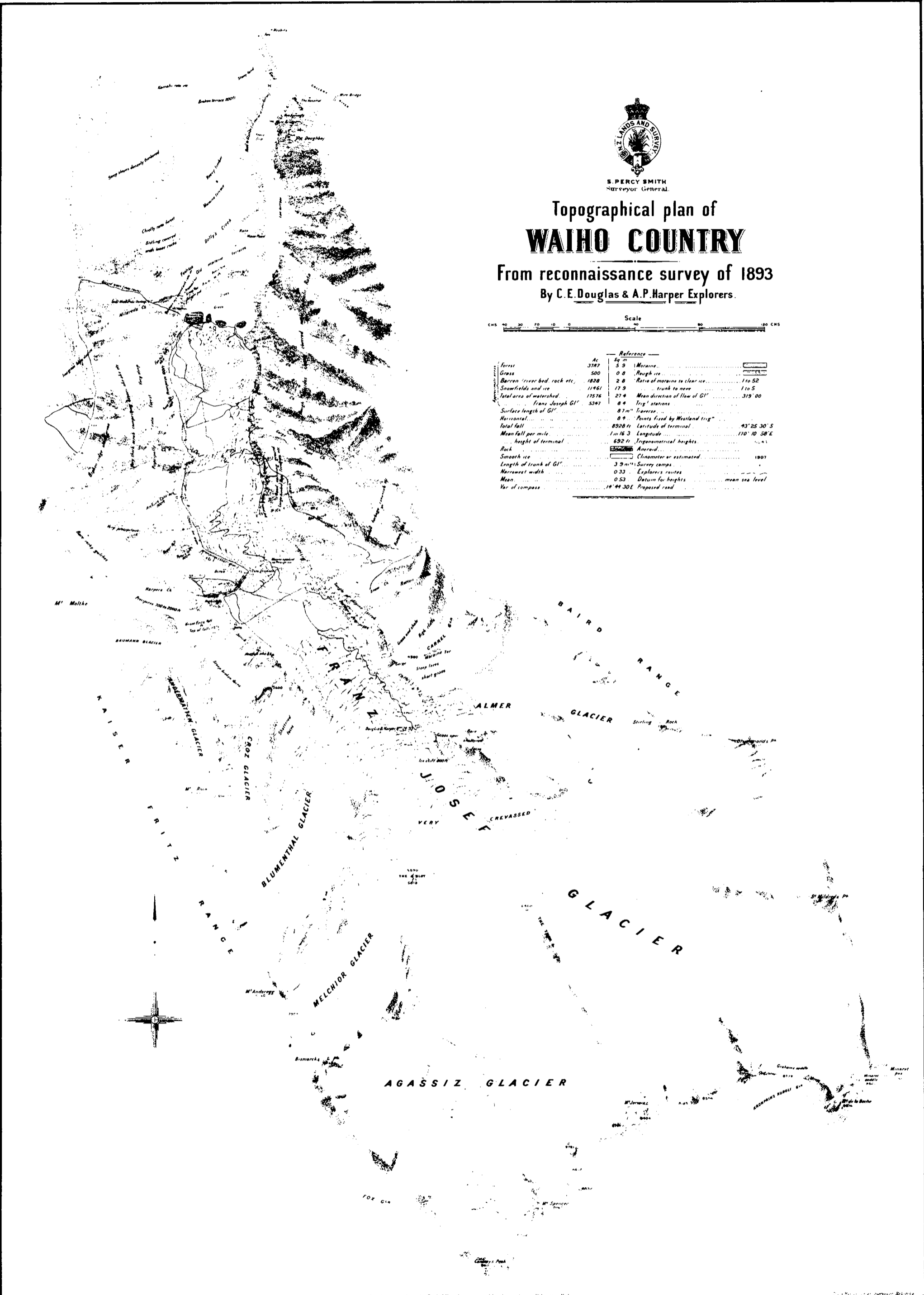
# Topographical plan of WAIHO COUNTRY

From reconnaissance survey of 1893

By C. E. Douglas & A. P. Harper Explorers.



	Ac	Sq m	Reference
Forest	3787	59	Moraine
Grass	500	0.8	Rough ice
Barren river bed, rock etc.	1828	2.8	Ratio of moraine to clear ice
Snowfields and ice	11461	17.9	Ratio of moraine to clear ice
Total area of watershed	17576	27.4	Ratio of moraine to clear ice
Frans Joseph GI	5367	8.4	Ratio of moraine to clear ice
Surface length of GI		8.7m	Ratio of moraine to clear ice
Horizontal		8.9	Ratio of moraine to clear ice
Total fall		8528 ft	Ratio of moraine to clear ice
Mean fall per mile		1 in 16.3	Ratio of moraine to clear ice
height of terminal		692 ft	Ratio of moraine to clear ice
Rock			Ratio of moraine to clear ice
Smooth ice			Ratio of moraine to clear ice
Length of trunk of GI		3.9m	Ratio of moraine to clear ice
Maximum width		0.33	Ratio of moraine to clear ice
Mean		0.53	Ratio of moraine to clear ice
Var of compass		16° 44.30E	Ratio of moraine to clear ice







S. PERCY SMITH  
Surveyor General

# Geological Formation WAIHO COUNTRY

— Scale —

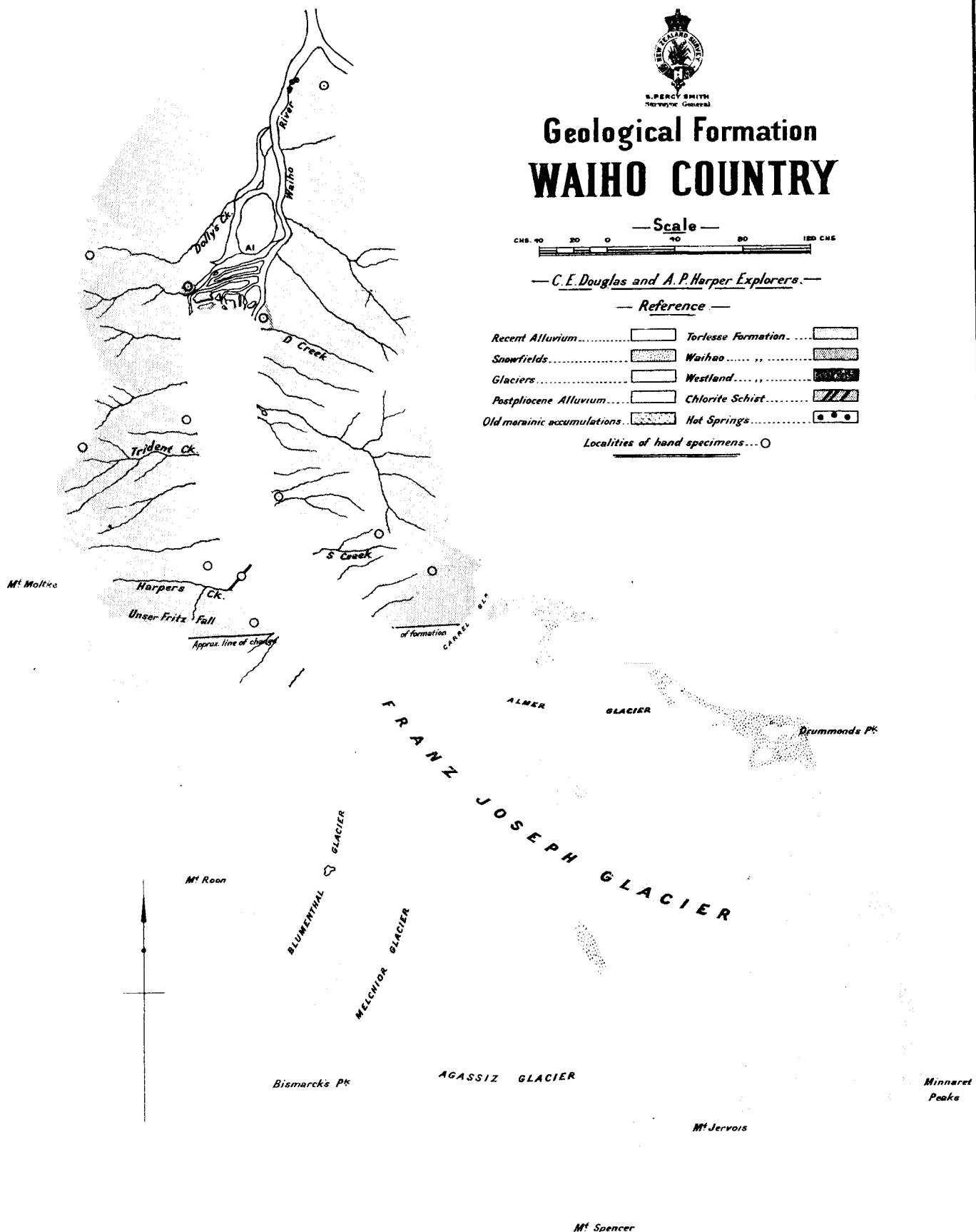


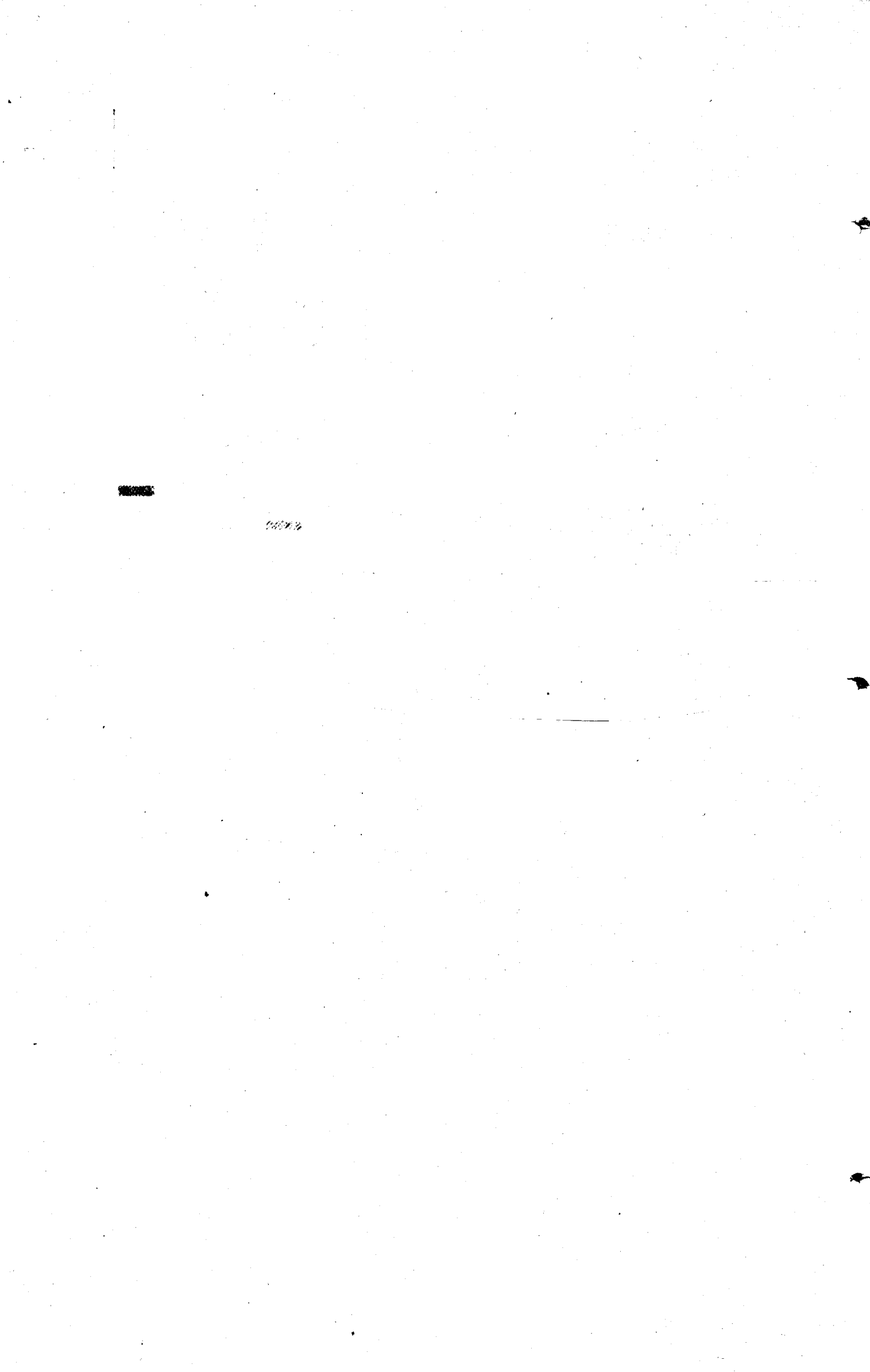
— C. E. Douglas and A. P. Harper Explorers. —

— Reference —

Recent Alluvium.....		Torlesse Formation.....	
Snowfields.....		Waiho.....	
Glaciers.....		Westland.....	
Postpliocene Alluvium.....		Chlorite Schist.....	
Old marainic accumulations.....		Hot Springs.....	

Localities of hand specimens...○



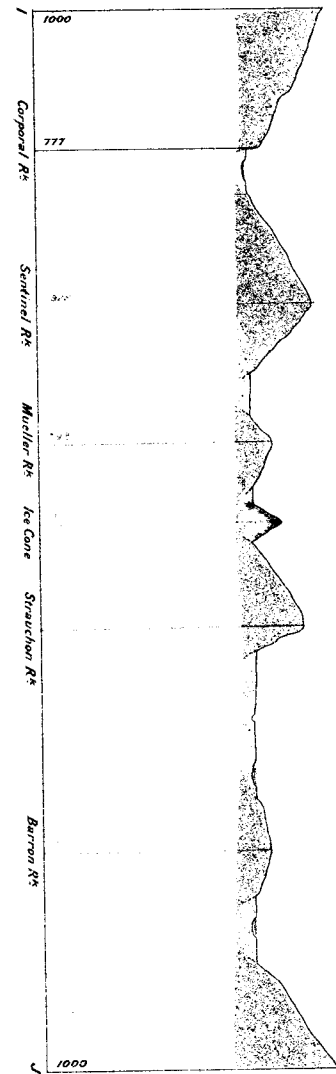
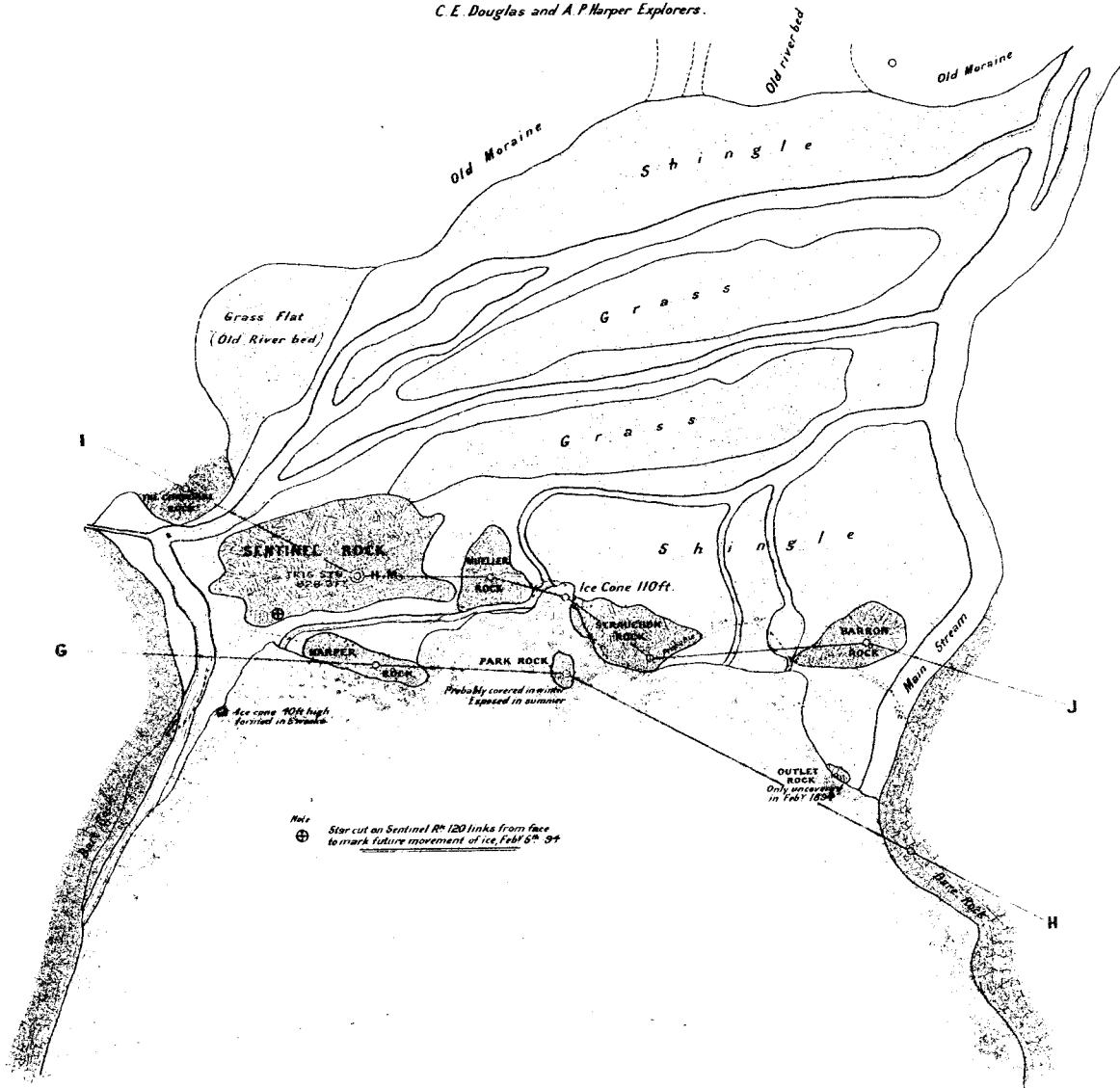
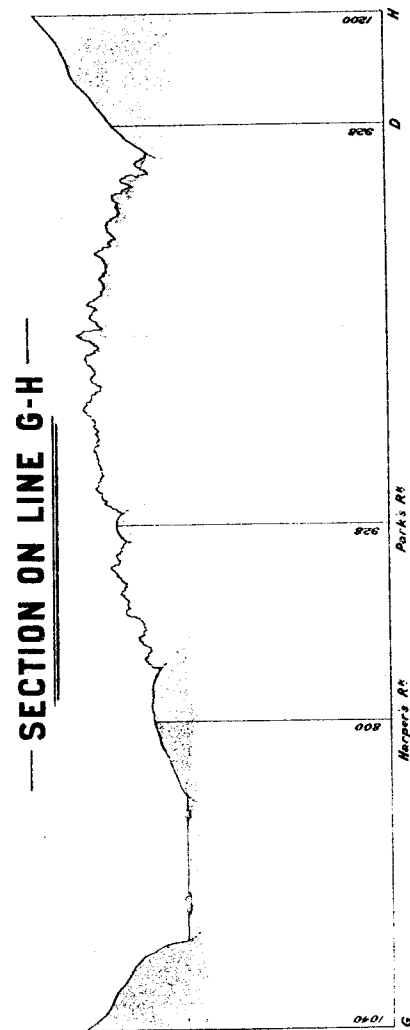




# TERMINAL FACE, FRANCIS JOSEPH GLACIER

November 6<sup>th</sup> 1893

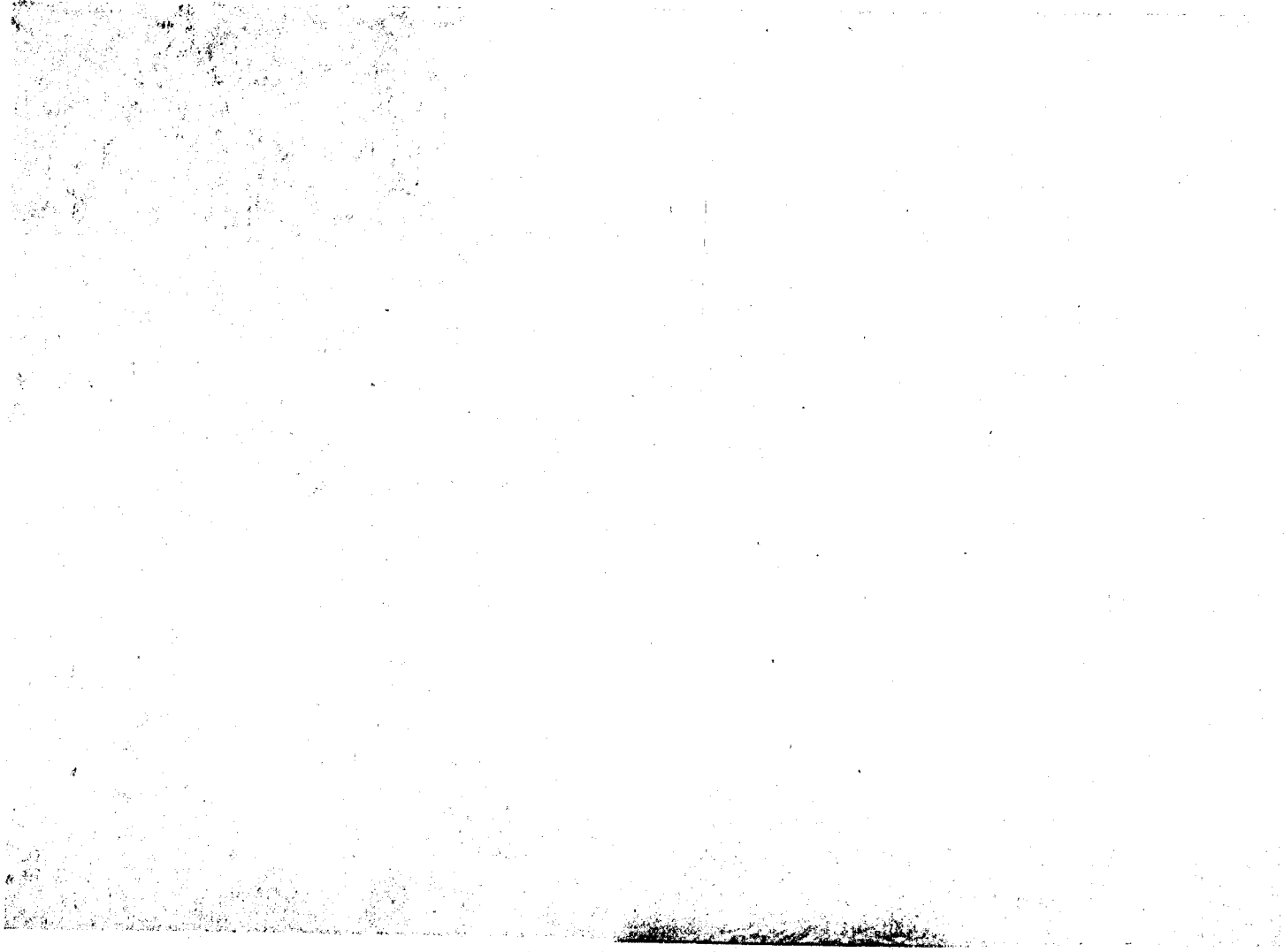
C. E. Douglas and A. P. Harper Explorers.



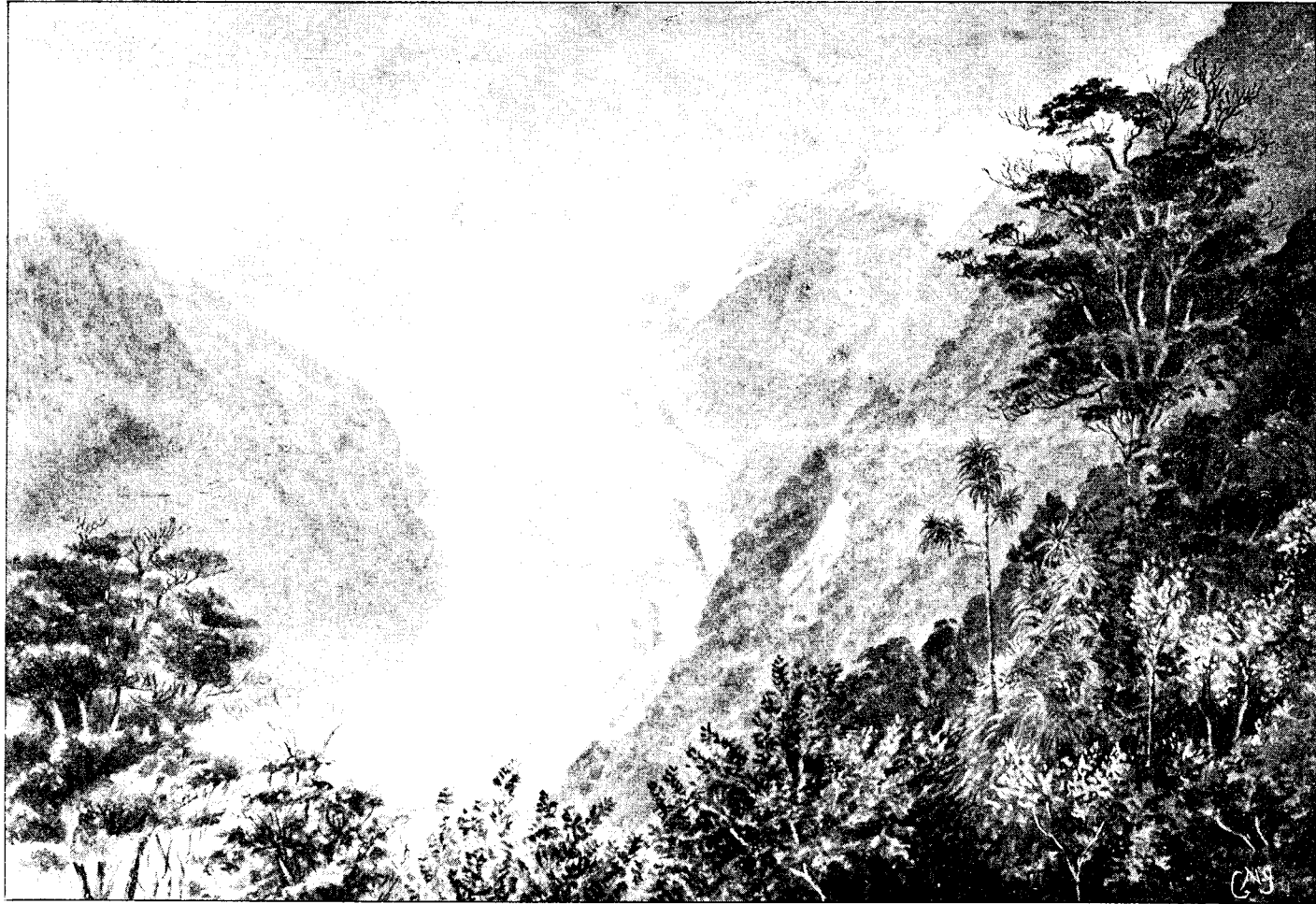




WAIHO COUNTRY.—MOUNTAIN VEGETATION.



WINDY COUNTRY - NEW YORK



FRANZ JOSEF GLACIER, FROM CAMP NO. 6.



glacier, almost reaching across it; this is slowly travelling down on the top of the ice, or tumbling into crevasses and being carried down as under-ice moraines. According to the rate of the ice-floe this mass of drift will be over the terminal face by next spring, and for a few years to come the snout of the glacier will be disfigured with stones and dirty ice. Now, from its size, I am almost certain this mass of drift will form a terminal moraine of no mean size along the present face of the ice, the duplicate of the one at  $\Delta$ ; and what I want, and would impress on every one who takes an interest in such matters, is to watch and note the progress of this mass of drift. An immense slip coming down on a glacier, I am certain, has more to do with the formation of moraine in some places and not in others, and has an effect on denudation that as yet has been taken little account of.

If careful notes were taken, and this drift forms a new lateral moraine, or perhaps causes the  $\Delta$  one to be attacked, I think some data as to the age of the large lateral moraine three miles below the Forks, and another interesting fact, might be obtained. If a moraine is formed, it will be found to be composed principally of rolled schist wash, with very little Torlesse slates in it, and the amount of angular and semi-angular boulders will be small compared with the rolled wash that will be found lying beneath. It will also be totally different from the moraine extending from the mouth of Dolly's Creek to  $\Delta$ , the highest point of which is at A1; this latter is composed of a mixture of the schist and Torlesse slates, showing that it came from far higher up the glacier, and there are far more larger rocks mixed with it. Now, I believe that in olden time land-slides, compared to which the present big slip is but a speck, came off the face of the peak above point S, and from the cliffs between Unser Fritz and point G, and completely covered the glacier for years. This took place probably when the glacier was on the No. 2 line level.

In my report on the moraines between Cook's River and the Omaroa, which went to Hokitika some five or six years ago, I remarked that the bluff-faces were composed of rolled wash, capped by angular morainic drift. Mr. McKay, the Government Geologist, remarked the same peculiarity up the Hokitika and Arahura Rivers, and he appears to have been puzzled—at any rate he gives no reason why the morainic drift should be dumped on the top of what appears to be river-wash. The process is very simple, and can be seen going on at the Waiho at present, and at the Thermal Glacier, Waiaototo River. The formation and sorting of a moraine depends entirely on the quantity of drift lying on its surface near its terminal face. One like the Strauchon, almost entirely covered with drift, will deposit at its face a moraine composed almost entirely of angular blocks, as the drift which falls direct from it is out of all proportion to that which drops down crevasses and is shoved up at its snout by the ice-pressure as rolled river-wash, abraded by the action of the ice and the water underneath. One like the Franz Josef, before the big slip came down, would send little or no drift over its face, but would send it out as rolled wash in a ground moraine; but, now that the slip drift is approaching the terminal face, the two processes will go on together: the rolled wash will be forced up from underneath, and the angular and semi-angular drift will fall from the ice on the top of it. But, large as this slip is, it will not be so powerful in its results as to form a moraine like that at  $\Delta$ , where the angular and rolled drift has been in nearly the same quantity. If this is the process by which part of the Gillespie's Bluff, Cook's, Hunt's, and other sea-bluffs, have been made, then they are not, as is supposed, the end of lateral but are in reality terminal moraines. This assertion is not so astounding as at first appears. I have seen maps showing the original size and shape of the old West Coast glaciers, and in every instance they follow what are now the present river-flats, and the long ridges of drift running parallel with them and ending in high sea-bluffs are called their lateral moraines. I have examined every river, from the Arahura to the Hollyford, and in no single instance did I find the ice flow in any direction but north. The Waiho drift is to be looked for not at its mouth, but away north toward the Wataroa River. I believe the whole country was a mass of piled-up drift at one time, and the so-called lateral moraines are simply drift hills, shaped by the various rivers, ages after the ice had anything to do with them. The lateral moraine below the Waiho Forks, the old course of that river and the Totara into Mapourika, are but events of yesterday. I had not time to examine this moraine just mentioned, and will not commit myself and say it is one. It looks like one, certainly; yet it resembles, only on a larger scale, many of those giant bars which so many Westland rivers have formed across their course, and changed their flow into a totally different direction. Examples of such are to be seen on the Teremakau, Waitaki, and Pyke Rivers. It requires to be examined to see if these are not remains of lake beaches along it. It is, of course, ice-drift, but its nature has to be proved first. I cannot get it to fit in with any of the old ice-lines, unless R to the Outlook is the one. Whatever it is, its shape is against its being a terminal moraine, and that peculiar form is more of the bar than anything else.

In valleys containing large glaciers I have always found four tiers of terraces, or old ice-lines, as if there had been four distinct periods. These lines keep a wonderfully regular distance from each other, and their inclination is very uniform, from, say, 4,000ft. to 600ft. or 700ft., where the river valley breaks out of the hills. The longer the valley, the more gentle the slope. The best places to see these lines are up the Haast, near the Eighteen-mile Bluff; and, better still, the wonderful terraces of Mount Caria, up the Arawata, where the old lines can be seen quite distinctly for 4,000ft. up, and running for miles down the valley. In the smaller valleys, two and three terraces are visible, and the smaller ones have none. From this I would conclude that the Franz Josef, although the largest glacier at present, was, during the great ice period, of second, or may be third-rate importance. It must have been far eclipsed by Cook's, and the Karangarua. It is possible that the flat ledge at point L, and a faint trace of another at point G, may be remains of No. 4 line; but they are high above any line I have yet seen, and there is no trace of it lower down. The highest remains of those terraces are at point U, the Outlook, and 1,000ft. above the mouth of Mildred's Creek; and those points decidedly belong to point R, U, and N line (F.B., p. 14). This article is margined surface geology; it treats more of the surface than what is under. The dip and strike of the rocks are the same all over the country, N.N.E. with a dip E. The valley of the Waiho has been entirely eroded across the line of strata, the rocks being schist, gneiss, and

Torlesse slates. The gneiss shows in the Sentinel, Corporal, and Terminal rocks. At the terminal face of the glacier, and away up on both sides, the schists come in, fragile in some places, in others hard and smooth, and hardly to be distinguished from the gneiss. Where the Torlesse slates come in we could not find out, as we could not get ashore up the glacier; but the moraine at Harper's Creek is composed principally of schist, with a sprinkling of the Torlesse slates; and the long, narrow streak of medial moraine down the ice-fall, marked on the map, is composed entirely of the slates; so no doubt the line of junction is between the Harper's Creek, at its head, and Mount Roon. In the middle of the glacier, down to the second ice-fall, and even down near to point D, a few stones are lying on the ice; they are, without exception, composed of sharp-edged pieces of the Torlesse slates.

I found no trace of reefs, dykes of either chloride schist or diorite, up the spurs, or on the ice, or moraines. There are a few thin veins of quartz here and there certainly, but they are unworthy of notice. A few crystals were also found near Cairn XXIV., but variety of rock of any kind up the Waiho is conspicuously absent. In fact, I have never been on a river which showed so few indications of any mineral, or variety of rock. Little wonder that no gold is to be got on the Waiho, from the Forks to the glacier.

Tourists and others who wish to view the glories of Westland, as seen in various parts of the Okarito district, have two routes open to them from Hokitika, either to come down by steamer or travel overland. A subsidised steamer leaves Okarito every three months, but the exact time of sailing can never be depended on, as the inhabitants know to their cost; short spells on short commons, and even famines, are of frequent occurrence, although, singularly enough, a whisky famine is an unknown thing. If there was sufficient tourist traffic to keep a regular steamer running through the summer months, by sea would certainly be the best way to go down; then travel up overland, or *vice versa*; but unless they came in sufficient numbers to hire a steamer, or enable one to run often during the summer months, the overland route is the only one left.

There are three or four parts of the Okarito district well worth a visit. First, there is the panorama of the Southern Alps, to be seen from any point two miles along the spit; this is an unknown scene, not even the inhabitants who live on the spit appear to know it, and they consequently never suggest to a traveller to cross the river. This view of the Alps has one great advantage: it is one of the views of the mountains to be got with a decent foreground—namely, the Okarito Lagoon. Next comes the view from Malcolm's Knot, south of Cook's River; but this scene comes in more with a visit to the Fox and Balfour Glaciers, and that will be dilated on in some other report. Then, there is Lake Mapourika and the Franz Josef Glacier, and, in my opinion, the finest scene of all, the wonderful gorge of the Killery, as seen from either the wire-bridge or from the river-bed a few chains below it. If the tourist is in a hurry, and they always are apparently, the Spit of Okarito, Mapourika, the gorge of the Killery, and the Franz Josef Glacier can all be visited in a long day; hiring horses in Okarito, or starting with their own, the tourist can return either to Mapourika or Okarito the same evening.

To one with a little leisure, and who really can appreciate scenery, I would recommend a day spent in cruising over the Okarito Lagoon; another day and a night at Lake Mapourika. That glorious lake is like Melrose Abbey; it ought to be visited in the moonlight; and it is worth coming down at the time of full moon if for no other purpose. Then a day to the Killery Gorge, and up to the glacier of the Waiho, and camp for two days at the very least, visiting the Outlook and crossing the glacier at Cairn 7, thence up to point S, from which by far the finest view of the glacier can be seen; this, however, can only be attempted by experts. If the road was cleared up through to Cook's it would be an easy day's stage to the Fox Glacier; one day would do that place, thence down to Malcolm's Knot and Gillespie's. The Balfour and Perouse Glaciers are not open to the ordinary tourist as yet. Painful swagging, and weary climbing, through bush and over mountains and rock, will be the fate of any one trying them. Guides and porters in the Okarito district are now non-existent; but no doubt those beings will come into life when there is a demand, and tracks will be cut when required, either by the inhabitants of the district—which is not likely—or by the General Government.

At Lake Mapourika a good view can be seen from the Landing, as it is called, where there is a good branch track from the main road. Here a view of the lake and snowy mountains can be obtained, and, if a cruise is wanted, a boat can be hired from Mr. Donovan. At Lake Mapourika the best place to camp is at Trig. 10, over the lake, where a good view of the rising moon can be obtained if the visitor is in luck with the weather.

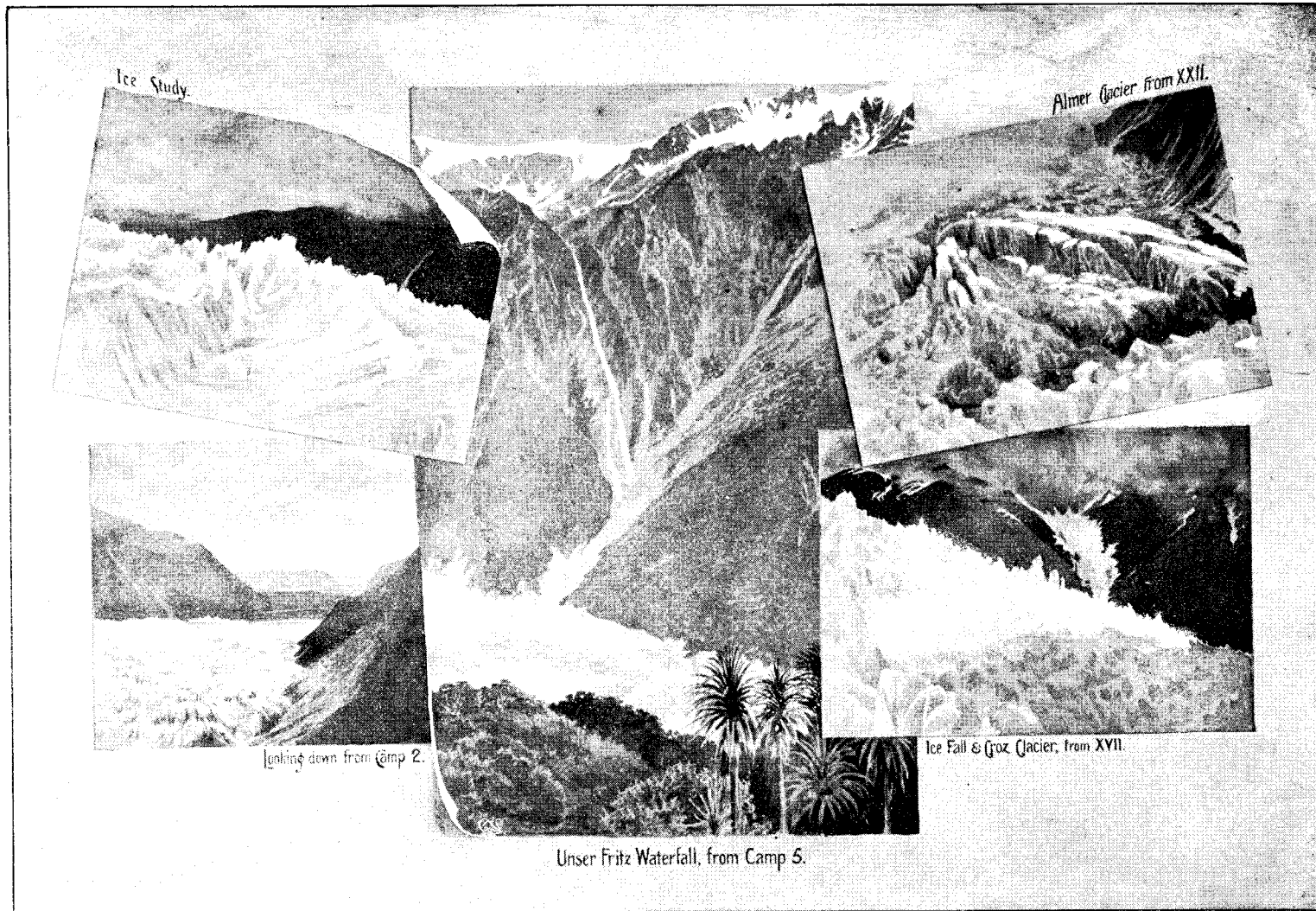
Leaving the Landing, and continuing the journey, the road skirts very close to the lake for several miles, but from the dense nature of the scrub only aggravating glimpses can be obtained. It would be a splendid road to travel if the scrub only was cleared between the road and the water, but will not be till it is widened into a coach road.

The track from the lake to the glacier is a good horse-track, but a short track ought to be cleared at intervals to various spots along the road passing Lake Mapourika, or perhaps, better still, a few clearings made to enable the tourist to see that beautiful sheet of water. There is a good track at present from the main road to the landing at the outlet; but, to those who cannot afford a day and take a boat, it is aggravating to catch only glimpses through dense foliage.

Another track which would show the great ice-fall of the Franz Josef is from the old wire-bridge to Point S., as marked on the map. This would cost very little, as an ordinary bush foot-track is all that is required at present. It would require to be taken above the cliffs at Point D and Arch Creek, to avoid rock-cutting; and the whole route would be easy, except in one or two gullies, where a log-bridge or a piece of crib work would be necessary.

The track already blazed to the Outlook is simply a stiff climb all the way, but not very bad, unless those who clean it out are too careful and cut away trees and scrub which ought to be left for hand holds. From there on to the grass we blazed a track, which would require very little clearing. It is not nearly so steep as the first part; but I think the Outlook is quite far enough at





Ice Study.

Almer Glacier from XXII.

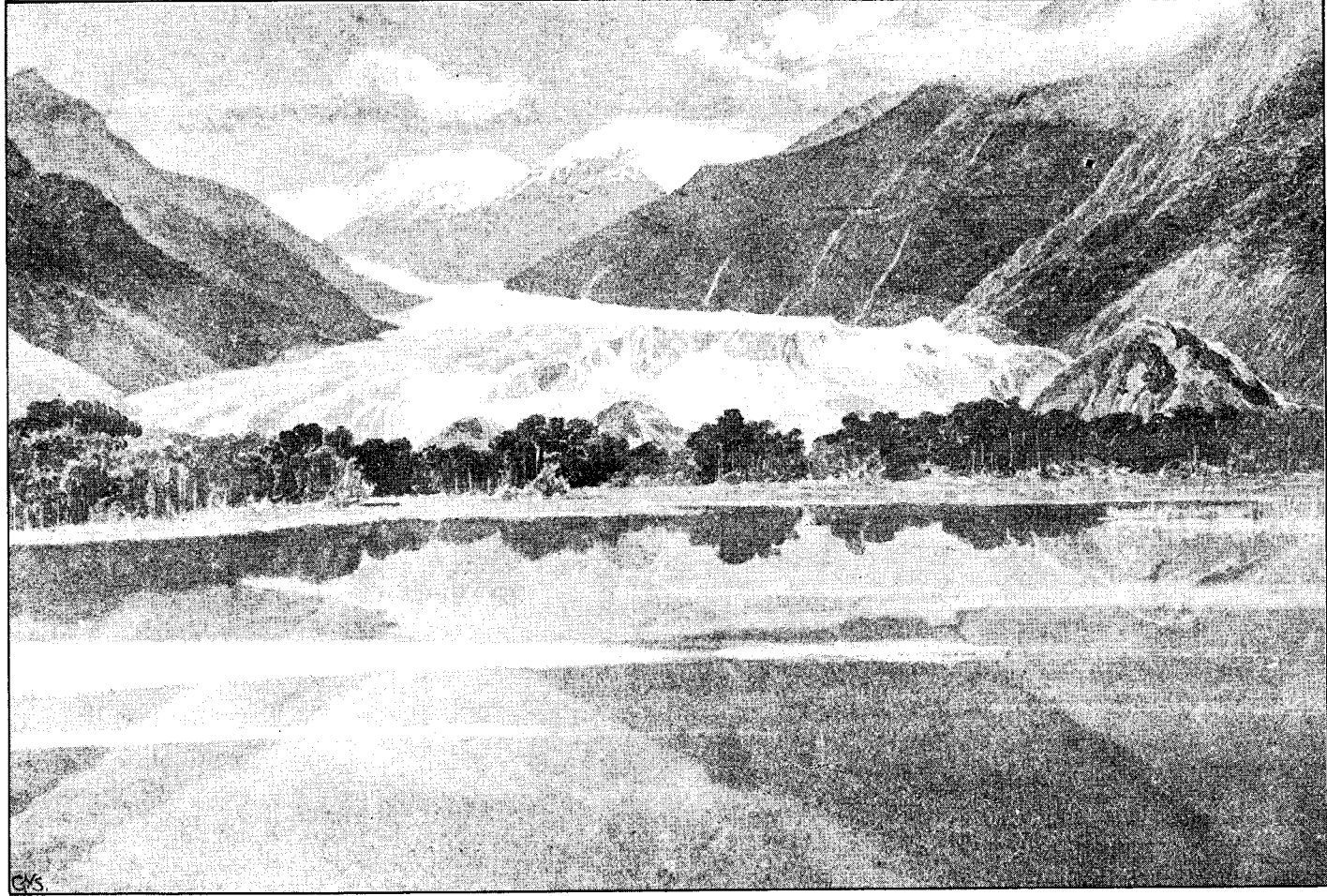
Looking down from Camp 2.

Ice Fall & Fox Glacier, from XVII.

Unser Fritz Waterfall, from Camp 5.

VIEWS ON FRANZ JOSEF GLACIER.





FRANZ JOSEF GLACIER, FROM PETER'S POND.



present. Few tourists will care to go much further, though the view from the grass is very fine, including a vast panorama over the low country. We did not go any further than point W, not that it was impossible, but because nothing could be gained by so doing, as no practicable route for the ordinary tourist can be taken that way.

Before the country in the Okarito district can be properly opened up for tourist traffic, the road from the Waiho to Cook's River must be reopened. It is in tolerable repair as far as the Oamerao, but from there to the Waikukupa it has completely grown over, and in some places the road has slipped completely away. To show how bad it was two years ago, when I came through that way, I left the track and took to the bush as being far better walking.

Another thing we would suggest, although it does not come under the heading of "tracks," and that is a shelter-hut at the glacier, on the site marked on map. The "hospital," as it is called, besides being occupied, is too far away, and, now the bridge is gone, it is practically useless.

To camp in a digger's hut for a night is awkward, especially if ladies are of the party, as the owner would have to clear out and camp under a flax-bush. Besides the usual hospitality of the digger will gradually be overtaken, as tourists come into the country, and before hotels will pay to put up. At present, the traveller has either to make a hurried rush up to the ice and back to Okarito the same day, or carry tents and baggage with him (which latter is expensive, where 2d. per pound is charged for packing, or more if they can get it), else he has to live on the digger. A hut at the glacier would alter that; there is feed enough for a few horses, and a blanket and a couple of days' provisions would be all that are required. The site suggested is perfect for firewood and water.

CHARLES E. DOUGLAS.

### THE FRANZ JOSEF GLACIER.

By A. P. HARPER.

TAKEN as a whole, this glacier is well worth attention both from lovers of fine scenery, scientific men, and climbers; its position and surroundings are, excepting its neighbour, the Fox Glacier, unique, and it differs in many ways from other glaciers in New Zealand or abroad, while it presents as difficult and interesting a piece of glacier work as the most enthusiastic climber could desire. The combination of ice, sub-tropical plants, fern-trees, and rata bush is not easily forgotten. Take, for instance, the view and surroundings of Camp 2, which was pitched in one of the best camping-grounds we have had, good open rata bush with immense trees, numberless ferns, good water running within ten yards of the camp, in a deep gulch in the solid rock with fine pools at intervals for a bathe, and a fine view over the flats to the sea, where we could see the "white horses" raised by a squall of wind. With such surroundings, it was hard to realise that we were actually one and a half miles up a glacier, which passed 400ft. below, and close to alpine peaks such as Roon, Suderegg, and the Bismarck Range.

The result of this condition of things is, that one finds sub-alpine plants such as the neinei, daisies, and eidelweiss growing amongst the vegetation of the low country. I found one plant of eidelweiss as low down as 800ft., growing near the terminal face; when growing at this low altitude it does not appear to be more luxuriant than in its usual surroundings, but, on the contrary, is more stunted.

Another somewhat new experience to most people would be to bathe in a hot spring, temperature 130°, which, if too hot, can be cooled by letting in some ice-water, or even take a block of ice which has come down the river and cool the spring-water. While enjoying your bath you have a fine view of bush, glacier, and alpine peaks within two miles. These hot springs are found on the flat below the Doughboy. Almost anywhere at the depth of 6ft. below surface the water found would be warm; at 8ft. below the surface, or on the edge of the river-bed, the temperature is 120°; and at 10ft., or 2ft. below the river-bed, the temperature is 130°, which was the hottest I could find. Their rise and fall correspond with that of the river, and they are very active when the latter is high. Of course the temperature is not stationery, for on occasions the water is found some degrees cooler. When Messrs. Nesbitt, Gordon, and Woodham were deepening their water-race, after the flood in February last, the water from the springs was uncomfortably hot to work in before the river was reached.

From above the bush-line the views are splendid; one then sees the real alpine scenery, for, as I have said, the surroundings of the glacier, as far as its lower reaches are concerned, are poor, from an alpine point of view—for Moltke and Roon can hardly be called fine peaks; but above the bush-line one sees the fine panorama of the peaks on the dividing range surrounding the *névé*. The best views we got were from S, R, and V. As a pure ice-scene the view from the first-named point is magnificent. Below us was the ice-fall, with its surrounding tributary glaciers, the Melchior, Aylmer, and Blumenthal—all fine ice-falls in themselves; beyond them was the south side of the immense *névé*, which is, strictly speaking, a tributary glacier—the main flow of the ice coming from Mount de la Bêche, and which is so broken on its lower part that it may almost be called part of the ice-fall. Surrounding this basin are the fine rock peaks of the divide and the Bismarck Range, including Spencer, Jervois, and an unnamed one, to which we have put W. M. Conway's name, at the junction of the Bismarck Range and divide. Mount Spencer is very striking from here, rising as a complete cone of bare rock, and showing far more as a peak than from the Tasman side.

Looking seawards was a fine panorama, but limited, as it was cut off to the south by the Mount Moltke spur; to the north the coast-line could be followed bluff after bluff to the Wanganui River, and further north still we could see the hills by Greymouth.

From R, on the opposite side of the valley, the outlook is very grand. Immediately on the right, within a few chains, was the Unser Fritz Waterfall, with its small glacier and enormous precipices on each side. This fall is decidedly the feature of the glacier, and after rain is magnificent; but it is so high that in its normal state the amount of water, which is considerable, is dwarfed. It

can be seen only from a few places, being in a narrow valley; the best view of it, on the whole, is from the ice about Cairn XIV., or from Camp 5. The total height is 1,209ft. sheer.

To the south-east we got for a short time a clear sight into the main *névé* coming off Mount de la Bêche, and the saddles leading to the Tasman Glacier; opposite us was the Almer Glacier—a fine open field of ice coming off Stirling Rock. Of the low country, Lake Mapourika and the beach to about the Wataroa River was all that was visible. As, however, the fog came down and rain began soon after we got up, the photographs obtained from here show little of the divide, and the low-country panorama was not worth taking in so bad a light.

On the Moltke Ridge, at point V, I tried several times to secure photographs of the superb panorama seen from here, which is on the whole the best point of vantage for a general view; the fog, as usual, obscured everything soon after 9 a.m., and it was only after several vain attempts to race it, that I was able to secure the photographs sent up.

The panorama towards the high country includes the ridges over the Totara and Callery Rivers, with the ice-fields and fine rock-tower peaks at the head of the latter. The divide can be seen from Mount Elie de Beaumont to Mount Spencer: the former, as we saw it from here, is as striking a peak as any of the Tasman Glacier peaks—in fact, I consider that, as seen from V, Elie de Beaumont would be hard to surpass, with its grand mass of rock and ice.

To the north along the coast were the Greymouth hills, Lakes Ianthe and Mapourika, while the river bluffs from the Wanganui to the Poringa were easily visible; no doubt on a clearer day Jackson's Bay point could be seen. We have blazed a good rough track to the grass on this spur from the Corporal Rock, and any one inclined to see the grand views from the hill could easily go up and down in six to eight hours, and spend an hour on the grass. A good walker could do it in considerably less time. While about 900ft. above the flat is a clearing for an outlook, from which a grand view of the glacier is obtained, but the flat country is hardly visible.

As one would naturally anticipate, in a glacier which descends from 9,620ft. to 692ft. above sea-level in a distance of  $8\frac{1}{2}$  miles, the surface of the ice is very broken and rough. This rapid descent would cause a glacier of much higher altitude than the Franz Josef to be broken and crevassed, but, when combined with such a temperate climate and proximity to the sea, the roughness and rottenness of the ice is still more noticeable. I have had considerable experience on glaciers, both in New Zealand and elsewhere, and I can safely say that this glacier presents difficulties on the "dry ice" which far exceed those ordinarily met with, and which will be, I fear, an effectual bar against much high alpine work from this side, which necessitates a route up the glacier first.

On beginning work we had considerable difficulty in finding a route up or across the ice, and after a day's reconnoitring I saw that no possible route could be found straight up the glacier, as, about a mile or so from the terminal face was a small ice-fall, consisting of ponderous broken ice, caused by huge longitudinal and latitudinal crevasses.

An attempt along the south side failed, owing to the ice being lined by ice-worn precipices of 100ft. and more, fringed with scrub and bush growing on almost precipitous hill-sides, and the ice being very broken and unsafe for two or three chains from the sides; in fact, in only five places on the whole glacier did we find a practicable route through the rotten ice to the smoother ice in the middle. On the map it will be seen that several short red lines appear on the ice, and stop without any apparent reason. These we have noted to show how frequently we were baffled; and I am sure that, when we were on the glacier, no routes on or off existed but those we found, because in looking for these we went over a great deal of ground. The nature of the rough ice may be realised by some, when I say that our route from the side of the glacier to Cairn III. took us about an hour and three-quarters of hard step-cutting and gymnastic exercise, up, down, and around hummocks and crevasses, and the total distance cannot be more than 14 chains.

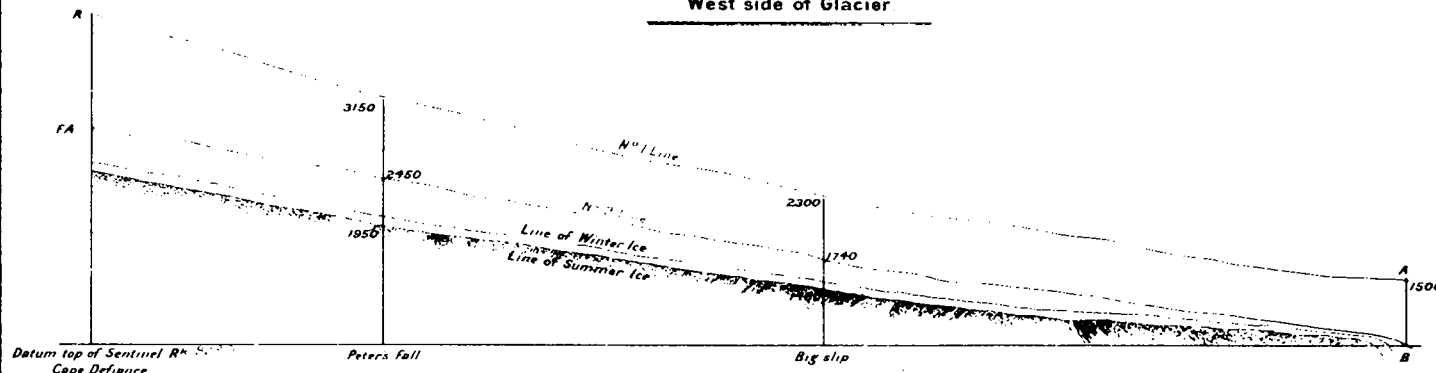
We decided to try the north side, and, after fossicking for a route by ice over the river in vain, we found a way across by the route marked in red to the north side. This side is not so precipitous as the south until point E is reached, after which the sides fall sheer in to the ice—100ft. or more of smooth ice-worn rocks. Between point D and E are some creeks, three of which have bad bluffs, looking like a deep one-sided gorge. Those at D and Arch Creek are very high; but, having landed beyond that, Arch Creek did not in any way hinder us. This creek is a small one, running into a deep gut between the bluff on one side and the "Eye-tooth," a conical rock, on the other, and so into the ice. The face of ice exposed must be over 200ft. sheer. Above Arch Creek is another bluff of some 50ft., which we negotiated with help of a rope; hence the name, "Rope Creek": here a fixed rope was left, and used by us in our many journeys to and fro for supplies.

After skirting the ice for about half a mile, a route was found on to the glacier above the ice-fall, below Cairn VII. This, however, took us nearly two days from camp No. 2, and we only managed to reach the smoother ice in the centre after six vain attempts, each time being baulked when about two or three chains from the side; the last, however, was not easy, but on the whole good, if that word can be applied to a route involving an hour's gymnastics and step-cutting amongst huge "seracs" and hummocks to advance 10 or 12 chains. The surface of the glacier presented such a confusion of deep crevasses and high hummocks, through which we had only one way of return, that it was decided to leave a track from the smooth ice by depositing at intervals a rata twig. This, of course, was a saving of time on the return; but to see a rata-twig about 20ft. away, and to take some ten or fifteen minutes to reach it, is not encouraging, to say the least of it, or does it tend to sweeten the temper of a hungry man with a 40lb. or 50lb. load. The smoother ice extends for some 20 chains, when another spell of very rough ice is reached below Cape Defiance, caused by the point of a spur forcing the ice across and into a very narrow neck.

At Cape Defiance we camped for three or four days, during which time, as usual, we had bad weather. From this camp (our third) we tried to force the great ice-fall, which is one of the most striking I have yet seen. So far as it is in itself concerned, its surroundings are not worthy of it;

### SECTION ON LINES R-A, FA-B

West side of Glacier



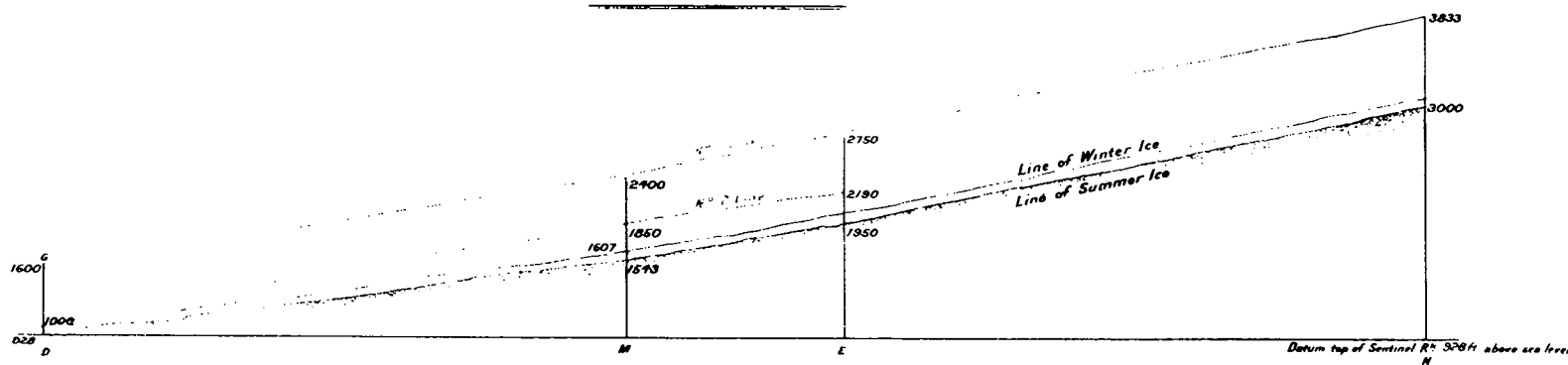
### CROSS SECTION ON H-I

Showing present and probable ancient levels of Glacier.



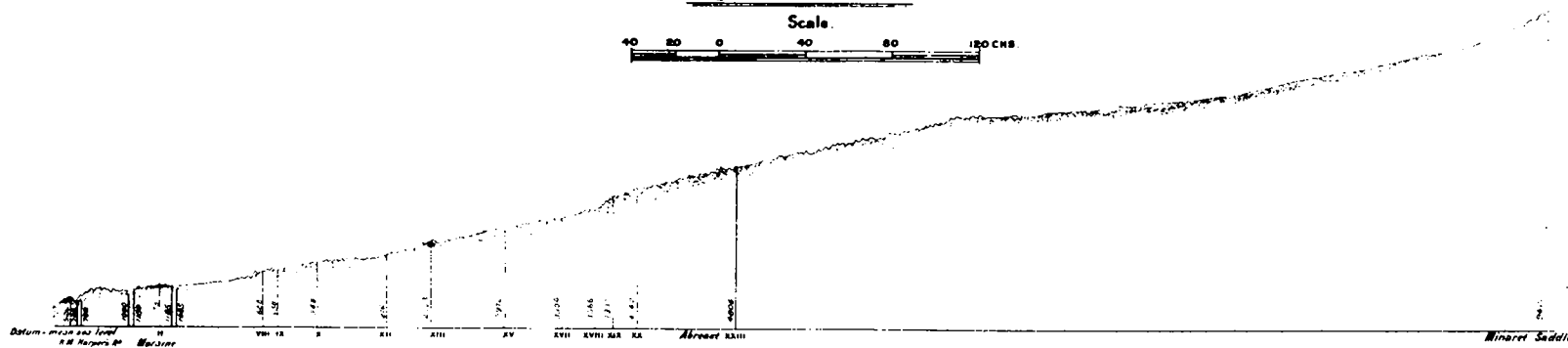
### SECTION ON LINES G-N, D-E

East side of Glacier.



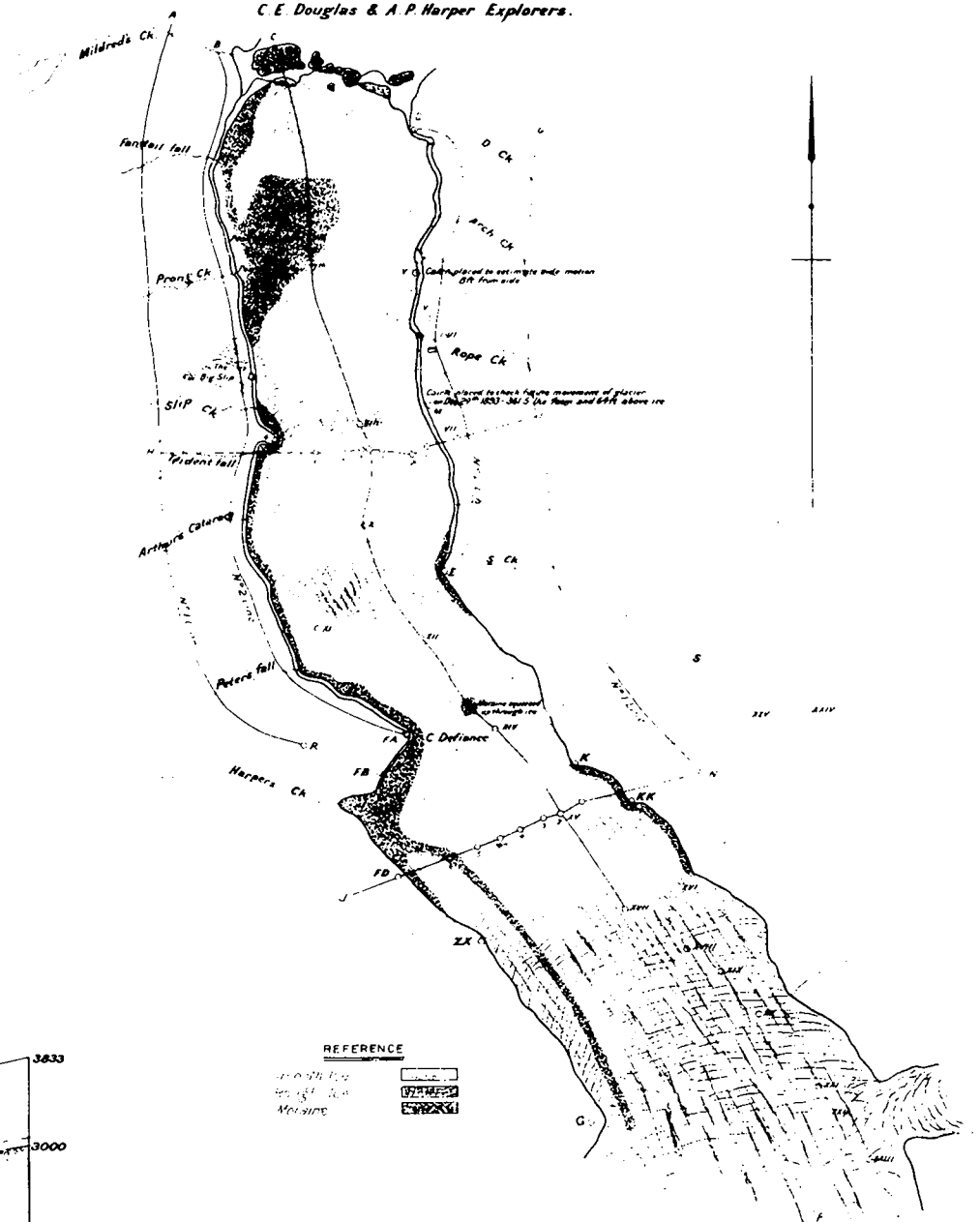
### SECTION ON LINE C-F

Showing surface of summer ice.



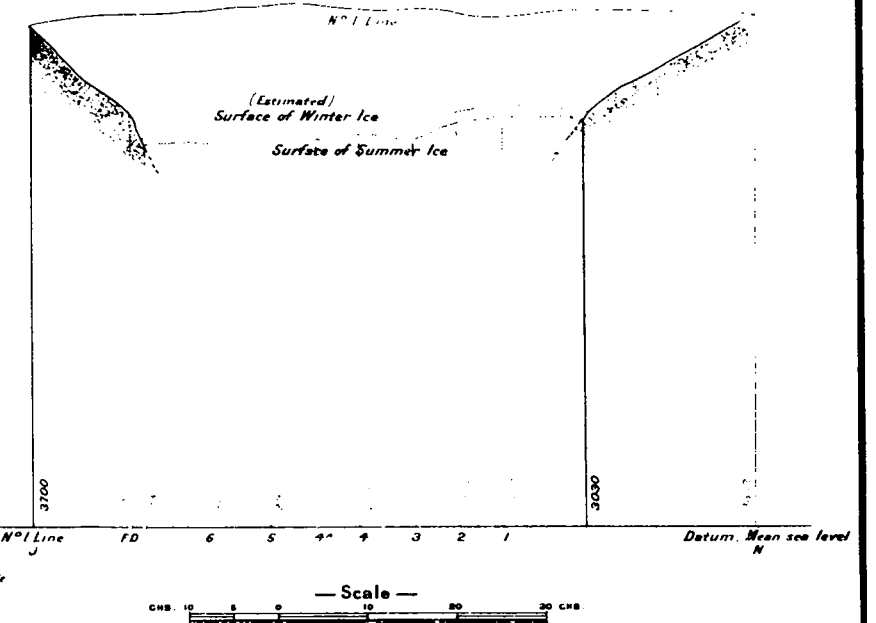
### Diagram of FLOW OF GLACIER

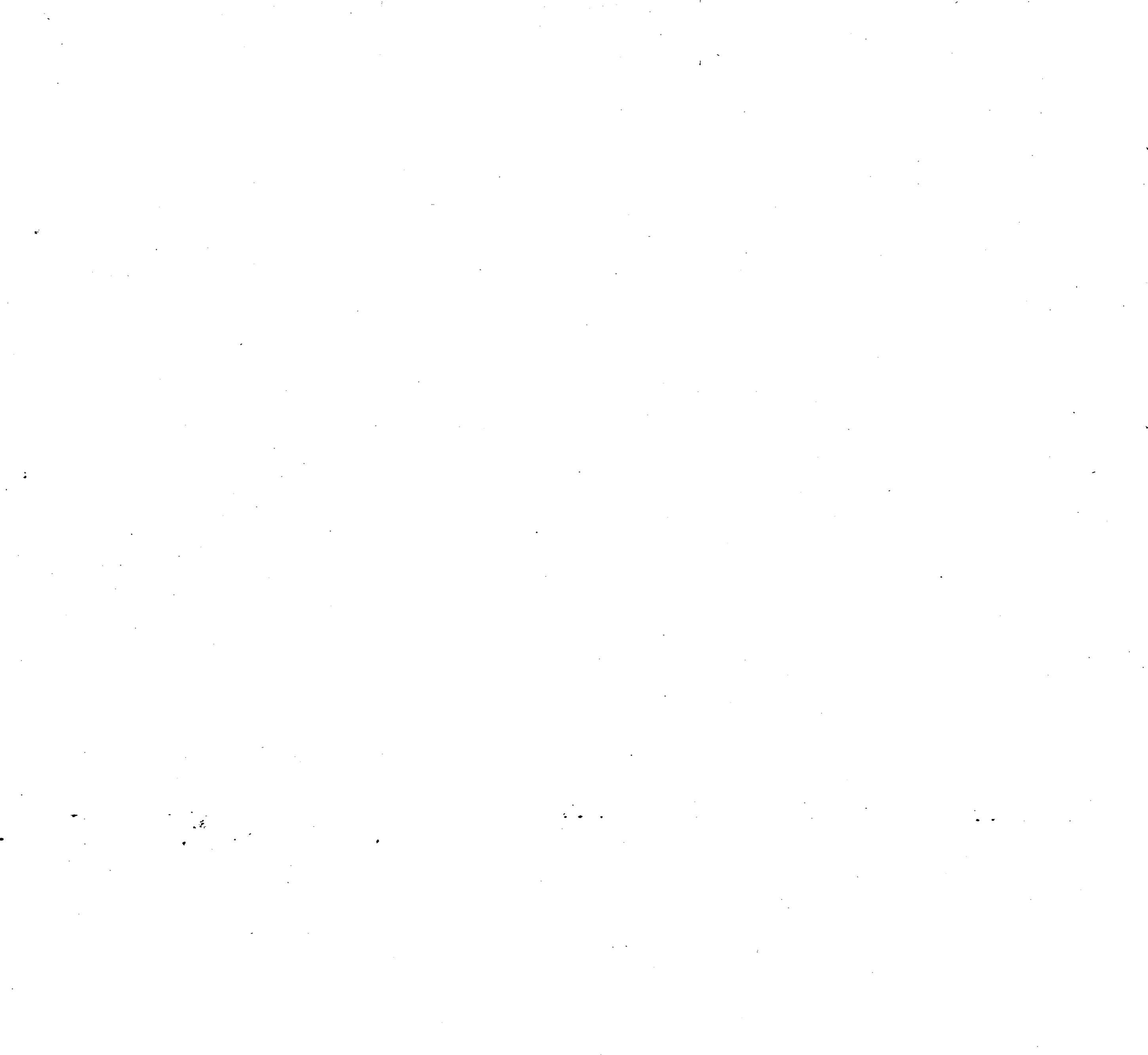
Scale  
CHS. 20 10 0 10 20 40 60 CHS.  
C. E. Douglas & A. P. Harper Explorers.



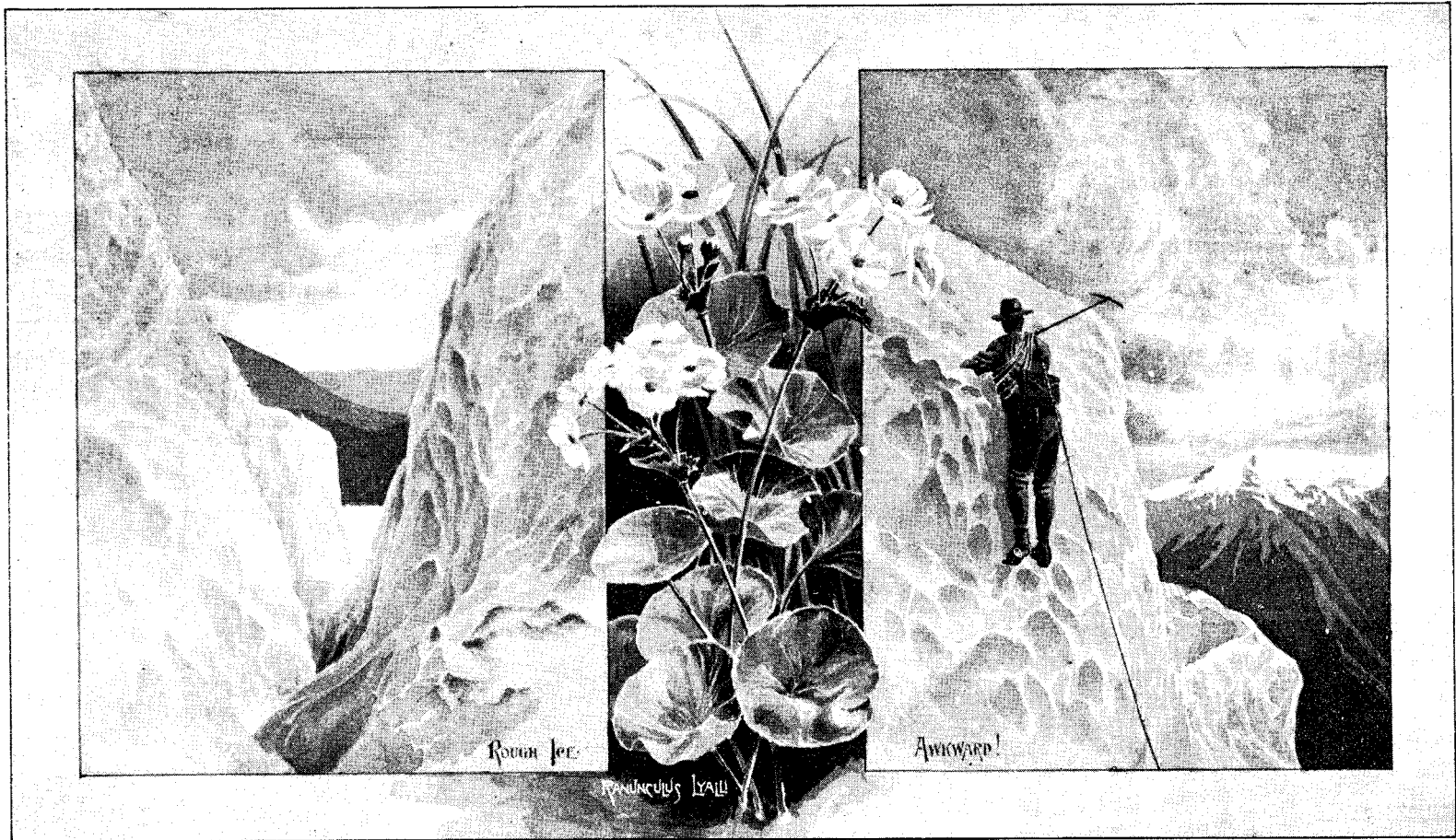
### CROSS SECTION ON J-N

Showing present and probable ancient levels of Glacier.



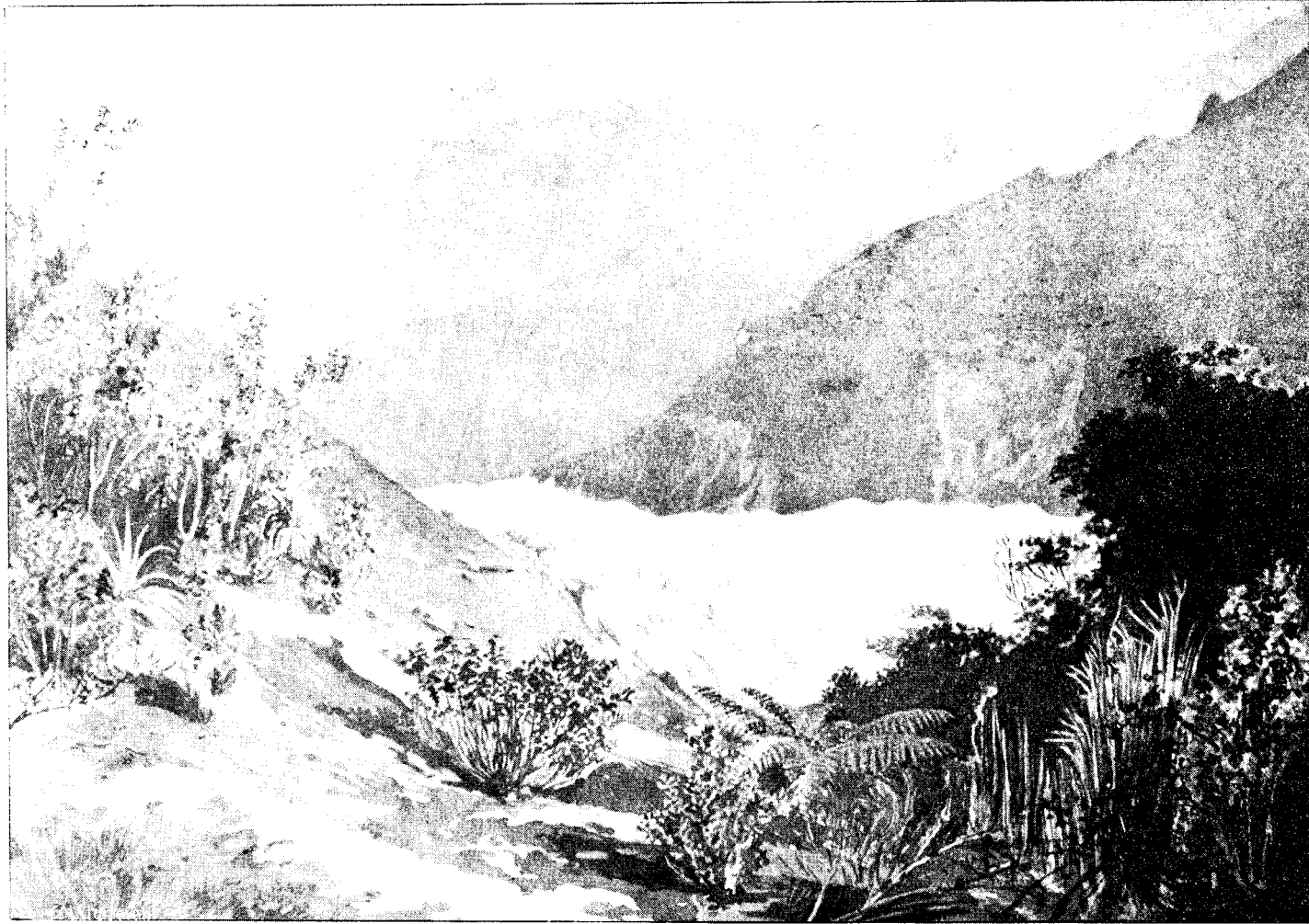






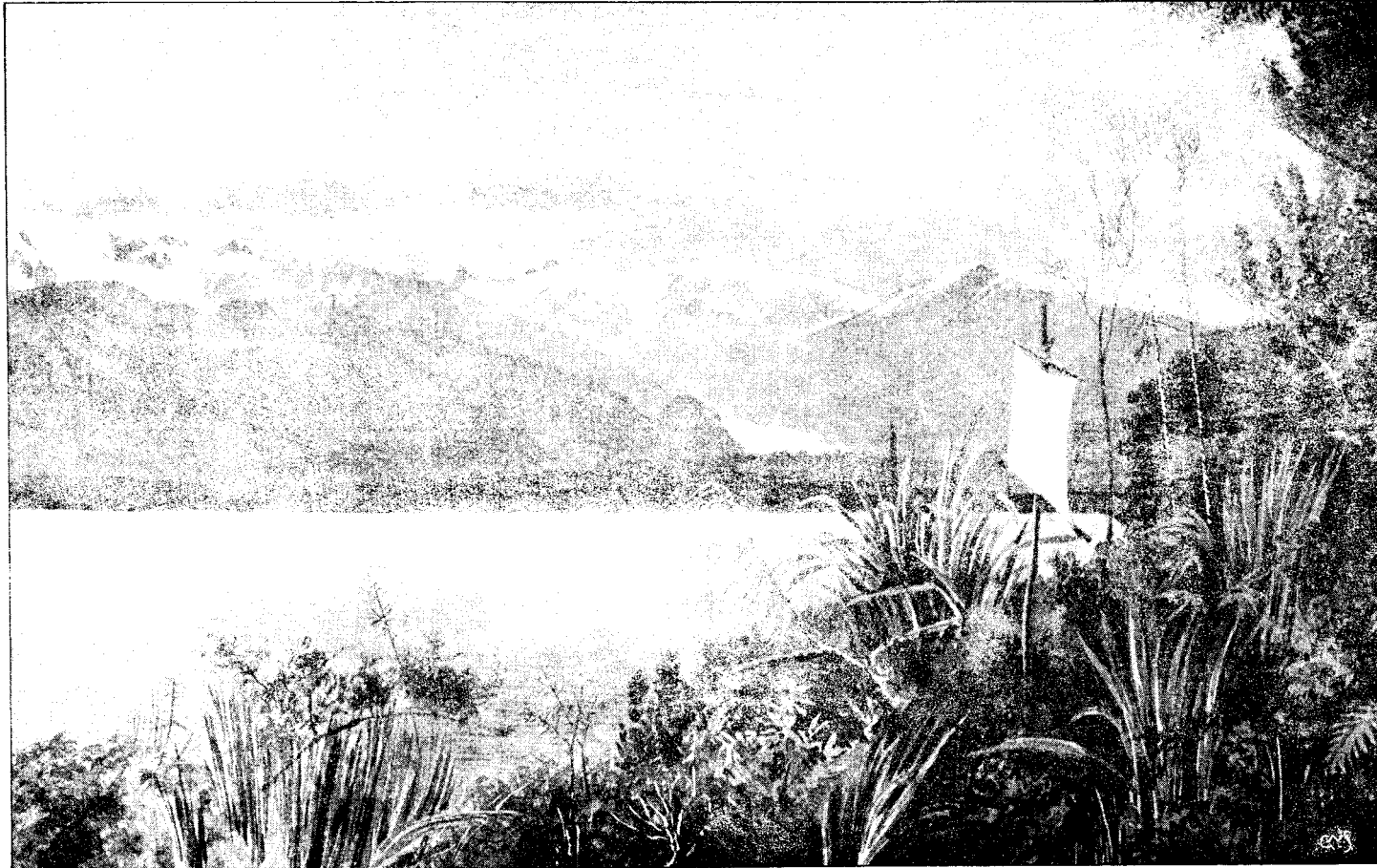
FRANZ JOSEF GLACIER.—IN THE ROUGH ICE.





FRANZ JOSEF GLACIER, FROM CAMP NO. 2.





LAKE MAPOURIKA, AND LOWER PORTION OF GLACIER, FROM TRIG. STATION 1'0.



but, taken as a whole, I believe there are few ice-falls equal to it in Switzerland or New Zealand, the only finer one that I know being the Haast, flowing into the Tasman Glacier. The northern side of the ice-fall is less broken than the southern, as the Almer, a fine glacier, comes in, and, as usual, where two glaciers join, the crevasses and "seracs" are small. Our object was to reach point L, and bivouac there, and make the head of the glacier next day; but, after four or five hours' of very interesting ice-work, we were stopped on the lower *névé*, which is fearfully broken, at Cairn XXIII. We could find no way on to the spur at L, though only a few chains away, and ahead of us the ice was too bad to attempt, though the *névé* would have given us good going if we could have forced our way for another 10 chains. My photographs sent up may not be a success, owing to the weather, for it was raining hard while on the ice-fall, and the fog came down on our return.

I believe that from August to October no difficulty would be found in making the upper *névé* by the route on the ice, as the winter snow would bridge over the crevasses which stopped us. When I say "no difficulty," I, of course, apply only to men who have experience on glaciers. It would be most dangerous for an inexperienced party to go on the glaciers at all.

We returned to Camp No. 2 before the weather cleared, so I fear my photographs of the upper part of the glacier and the Unser Fritz Fall may not come up to the mark. The constant changes on the surface of the glacier, caused by its quick motion, rough bed, and low altitude, are very noticeable, and sometimes may be troublesome. For instance, a three days' absence from camp No. 2 gave sufficient time for our "get off" at Cairn VII. to be quite changed, and a week or ten days might be sufficient to cut off a party's retreat altogether. This activity is perceptible all over the glacier. One hears and feels cracks frequently, and, after two or three days' absence, new crevasses are often found, even on the "dry ice." The changes due to the melting of the ice near the terminal face are immense, as is only natural at an altitude of 692ft. The level of the top of the ice at the face fell, between the 1st November and the end of January, about 70ft. by simple melting, and the retreat during that time was in some places above 2 chains at the terminal face, while along the sides the rocks were in some places exposed about 50ft.

In spite, however, of these instances, a slight advance was noticeable for a short period, followed by retreat, notably behind the Sentinel Rock, where an ice-cone of 40ft. in height was thrown up in five weeks, considerably in advance of the rest of the glacier, lifting with it river-bed stones. On the whole, we decided that the glacier was not retreating to any great extent, as from marks on the rocks at the sides and face it seems certain that there is as great an advance in winter as retreat in the summer. This is borne out by the fact that between the Barron and Mueller Rocks there was in November a fine ice-cone 110ft. high, and perfect in shape, covered with river-bed wash, and evidently caused by a large winter advance. This has now, at the end of February, almost melted away, having lost all shape, and collapsed into a small heap of broken lumps of ice some 30ft. high, besides retreating a chain from the front, and half a chain from the rock, against which it originally rested, to a height of 25ft. From sketches taken from the flats, about twenty years ago, at the terminal face, it would seem that there has been a steady but slight annual retreat, for they do not show the Barron or Mueller Rocks. This may be, and I think is, an oversight; but there is little doubt that twenty years ago the ice came well on to the back of the Sentinel. Until, however, winter measurements can be taken, there can be no certainty as to the correctness of our theory of a great winter advance, though many things point to it, in the shape of recent terminal moraines, obviously disturbed lately; and on the rocks between Cairn VII. and Arch Creek there are very distinct marks.

To estimate the motion of a glacier one needs more perfect tools than we had; at the best only rough and approximate figures can be obtained with a compass; however, we put a line across of rods at a bearing of 250° from Cairn VII., one from F D to a point between K and K K, and also fixed the movement of Cairn I. The results of our observations are astonishing, and we almost doubted their correctness; but, when it is possible with the naked eye to see a difference in the position of a mark after twenty-four hours, there is little doubt that the figures are not far out. The side-motion must be almost exact, as we used marks on the rock immediately off the ice. The following is a list of results returned as only approximate, being result, as before mentioned, of prismatic compass-bearings. The figures are marked in red on the map, and the directions being bearing of compass:—

Station.	Number of Days.	Total Movement.	Daily Rate in Inches.	Direction.	Remarks.
Line I.—M 1	7	35in.	5	320	15 yards from rock.
2	20	600in.	30	335·30	About 5 chains.
3	4	531in.	132·75	300	
4	4	408in.	102	352	
5	4	212in.	53	314	
6	4	...	...	...	No return.
Line II.—KM 1	3	460in.	153·3	286	8 chains from side.
2	3	474in.	158	308	
3	3	600in.	200	285·30	
4	3	621in.	207	260·30	
5	3	...	...	...	Crevasse opened and swallowed peg.
6	3	71in.	23·6	242·30	6 chains from side.
Side motion below Cairn V.	7	57in.	7·28	335	8ft. from side.
Cairn I. on moraine	56	198yds.	127·28	351	

Line I. is just above a small ice-fall, and Line II. is below the great ice-fall and above a steep decline in the glacier. K M. 6 is evidently blocked by Cape Defiance, and is taking a course into the bend by F B. The extreme roughness of the ice at the sides prevented any measurement of sidemotion beyond those given; M. 2 was a large hummock which we fixed from the side.

The comparative motion of the ice in a glacier at different depths is little known, but I have seen no place where the more rapid motion of the surface-ice is so evident as on this glacier, both as seen from the sides and at the terminal face. Everywhere the upper ice is seen to be pushed over the lower, and lies in ponderous layers; the line is so marked that, in many cases, when cutting a step just above the junction of an upper and lower layer, a large piece will break off, leaving an absolutely smooth surface with dirt on it at the top of the lower layer, while at the terminal face the upper ice keeps pushing over the lower and breaking off. In one place, some 30 chains up the glacier, I noticed that the upper ice stood away from the adjacent lower layer by fully 3in. for some feet back. This is accounted for, I believe, by the rough rocky bed over which the glacier flows, and by the numerous rocky obstacles at the terminal face.

It is evident that the bed of the valley has here and there obstacles like the rocks at the terminal face, and these are the cause of the heaving appearance of the glacier, which looks as if it lurches from side to side on its way down. This will be seen by comparing the aneroid readings on Line II., and is fairly well shown in some of my photographs. The rocks at the terminal face are, I believe, almost unique, at least I have seen nothing of the kind before. In November there were six showing. Five may be said to be uncovered all the year round. The Park Rock is uncovered in the summer, but, we think, covered in winter, while the "Outlet" rock was invisible in December, and quite bare in February, being entirely covered again in winter.

There is very little moraine either on the surface or along the sides; in fact, the nature of the rocks at the sides on the lower portion of the glacier prevent the formation of a lateral moraine; the only place where any attempt has been made is between Rope Creek and Point E, and here it only shows in the shape of a few large boulders left at different points at a regular interval, the line however is not very recent. It is almost amusing to see a large glacier like this doing its utmost to follow the ordinary custom, and fail so dismally in its lateral moraine.

The surface of the glacier is, contrary to the general rule on New Zealand glaciers, practically clear of *débris*, with the exception of a narrow strip along the south side coming from the rocks above G and F D.; this accumulates to some extent in the bend above Cape Defiance, and continues until it strikes the only large piece of surface moraine below Cairn IV., which is, I think, caused by the slip, which must have come down within the last two years. There is, however, a good deal of *débris* in the shape of timber and stones in the ice, which shows at various points; sometimes one's axe strikes a piece of timber in step-cutting in proximity to the junction of an upper and lower layer, as described above; this *débris* comes down chiefly in the lower layers, as is seen at the terminal face, and it is owing to the broken condition of the surface that most of the glacier appears so free of morainic *débris*, it being swallowed up in crevasses and travelling at a lower level.

While speaking of moraines, it ought to be mentioned that a very complete old terminal moraine is to be seen about six miles below the glacier, through which the Waiho River has cut a passage. How old this is would be hard to determine, but it was, no doubt, formed when the ice reached one of the terraces or lines distinctly visible above the glacier, where the heavy rata-bush begins.

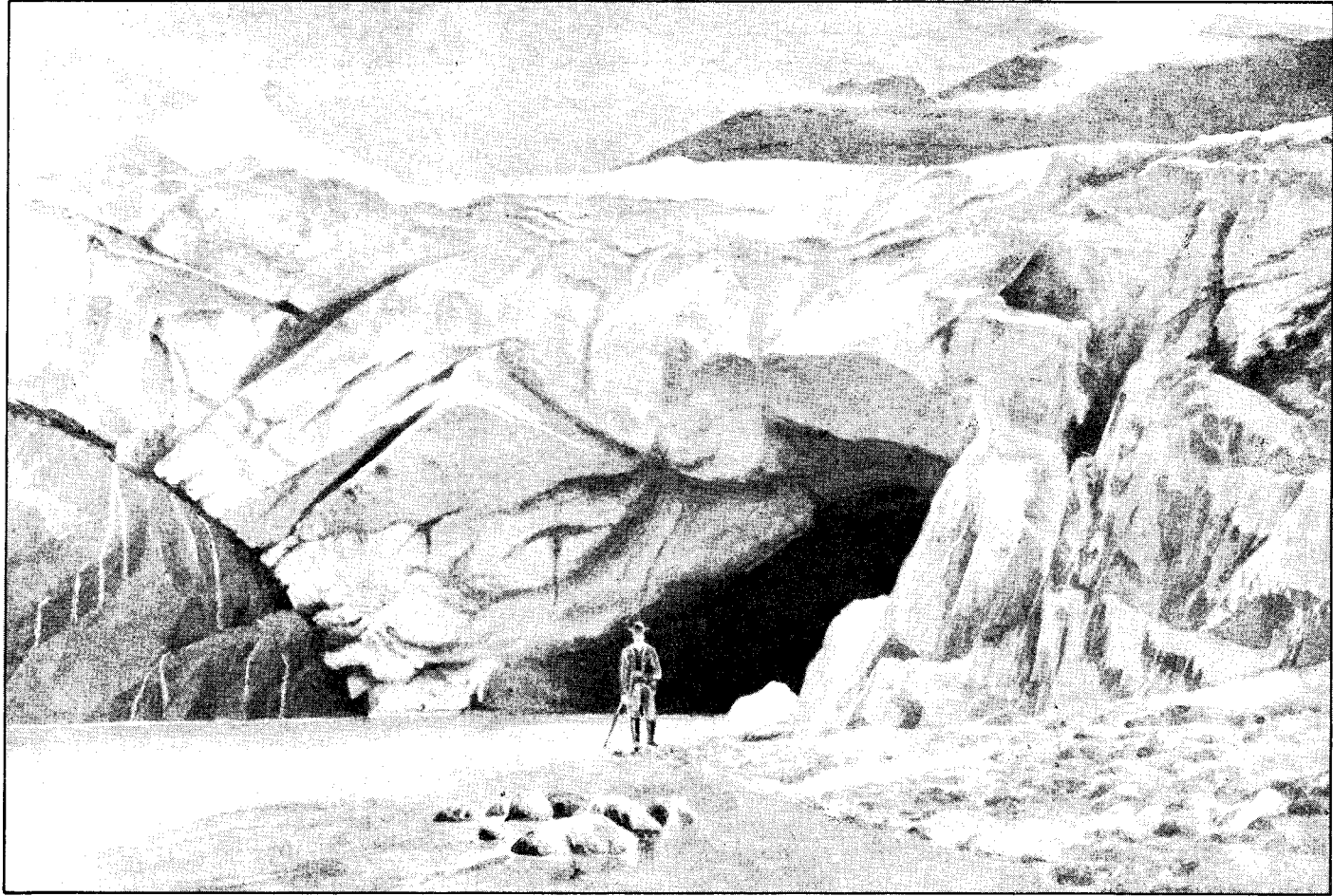
As far as the *névé* is concerned, it is very broken in the lower part owing to its steepness, and, as one would expect, it is very large in proportion to the size of the glacier; in fact, nothing but an immense area of *névé* could account for the ice coming down to such a low level in this climate.

The main range from this side would be, from an alpine point of view, difficult to climb, as the rock is bad, and predominates over the snow; but it would be better, to all appearances, to attack Spencer and Jervis, and the saddles between them, from the *névé* of this glacier than from the Tasman side, the difficulty being to gain the *névé* in the summer. Graham's Saddle looked easy on this side, and, from my work on the Tasman, I know it is easy from the other, but the roughness of the ice below the *névé*, and the broken character of the ridges on both sides, would make a passage to the West Coast a hard task, and should not be attempted unless the climber knew both sides intimately; in fact, I find the better I know them the more difficult it appears.

From our experience on this glacier, it is evident that facts of great scientific interest are to be found by systematic observation; but it is also certain that to be really exhaustive the observations should extend over a whole year. Beyond the measurements given here we could do little, but we made one or two marks to help in determining advance or retreat in winter and summer, and as a whole. One mark is at M on the map, fixed on the 30th December, and its height above the point where the ice touches the rock was taken. A mark + was also made behind the Sentinel Rock, and was at a bearing 173°, distant 1.20 chains from the nearest ice. These are, of course, not as many as should have been left; but there is no doubt that two men, alone, as we were, are not a large enough party to do justice to the glacier, especially in such a wet climate. In order to allow a party to make the most of their time in the way of systematic marking, besides survey, at least two more men would be required, in order to save the swagging over such rough ice, and thus allow the surveyor to give more time to observation, free from the hindrance of a swag; for it is quite clear that a load of from 50lb. to 60lb., combined with step-cutting and gymnastics on rough ice, is enough to damp anyone's ardour for scientific research, especially if it is raining at the time.

There is an interesting fact to mention, which, though it surprised us, may not be uncommon. In most of the pools on the ice, as far up as the great ice-fall, we found minute living insects, from an eighth to a quarter of an inch long, which took refuge in the cracks and behind the crystals of the ice when we were trying to catch them. We sent up some a short time ago, and, though they may turn out to be the larvæ of a common insect, it is certainly the first day's fishing I have enjoyed three miles up a glacier. It is a pity that some steps are not taken to introduce chamois from Switzerland: they are harmless, and keep to high country and near the snow; they also give



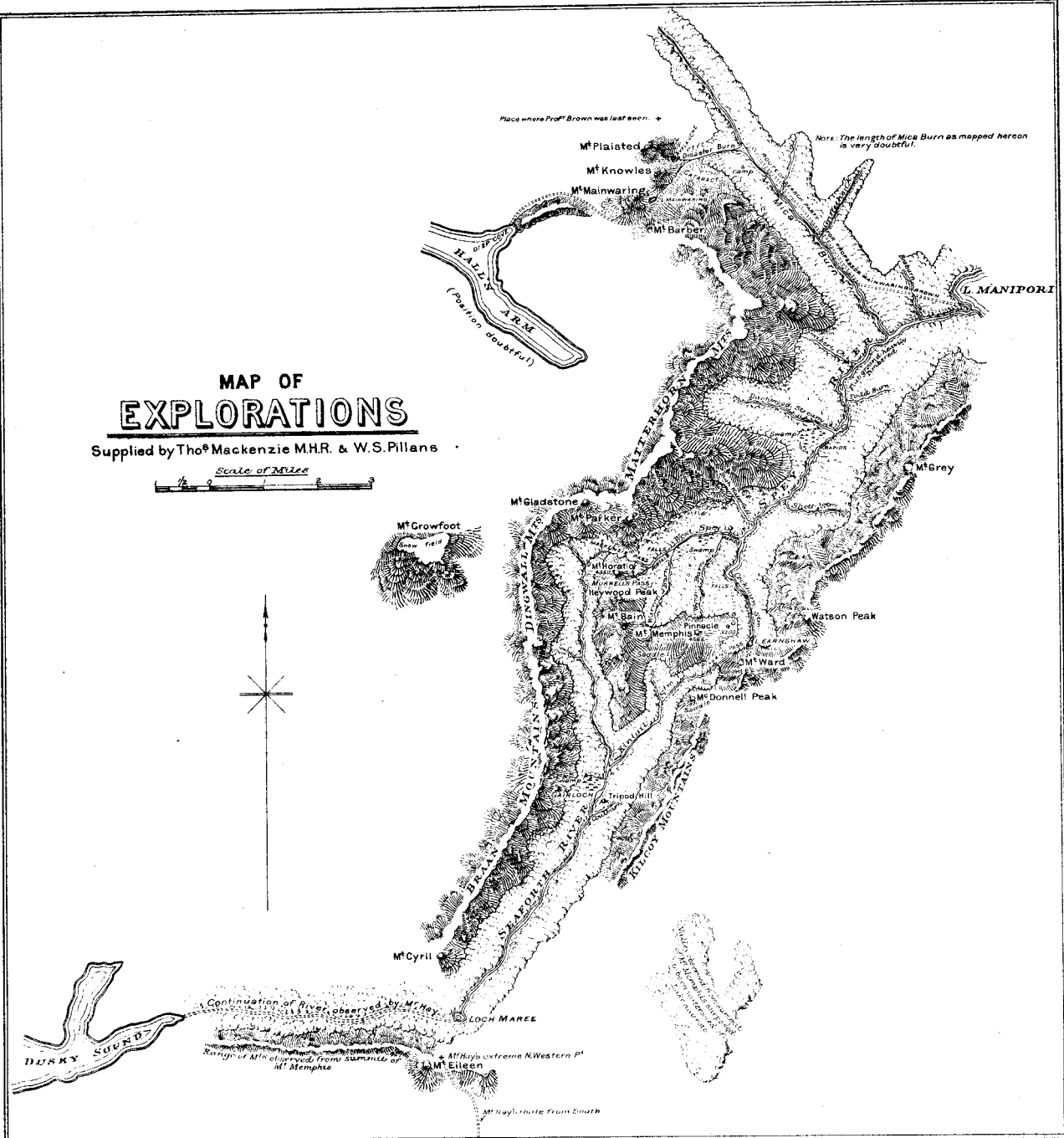
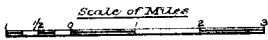


FRANZ JOSEF GLACIER.—THE OUTLET.

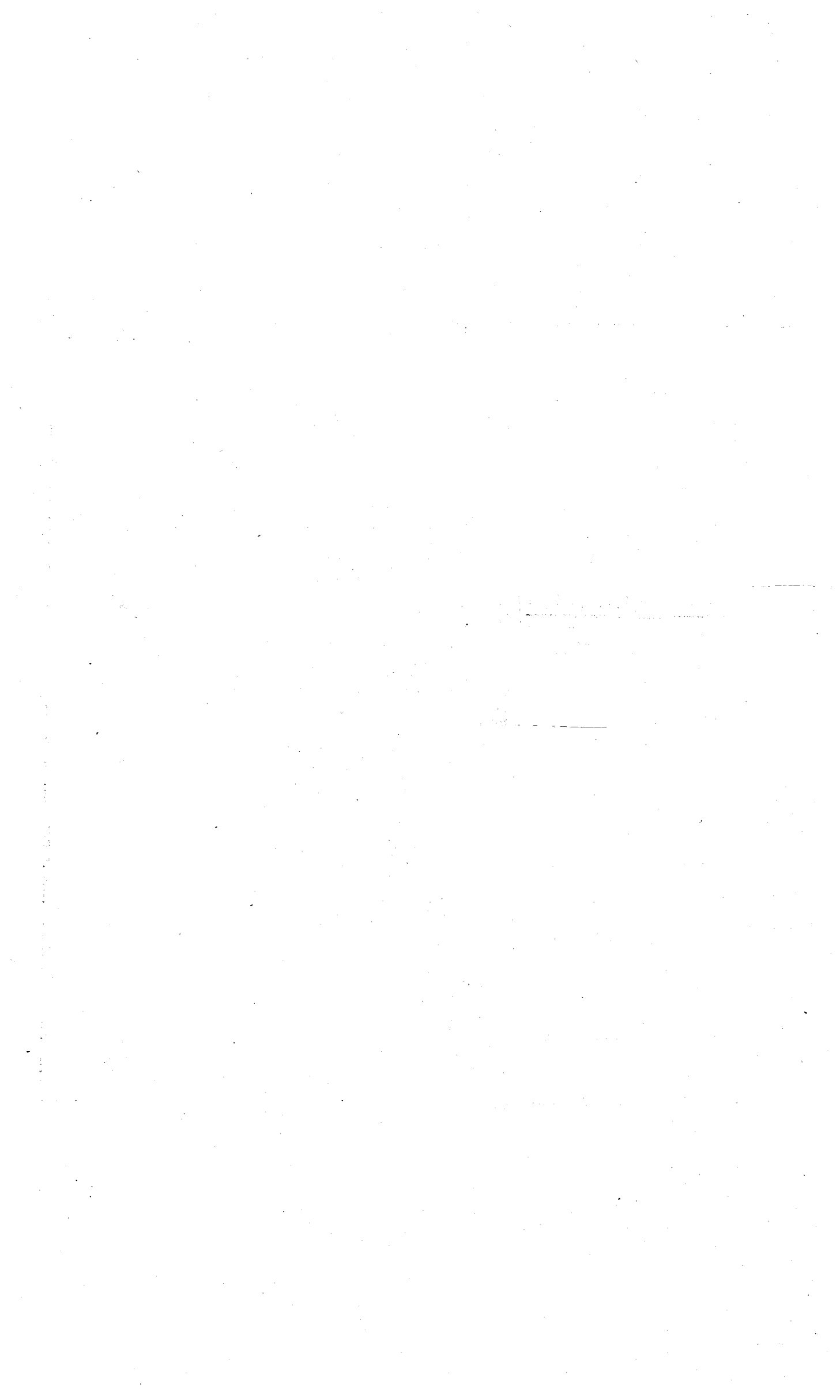


# MAP OF EXPLORATIONS

Supplied by Tho<sup>s</sup> Mackenzie M.H.R. & W.S. Pillans



Pl. etching graphed at the Head Office, Lands & Survey Department, Wellington N.Z., June 1904.



splendid sport; and I believe the grass tops of the Westland Ranges would suit them well, and there is little prospect of any one finding many tops suitable for sheep, so the chamois would not interfere with settlers; while in Canterbury the Malte Brun and Leibig Ranges would be an admirable home for him.

This is, I think, all to be said of the Franz Josef in a short report of this sort, but it will attract more attention, I believe, from scientific men than any we have, not even excepting the Fox Glacier. In it they will find study of ice-worn rocks, obstacles in the path of the ice, and the effect of the ice on them, illustrated in a manner which is, I imagine, almost unique. With regard to the names put on the various tributary glaciers, we have used the names of Swiss guides, and, on the Dome, next to Roon, placed the name of "Anderegg," after Melchior Anderegg, one of the finest specimens of Swiss guides, and as good a man as ever wielded an ice-axe.

ARTHUR P. HARPER.

#### SOUTH WEST OF LAKE MANAPOURI.

For some years past it has been the wish of Mr. W. S. Pillans and myself to make an excursion into that portion of country lying south-west of Lake Manapouri, which is the largest part marked unexplored on our maps, to endeavour, if possible, to find a practicable pass through the mountains to the West Coast, and also with a view to obtaining some information regarding that unknown country. We made the excursion in March, Messrs. W. Earnshaw and Robert Murrel joining the expedition. Crossing Lake Manapouri, we pitched our main camp on the west arm of that lake, and then followed the course of the Spey River to its source. An unfortunate mishap occurred on our third day's journey, when Mr. Pillans was overturned by the river and our prismatic compass lost. This was most serious, as our observations then depended on ordinary pocket-compasses, which were less reliable. The river, which had been high for a day or two was now in splendid condition for following, being low enough to cross and recross, thus enabling us to make use of the beaches. After passing several tributaries, early on the third day we reached a spot where a branch from the south comes into the main river. After traversing the south, or interior branch, for about half a mile, we were met with a succession of waterfalls, which forced us to leave the stream and strike up a steep face to the right. After rising about 2,500ft. we camped. Early next morning we reached the bush-line, coming out on a small plateau. From this point we obtained a good view of the course of the south branch to its source—a pretty lake surrounded by an amphitheatre of cliffs, except to the right, where a grassy shoulder made an exit easy to what appeared to be a good saddle beyond. Continuing to ascend, we soon reached the top of a mountain, which we named the Pinnacle. The mountain drops almost sheer down towards the north, and there are a series of deep rents for some distance back, leaving great pinnacles standing. From this point we obtained a good view of the country. Beyond we saw what appeared to be a good saddle to the left, and a pass to the right, divided by a round-shaped hill, a little over 4,000ft. high. The left-hand saddle we could not reach from where we stood, being barred by cliffs, but we could see an easy approach from the lake. We therefore made for the right-hand pass. This proved to be merely a rent or gulch in the mountain, the travelling being exceedingly difficult and the ascent steep, with rocks projecting from the left, smooth and slippery, with scarcely a ridge to cling to, and running on the right under overhanging ledges. At the upper end the gulch is being rapidly filled up by great falls of rock from Mount Memphis, some fragments weighing fully fifty tons. The gulch at one time must have been a lower pass. This gulch can never be of any service as a highway, the height being 3,800ft. After going through, we had an opportunity of seeing the lower saddle on the left, which was some 500ft. or 600ft. below us, and could be made into a good road with some side-cuttings. We had now reached the watershed dividing the east from the west. A small stream flowing away towards the sounds, bearing south 20deg. west, was soon joined by one coming over a rocky face from a lake on the top of Mount Memphis.

Two days were devoted to exploring the western watershed from that pass, and observations were taken from Mount Memphis. We then struck for the west branch of the Spey, skirting The Pinnacles, reaching the river at an altitude of 1,500ft., just at the junction of the Wynnburn. There is an open clearing at that spot for about half-a-mile, and it is very boggy. Following the river, we reached a gorge between two high bluffs which terminated in three waterfalls. At this point the river was left, and the bluff scaled about 400ft.; after that the work became easy. Two saddles were then ahead—one straight on, the other, and much the easier, trending towards the north. This proved to have a fine valley leading up. On the saddle were two small tarns or lakelets, the water from the first running towards the east, from the other flowing west. The pass was open, the western side gradually falling away; then a lovely valley opens out wide, grassy and sunny, with streams meandering through groups of shady trees. Hillocks rise here and there. It resembled a pleasant park. Pretty waterfalls come trickling over granite faces from sparkling lakelets and tarns nestling in sunny nooks in the mountains. The whole is unlike all the other passes which we have seen. They are all rocky accumulations and steepish faces of the character of McKinnon's Pass to Milford. This valley runs due west for about two miles, then joins the Seaforth at right angles, and follows a southerly course until it unites with the valley of the Kintail coming from Pillan's Pass. The general course of the valley there for about six miles is south, twenty west. It then strikes due west for some four miles until Dusky Sound is reached. The average width of the Seaforth Valley is about three-quarters of a mile. It is all heavily-timbered, as are also the mountain-sides up to the bush-line. There are some swampy openings and two small lakes in the valley.

At Loch Maree we had connected with the most north-westerly explorations and observations of Mr. District Surveyor Hay (a most arduous work undertaken by that gentleman in 1882). We were unable to go through the remainder of the way, as it was unsafe to venture further with our diminished supply of provisions, which were quite insufficient to do that distance and enable us to

return afterwards to Manapouri. Next year it is our intention to arrange with the Union Company to pick us up at Dusky. We can then easily carry ample food with us one way, and practically defy the weather.

The pass must some day be of importance, when our lakes and fiords become, as they must sooner or later, the pleasure and health-restoring grounds of Australasia. The pass will connect the most southern arm of our great inland lakes with nearly the most southern of our sounds. The next pass to the north is that connecting Te Anau with Caswell Sound, some seventy miles from the entrance to Dusky Sound. We of course omit the pass into Hall's Arm discovered by the search-party for the late Professor Brown, with whom I was associated, and which was subsequently traversed by Messrs. Murrell and Barber to Deep Cove, it being too steep on the west side for road-connection. Although we encountered steep faces on the Spey side, we afterwards observed routes whereby all these difficulties can be avoided. A bridle track should be surveyed and formed as soon as the Government can afford the outlay. That would then complete the connecting link of a circuit embracing beautiful Manapouri, the Waiiau, Lake Te Anau and island, the magnificent Clinton Valley, Sutherland Falls, Lake Ada, and the grand Milford Sound; then following the coast to the south, taking all the sounds by the way. Nowhere in the whole world could there be found within so small a compass so much that is beautiful and grand.

The Government should declare a public park of a large portion of that country, appoint local men to act as conservators, and insist upon stringent regulations regarding fires. During a dry season a careless light might fire the moss, and in a short time a world of loveliness might be transformed into a scene of desolation.

There is very little land for settlement. In some of the valleys good soil is occasionally met with, but it is very limited in extent. On some of the mountain-tops there is good summer feed for sheep, but the absence of winter country renders it valueless. The uplands could be most profitably occupied by deer, chamois, and goats. Many of the mountain-tops are bare rock. Birch timber occupies all the valleys, and up the faces to the usual bush-line, wherever the mountainsides are not too steep. The usual subalpine plants are abundant on the west Spey and Mackenzie Saddle. The *climesia* genus are particularly well represented. They were, however, out of flower, and new varieties were not easily recognised.

Regarding the bird-life of the locality, judging from the noise and the beaten track of the kakapo on the mountains, the kiwi and kakapo are still fairly numerous. The black and brown Maori-hen turned up at nearly all our camps. Here and there blue mountain ducks were seen on the rivers, and were very tame. We saw no paradise, grey, or teal duck, except on the lake. We saw no pigeons, but a number of kakas. The plumage of the kaka is much brighter here than in our eastern woods. Robins are very numerous, and quite took possession of our tents. Bush and rock wrens are plentiful. Tuis and makomako were well represented up the West Spey. We saw three rare saddle-backs, and a few yellow wattle-crows. We did not see a single specimen or trace of the English birds, or vermin of the ferret order. Rabbits have reached the head waters of the South Spey. We saw the traces of a wild dog, who is evidently having a good time on kiwi and kakapo. We saw one native rat. There was no trace of that exceedingly rare, if not extinct, bird, the *Notornis mantelli*, the Tokaki of the Maoris.

It had been supposed that some remnants of the lost Ngatimamoe tribe might be met with in the country explored, but we saw no trace of them.

We calculated with 13° variation; Mr. Pillans undertook the arduous task of pacing out the whole distance and observing. We do not submit the plan as being more than a rough and, necessarily, imperfect sketch of our undertaking. Attached to it, I have sent an approximate sketch of route taken by the Mainwaring Brown search-party. That furnishes a connection between the Spey River and Deep Cove of Hall's Arm, which may be of use should any exploring-party require to come over from the West Coast.

T. MACKENZIE.

## APPENDIX No. 7.

### WANGANUI RIVER STEAM-SERVICE.

I BEG to supply the following information relative to the above:—

*Trips.*—In addition to specials to wayside settlements, and regular weekly mail trips to Pipiriki, the steamer has made eleven extra trips; in all sixty-three trips to Pipiriki for the year ending 31st March. On three occasions only was she unable to reach her destination.

*Mileage run.*—For the year the steamer ran 10,034 miles on the river.

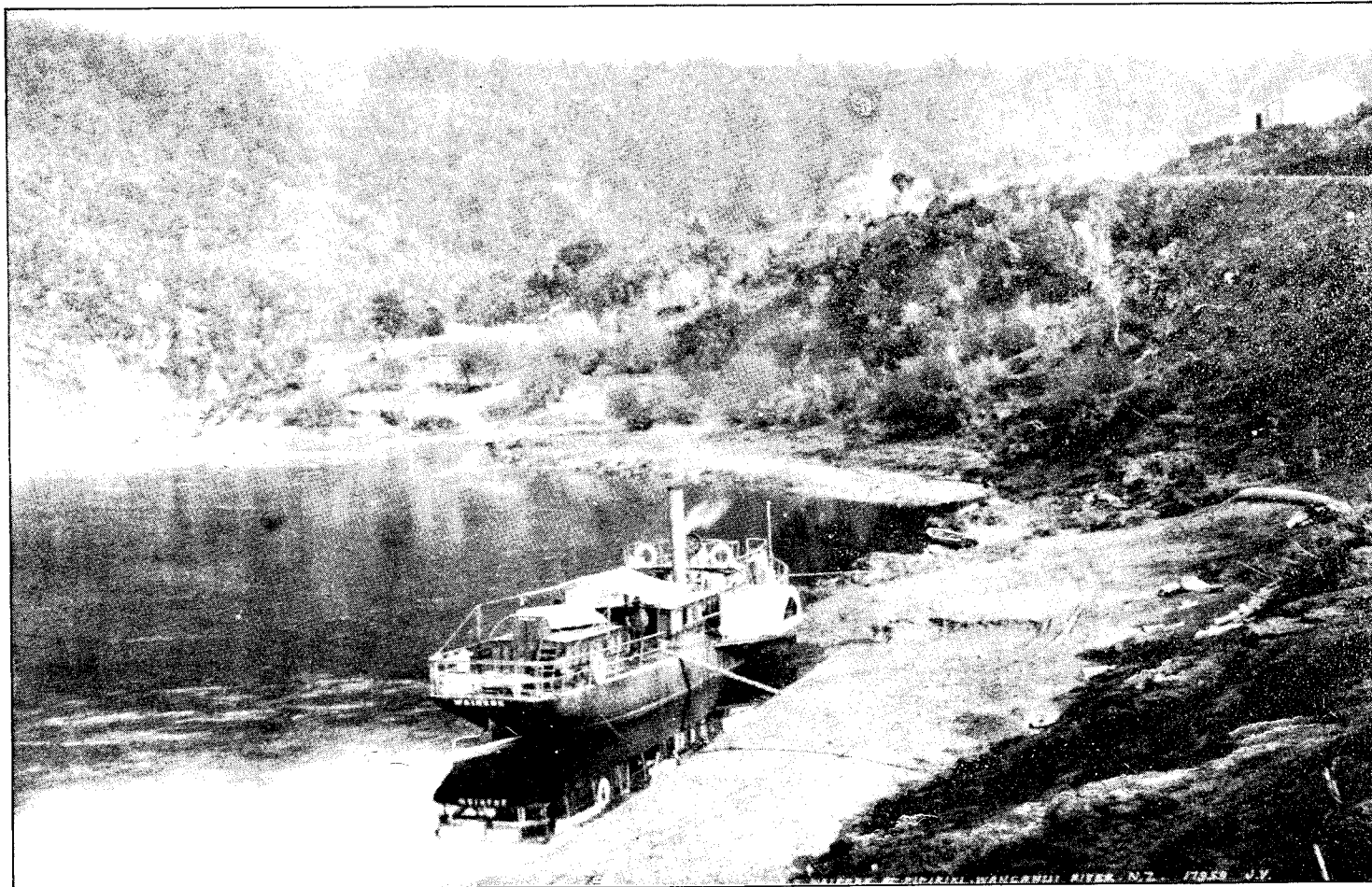
*River Improvement.*—The River Trust Board had seven men employed for four months, but much of their time was wasted by Native obstruction. The improvement effected was 20in.—that is, the steamer can now reach Pipiriki with 20in. less water in the river than prior to this work. The actual expenditure was under £400. The following places urgently want attending to: Ahokura, Upokopoitoi, Matihiwi, Moutoa, and Haumoana, and the eel-fences in the channel taken out. A gang of men would do it all in four months if the Natives would allow it.

*Bridge Timber.*—The steamer took up the whole of the bridge material and timber for the bridges on the Pipiriki-Karioi Road.

*Views.*—We send you one of Hiruherama (Jerusalem), one showing a Native eel-fence in the channel, and one showing the "Wairere" at Pipiriki.

*New Steamer.*—We expect to have the new steamer running in August. Her dimensions are 115ft. over all by 18ft. beam; draft light, 14in.; speed, 11½ miles an hour; two decks, passenger deck overhead. She will be specially suited for stock-carrying, and will command a river limit passenger license for 400 persons. She costs about £5,000.

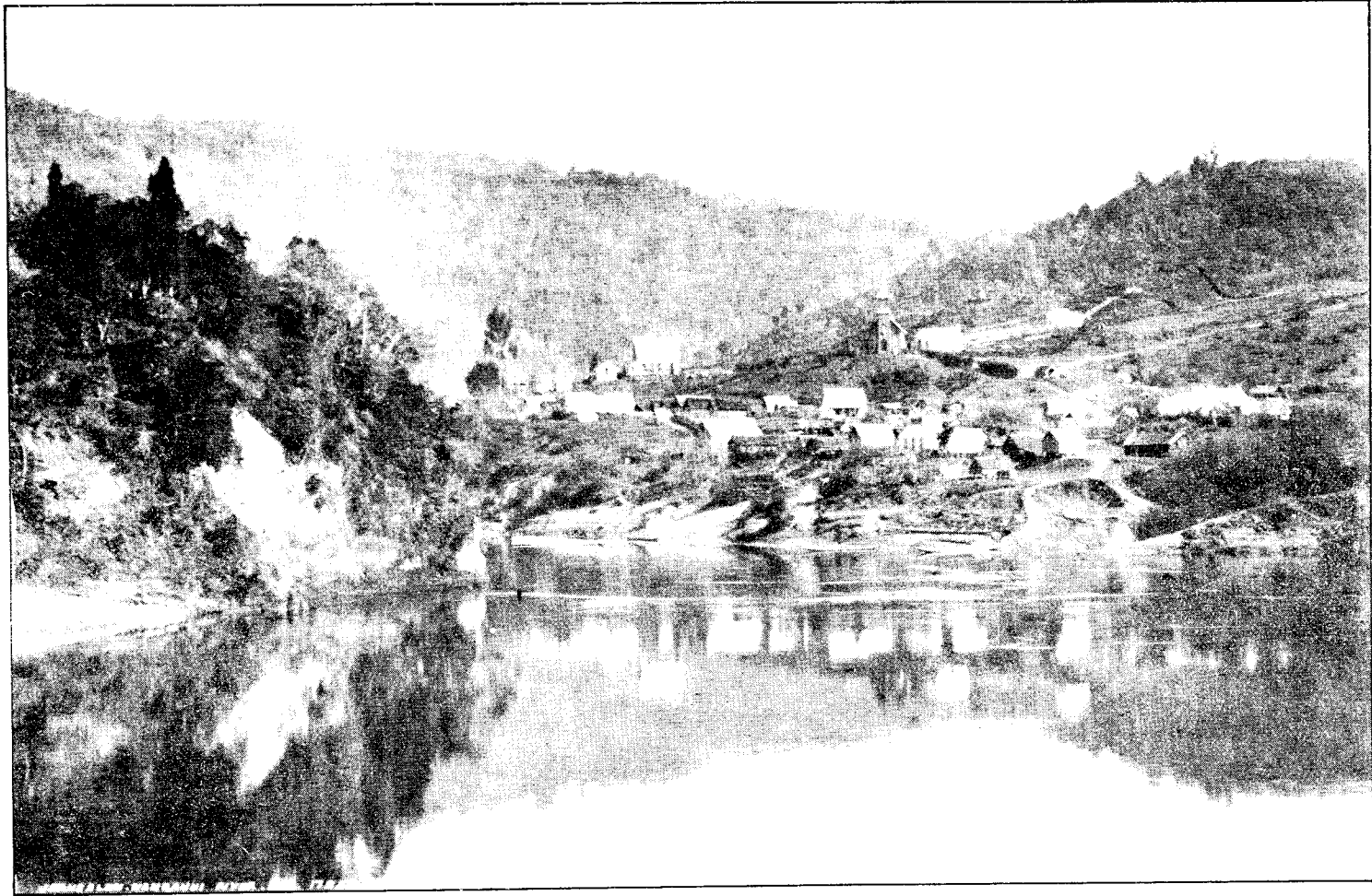
ALEX. HATRICK.



S.S. "WAIRERE" AT PIPIRIKI, WANGANUI RIVER.

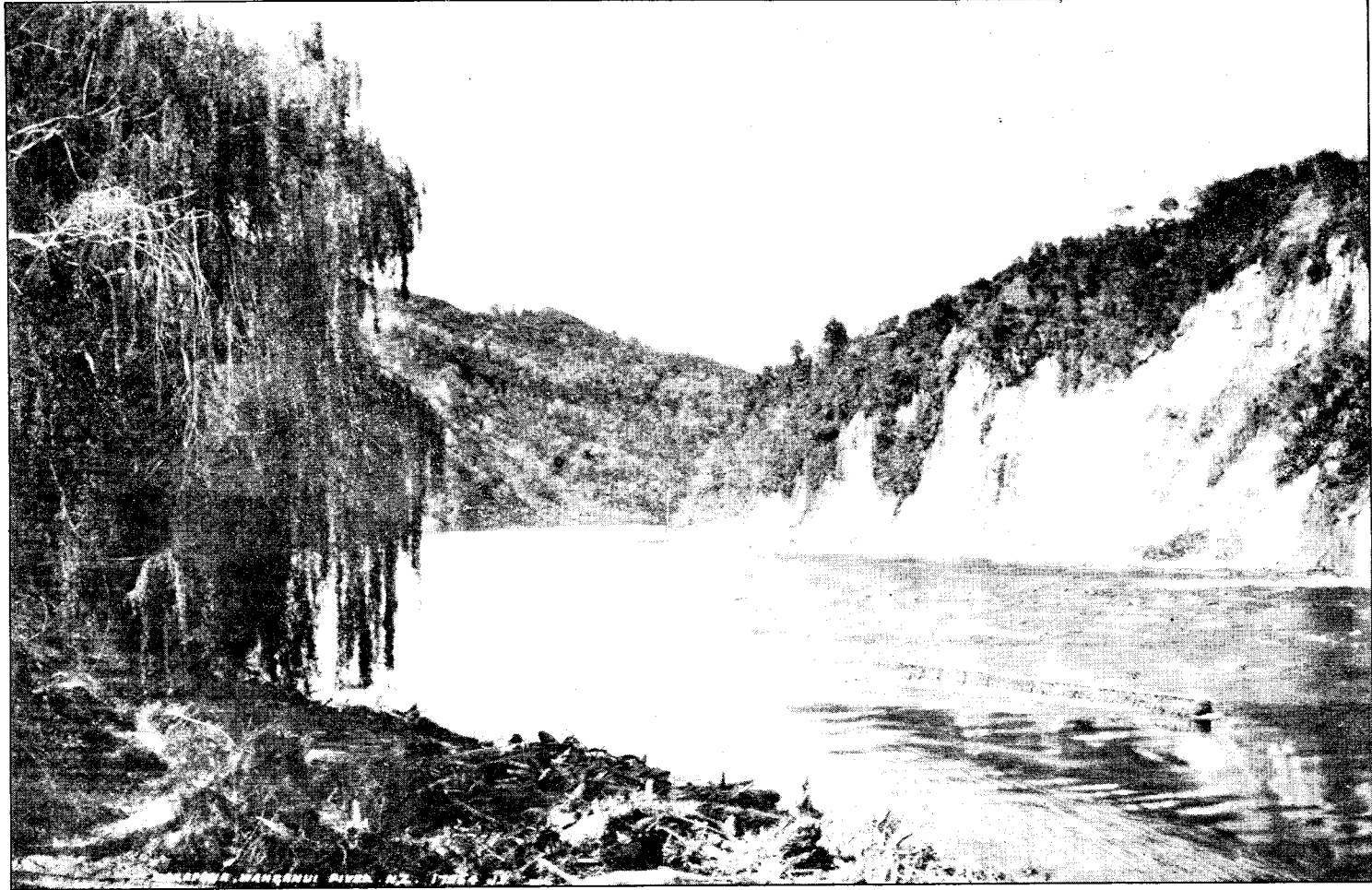






HIRUHARAMA (JERUSALEM), WANGANUI RIVER.





WAKAPOKA, WANGANUI RIVER.



## APPENDIX No. 8.

## NOTES ON THE PRESENT STATE OF THE COUNTRY IMMEDIATELY ROUND THE SITE OF THE ERUPTION OF TARAWERA.

THE accompanying illustration and map have been published with a view of affording information as to the present state of the country affected by the eruption of Tarawera Mountain on the 10th June, 1886, and to illustrate the changes which have taken place there since the date of the survey made by myself and officers of the Survey Department in July and August of that year.

It is believed that a record at the present time will prove of interest to those who were acquainted with the state of affairs soon after the eruption, and it will serve the more important purpose of showing the changes which are taking place so rapidly, and be useful as a means of comparing observations taken hereafter.

It was on the 29th March, 1893, that, in company with Mr. Mueller, Mr. Malfroy, and Mr. F. Stephenson Smith, I revisited Te Hape-o-toroa Hill, where the photographs from which the picture was drawn were taken by the latter gentleman at a position about 20ft. below the most northerly peak of that hill, in the direction of Tarawera Mountain. This position will be easily picked up again in future by any one who may wish to take photographs to illustrate further changes in the lake and its surroundings. It is unfortunate that at the date of the survey in 1886 no views were taken from this same point; they would have proved interesting for purposes of comparison, though at that time a large portion of the basin of the lake was obscured by dense clouds of steam. Some of Mr. C. Spencer's photographs, however, taken at the time of survey, from very near the same place as the accompanying picture, can be compared, and the difference in the present appearance be seen.

Prior to the eruption, Rotomahana Lake covered a space of about 185 acres, its northern end was near C\* on the picture, and its south-eastern end near I, whilst its north-eastern boundary ran in a curved line from near D to I. At the time of the eruption the whole of this lake was blown up, and the water and mud from it scattered far and wide over the country. Not only was the lake blown up, but in its place was left a deep chasm, the little lake or pool in the bottom of which was, in August 1886, only 565ft. above sea-level, the difference between that height and 1,010ft.—the approximate former level of the lake—having been blown into the air. This lakelet was situated near M in the picture, but some 400ft. below the surface of the present lake.

The extension of the present lake to the north-east (G on picture) is quite new. Prior to the eruption there was a valley here, but no water in it. Soon after the eruption, however, a lake formed here, following the line of the great chasm due to the outburst; but this was separated from Rotomahana proper (or the little lake which occupied its site shortly after the eruption) by some craters and hilly ground now all covered by water. This new lake, which was formed shortly after the eruption, was called Rotomakariri, after a little lake of that name which formerly existed not very far to the westward of the present lake, but which was completely obliterated by the eruption. The level of Rotomakariri at the time of the survey was 983ft. above the sea, consequently about 30ft. below the original level of Rotomahana. Its shape will be seen by reference to the map at page 44 of the official report on the eruption; † and it is shown, also, on the map attached. The two lakes existing soon after the eruption have since become merged into one, as shown in the picture and map, and the bounds very greatly extended, so much so, that, instead of a surface of about 25 acres for the two lakes in August, 1886, they now cover, roughly, 5,600 acres, and, at the same time, the waters have risen from a level of 565ft. to 985ft., or 420ft. in the eight years since the survey.

The lake as at present existing is bounded on all sides by steep hills, which formed the walls of the great crater in June, 1886. The whole of this space now covered by the waters was at that time occupied by a dense impenetrable cloud of steam, frequently rising to a height of 15,000ft., and into which the eye could barely penetrate a few yards when the wind opened it out a little. The whole of this space seemed to be occupied by a vast number of small craters ejecting mud, water, and steam, all in a furious state of eruption, whilst ever and anon an explosion that caused the surrounding hills to shake denoted a more than usually violent outburst, which was accompanied by a discharge of great rocks. At the time of the survey in July and August, 1886, most of these outbursts had ceased, and it had become possible to descend into the crater. At the point marked I on the picture (or, rather, perpendicularly beneath it) the survey party descended to a point 710ft. above sea-level, or 275ft. under the present surface of the lake.

The letter G on the picture denotes the mouth of the Acid River, on the banks of which the survey party camped one night in August, 1886—a night never to be forgotten by those who were there. This spot is now covered by water, though at that time the level of Lake Waimakariri was a few feet below our camp.

At a point very close to the letter D on the picture was situated the famed White Terraces, and on the far side of the hill, at L, now below the present level of the lake, were the Pink Terraces. The former outlet to Rotomahana was about where the letter C is shown on the picture. Formerly the Kaiwaka River, a strong stream of hot water, ran down here, and formed the drainage-channel of a considerable area of country which shed its waters into the Rotomahana Basin. The picture

\* The positions on the picture of the places referred to by letters will be found by drawing intersecting lines parallel to the top and side of the picture from the letters on the margins.

† "The Eruption of Tarawera: A Report to the Surveyor-General, by S. Percy Smith, F.R.G.S., Assistant Surveyor-General," 1 vol., 8vo.; Wellington, George Didsbury, Government Printer, 1886.

shows very clearly that the valley of this stream is completely filled with matter ejected from the lake-crater, so much so that where the Valley of Kaiwaka was formerly is now a nearly level surface right across, the height of which above the present lake is 93ft.

At the time of survey in July and August, 1886, the point K was occupied by a little circular crater-like lake about 70 to 80 yards in diameter. It was situated approximately on the former site of the Black Terrace, a group of hot springs, the deposit from which was dark in colour. Early in July this crater-lake was ejecting a little steam. On the 31st of July the survey party, in their camp some three miles away, was startled by some smart earthquake-shocks, and a considerable increase in the roar from the crater. This denoted the birth of another crater on the site of the Black Terrace, which increased to an eighth of a mile in diameter, and sent up a column of steam as high as that from the main crater. Large quantities of water, rocks, and sand were ejected. The appearance of that part of the country has entirely changed since then; it is now occupied by a deep ravine, which can be seen in the picture, and which is impassable. Along this part, and extending thence across the old outlet to Rotomahana, the mud was of so tenacious a nature that the strongest man could not proceed 50 yards without resting. Beyond this difficulty, however, there was nothing at that time to prevent travelling; none of the numberless gorges and ravines shown in the picture had any existence, though there were some gentle undulations caused by the action of water, continued through untold ages, on a porous surface. Now this part is completely impassable. It is the same in many other places where the deposit is deep. The letter A denotes Tarawera Lake, into which Rotomahana formerly drained, and near the mouth of the outlet, behind the hill marked B, was situated Te Ariki Village, now buried deep under the volcanic ejecta. Here many unfortunate Maoris, who were overtaken by the eruption, lie entombed. The level of Tarawera Lake in May, 1894, was 55ft. below that of Rotomahana.

Turning now to Tarawera Mountain, the letter F shows the position of the great chasm that splits the mountain-top from end to end for a distance of three-fourths of a mile. It was near this place (F) the first outbreak took place, doubtless along an old rent or chasm (of which, however, there was no sign on the surface). As the eruption increased, the imprisoned forces thrust through the side of the mountain at E, and there formed a fearful chasm, part of which can be seen in the picture. The opening-up of this chasm continued in a south-westerly direction through what is now the lake, and (as we believe) so soon as it reached Rotomahana Lake (near M), the waters rushed in, and, coming in contact with the molten matter below, caused the second great explosion, which ruined the Terraces, and covered the country for miles around with rocks, sand, mud, and ashes.

The line of this great chasm can be traced in the picture, from F by E to P (site of the perfect little Green-lake crater) to M and N, whence it passes on to the south-west for some two miles further, the whole length of the chasm being nine miles.

The changes that are going on in the country around the site of the eruption are very noteworthy, and offer opportunities for observing the formation of surface which do not appear to have been noted before—at least, none of our standard works on geology give the least hint of such rapid changes as may here be witnessed.

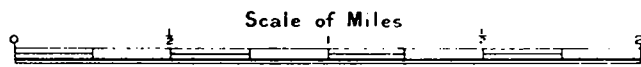
The conditions are peculiarly favourable to change. The whole of the country shown in the picture, and for many miles outside it, was, at the time of the eruption, covered many feet deep with mud and scoriæ ejected from Rotomahana and Tarawera. In some parts this covering was 200ft. deep, but it varied much in different localities. The material of which it is composed differs also according to the locality from whence it is derived. On the mountain itself the covering is almost entirely composed of loose andesitic scoriæ, and is therefore not subject to much change, for the simple reason that the water percolates quickly through it, and thus escapes. Around the lake, however, the deposit was composed of sandy mud, scattered through which at all depths is to be seen a little of the scoriæ from Tarawera. This mud held the water most tenaciously for some time after the eruption, and from its compact nature did not allow the water to percolate through it. Hence it ran off along the surface, carrying with it great quantities of mud and scoriæ, which very soon began to cut deep channels, which increased in size very rapidly. At first these channels occupied the original hollows in the natural surface—original, but nevertheless deeply buried under the recent ejecta—but in process of time the channels were unable to carry off with sufficient speed the mud-charged waters, and hence slopes, which shortly after the eruption were quite smooth, soon became deeply furrowed, each furrow, of course, leading to a larger one down below. During the process enormous masses of material have already been carried off the hillsides into the valleys, filling them up, and forming flats far more extensive than those in existence before the eruption. This furrowing process has gone on to such an extent that it is now only possible to pass over the country by keeping to the main knife-like ridges, which often are too narrow to walk along. This style of country is well illustrated in the picture, where the hill in the immediate foreground is seen to be furrowed in the extraordinary manner that has been described, and over which neither man nor beast can pass. In the right-hand lower corner of the picture, at O, the nature of the covering of mud and ashes is clearly to be seen, more or less stratified, and conforming to the original slope of the hill. Though quite soft soon after the eruption, by consolidation it has now become, comparatively speaking, hard. Through the mass of mud the fine scoriæ ejected from Tarawera is found in large quantities, often deposited in thin strata, at others scattered sparsely through the whole mass. This formation is identical with that class of rock called by geologists breccia, with this difference: that it has not had time to become cemented into a uniformly hard rock, as in ordinary breccias. It appears certain that in process of time it will acquire the necessary hardness, and then will be indistinguishable from the ordinary volcanic breccias.

One of the most noticeable results arising from the thick covering of loose incoherent matter deposited on the surface of the country is the rapidity with which new surface features are formed. Many of the gorges which have been excavated during the past eight years are from 100ft. to 150ft. deep. They are due to the increased power of excavation acquired by the surface-waters when charged



### MAP OF THE ROTOMAHANA BASIN

Shewing the Lake as it was before the Eruption, as it was in the month following the Eruption of 10<sup>th</sup> June 1886 and the approximate limits of the Lake in 1893.



#### REFERENCE.

Lake as it was before the Eruption . . . . .  
 Lake as it was in the month following the Eruption . . . . .  
 Approximate limits of the Lake in 1893 . . . . .

Heights are in feet above sea level.







MOUNT TARAWERA AND LAKE ROTOMAHANA.

(THE SCENE OF THE ERUPTION, 10th JUNE, 1886).

FROM TE HAPFOTOROA HILL.

29th March, 1893.



with mud and scoriæ. Under these conditions changes take place within a few years which under ordinary circumstances require ages to effect. The immediate result is that only in a few places can the country be crossed, the furrows and gorges presenting insurmountable obstacles to travel. These observations refer to that portion of the country which was covered by the mud ejected from Rotomahana; the scoriæ-covered country immediately around Tarawera has not been affected in the same manner, and this is due to the porosity of the covering.

A little vegetation, in the shape of Scotch thistle and fern, is showing here and there over the thickly-covered surface; where the deposit is thin the fern seems to grow with greater strength and luxuriansness than formerly.

An interesting question arises as to what will be the future changes in the Rotomahana Basin. The lake now is 985ft. above sea-level, having risen 420ft. in eight years. It is also about 25ft. below the level of the original Rotomahana lake, but there is considerable doubt about that height, which is given in "The Eruption of Tarawera" as 1,080ft. No accurate determination had ever been made prior to the eruption, and there are reasons for thinking that 1,080ft. is too great—that 1,010ft. to 1,020ft. is nearer the truth. The height of the flat at C on picture is 1,080ft.; consequently the present lake has to rise 95ft. before it can find an outlet for its surplus waters, for there is no outlet at present, unless by means of subterranean ways. If the lake once rises this 95ft. it will again flow into Lake Tarawera, and, as the Kaiwaka Valley is filled with loose incoherent ejecta, due to the eruption, the result will be that, within a few days, the waters will clear out a channel down to the level of Lake Tarawera, and drain off a considerable portion of the present Lake Rotomahana. Whether the loss by evaporation will prevent this occurring—the watershed of Rotomahana is not large—remains to be proved, and for that reason observations taken hereafter on the level of the lake will prove of great interest.

May, 1894.

S. PERCY SMITH.

## APPENDIX No. 9.

### REPORT ON VILLAGE-HOMESTEAD SETTLEMENTS.

SIR,—

Wellington, 31st May, 1894.

I have the honour to forward herewith returns giving full details of the village-homestead settlements in each of the provincial districts of the colony.

During the past year thirty-five new settlements have been formed, chiefly in the South Island. Two hundred and ninety-three new selectors have taken up sections of land, representing in the aggregate 5,530 acres—an average of 19 acres to each settler. The annual rents amount to £1,274—an average of 4s. 7½d. per acre.

The position of these settlements on the 31st March last was as follows:—

Number of settlements in the colony	...	...	...	...	120
In the North Island	...	...	...	37	
In the South Island	...	...	...	83	
				—	120
Number of original selectors	...	...	...	...	1,519
Original settlers now remaining	...	...	...	...	933
Number of present settlers—					
Resident	...	...	...	...	769
Non-resident	...	...	...	...	388
				—	1,157
In the North Island	...	...	...	...	518
In the South Island	...	...	...	...	639
				—	1,157

The large number non-resident is due to the fact that many are new selectors, and the time allowed for residing on their sections has not yet expired. Many of them are erecting dwellings, and especially is this the case at Cheviot, where sixty-five sections have been taken up under these regulations.

Total acreage originally taken up	...	...	...	...	Acres. 40,544
Total acreage now remaining	...	...	...	...	27,314
					Acres.
In the North Island	...	...	...	...	13,978
In the South Island	...	...	...	...	13,336
				—	27,314
Average area to each settler	...	...	...	...	23½
Total area laid down in pasture or cultivated	...	...	...	...	11,979
The amount advanced during the year for dwelling-houses, bush-felling, and grassing was	...	...	...	...	£ s. d. 634 10 0
					£ s. d.
In the North Island	...	...	...	...	536 7 6
In the South Island	...	...	...	...	98 2 6
				—	634 10 0

The total amount advanced from the commencement of the system to the 31st March last is as under:—

	£	s.	d.	£	s.	d.
North Island—For dwelling-houses	8,855	8	1			
Bush-felling, &c.	11,191	15	8			
				20,047	3	9
South Island—For dwelling-houses	4,461	0	0			
Bush-felling, &c.	810	2	2			
				5,271	2	2
Total advanced				£25,318	5	11

This amount is equivalent to an advance of 18s. 6½d. per acre.

The total annual rents, including interest on advances, amounts to £3,753 12s. 10d., equal to 2s. 9d. per acre. The amount received for the year ending 31st March last was £2,881. I should here, however, explain that on a considerable area of the land taken up only six months' rent was payable.

The total amount received for rent and interest from the commencement of the system to the end of the past financial year was £13,403 19s. 7d., classified as under:—

	£	s.	d.	£	s.	d.
North Island—Rent	3,938	8	2			
Interest	2,663	5	3			
				6,601	13	5
South Island—Rent	5,570	17	8			
Interest	1,231	8	6			
				6,802	6	2
Total receipts				£13,403	19	7

The arrears of rent and interest on the 31st March last amount to £2,212 17s., as under:—

	£	s.	d.	£	s.	d.
North Island—Arrears of rent	806	13	8			
Arrears of interest	1,029	19	7			
				1,836	13	3
South Island—Arrears of rent	290	12	10			
Arrears of interest	85	10	11			
				376	3	9
Total arrears				£2,212	17	0

With respect to further advances for which the Government may be liable, the amount is £5,955: of this sum, £5,165 is in the Auckland Provincial District, where an extension of time (to the 30th June, 1894), as explained in my previous report, was granted. It is not anticipated, however, that more than £1,000 will be required, and it is well understood by the settlers that no advances can be made unless the improvements have been effected before the 30th June next. The balance of the liability—namely, £790—is under the regulations of the 27th February, 1891, which provide that an advance of £10 may be made to assist a selector in the erection of a house on his section.

The value of improvements now on the land amounts to £70,006.

By referring to the returns of last year, it will be seen that considerable progress has been made this year under this system of land-settlement. It is also satisfactory to note that, while the receipts are greater, the arrears are less.

In my report of last year I alluded to the large number of forfeited or surrendered sections in some of the settlements in the Auckland District. I am pleased to be in a position to state that many of them have now been taken up. Mr. Kavanagh, the officer in charge, reports as follows:—

“The most noticeable feature during the year is the large area of land selected at Herekino under the ordinary conditions of land settlements—namely, 29 abandoned sections, containing an area of 1,368 acres, and 10 previously unallotted sections, containing 718 acres, making a total of 39 sections, with an area of 2,086 acres, 1,248 acres of which has been acquired by present and past settlers and their sons. Nearly all the sections in the different village settlements worth having have been selected, except in the case of Punakitere, which is chiefly composed of endowment land. All the sections in this settlement owned by Government are, with one exception, occupied.”

I attach an interesting return, furnished by Mr. Kavanagh, showing the stock in each of the settlements, the number of women and children, and the area in grass, gardens, and orchards, &c.

Mr. O'Callaghan, the Crown Lands Ranger in South Canterbury, states that—

“The returns show a moderate amount of progress, despite of times far from prosperous. Work has been difficult to obtain, and the crops have been inferior in most of the blocks. Some of the settlements have stood still in the way of improvements on the holdings, but none have gone back; and in some a substantial amount of additional improvements has taken place. The general value over all has increased during the year by £362, making the average on the total results £77 for each holding, as compared with £72 last year. This cannot be considered other than satisfactory as a return from these settlers for the very small amount advanced for buildings in South Canterbury—namely, about £800, whereas the total value of the improvements amounts to £5,374.

“The residence conditions are complied with in their entirety by all, except in the case of three

or four settlers, who, being single men, only partially reside. With very few exceptions, the settlers are most industrious, and are doing fairly well, their houses in some cases being models of comfort and cleanliness. Unfortunately, much of the land in some of the settlements is of a very inferior description, though even there much success is gained; but wherever the better class of land is held it is most encouraging to note the constant advance in the settlers' position."

Mr. T. A. Fraser, Crown Lands Ranger in Otago, reports as follows:—

"The yearly inspection of the village-homestead settlements has just been completed, and the system appears to be working satisfactorily. The regulations are well complied with, and the settlers are fairly punctual in the payment of their rents. Buildings on which advances have been made are all, with one or two exceptions, well kept up and in good order. In assessing the value of buildings, allowance has been made for depreciation, and it is satisfactory to note that, after doing this, the total value of improvements has increased during the year. In many cases settlers' holdings are so small that they do not permit of further improvement; and in the case of many of the larger areas the land is of poor quality, and the process of improvements is naturally slow.

"General complaint is made by the settlers that their holdings are too small. This, of course is difficult to remedy, but in the future it would be well if holdings of this nature were made large enough to carry six milch cows the year round. In the near vicinity of towns a holding large enough to carry two cows would be sufficient. In the south-eastern district settlers complain of the scarcity of work. This is probably owing to the low price of grain, compelling farmers to curtail their employment of labour. In the Glenomaru, Woodland, and Tautuku districts settlers find employment chiefly on public works.

"Generally speaking, settlers and their families have comfortable surroundings, and look healthy and contented, with, of course, some exceptions, and these latter are chiefly in the more recent settlements. The hardest struggle is for the first two or three years.

"It may be interesting to note that fifty-six of the holdings are occupied by families with a total population of 338 souls, or an average of six to each holding.

"The children in the settlements attend school regularly, with the exception of those at the Warepa Settlement. About twenty children are not attending, the plea being that the nearest school, four miles distant, is too far off."

At the end of last year the Hon. Mr McIntyre, Commissioner of Crown Lands, Victoria, paid an official visit to the colony for the purpose of inquiring into the system of land-settlement, and more especially to inspect the village settlements.

Mr. McIntyre sums up the result of his inspection of the village settlements of the colony in the following words:—

"From my personal observation, and from the information I was enabled to obtain through the documents placed at my disposal, I think I am perfectly justified in stating that the success of the village-settlement movement in New Zealand has been proved. It has got beyond the experimental stage, and the system, if I mistake not, is firmly grafted on the land policy of that country. Any apprehensions which I may have entertained of the ultimate success of our Victorian village settlements have entirely disappeared in the light of the experience gained in New Zealand."

I think it unnecessary to lengthen this report by any additional remarks of my own. I would only say that I am strongly convinced that the village-homestead settlement scheme is the true remedy for meeting the difficulty which ever and again arises in the colony by men being out of employment. It is true that the area of land allowed under the regulations may not be sufficient to support them and their families; but this was never the intention, the idea being that men need never be idle, or complain that they have no work to do.

The homestead system is intended for men who, when not otherwise employed, may devote their spare time on their holdings. It has been tried. It has proved successful, and others can go and do likewise.

The financial results of the system, which I have now the honour to transmit to you, will, I trust, be considered satisfactory. It is because I think they are so that I strongly urge that the system should be encouraged and extended to the utmost. For this purpose good land must be obtained, and some little assistance granted for dwellings.

I have, &c.,

J. E. MARCH,

Superintendent of Settlements.

The Surveyor-General, Wellington.

STATEMENT showing Position of VILLAGE SPECIAL SETTLEMENTS in the several Land Districts as at 31st March, 1894.

Name of Settlement.	Number of Original Settlers.	Original Settlers now remaining.	Number of Present Settlers.		Total Acreage originally taken up.	Total Acreage now remaining.	Total Acreage laid down in Pasture or cultivated.
			Resident.	Non-resident.			
Auckland .. .. .	461	210	236	22	Acres. 21,229	Acres. 10,742	Acres. 3,293
Hawke's Bay .. .. .	34	12	29	2	236	204	190
Wellington .. .. .	260	142	144	85*	3,393	3,032	2,129
Nelson .. .. .	21	21	12	9	108	108	70
Marlborough .. .. .	22	13	10	4	342	236	148
Canterbury .. .. .	318	245	185	111*	9,133	8,127	5,099
Otago .. .. .	232	161	98	81*	3,867	3,021	624
Southland .. .. .	171	129	55	74*	2,236	1,843	426
Totals .. .. .	1,519	933	769	388	40,544	27,313	11,979

\* Many of these new selectors. Time allowed for residence not yet expired.

## SUMMARY.—VILLAGE HOMESTEAD SPECIAL SETTLEMENTS.

Name of Settlement.	Taken up during the Year.				Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894.				
	No.	Area allotted.	Average Area to each Settler.	Rental.	No.	Area.	Rental, including Interest.	No.	Area.	Rental, including Interest on Advances.		
		A. R. P.	Acres.	£ s. d.		A. R. P.	£ s. d.		A. R. P.	£ s. d.		
Auckland ..	..	..	..	..	16	651 3 21	44 18 2	258	10,742 1 10	800 13 1		
Hawke's Bay ..	..	..	..	..	..	..	..	31	203 2 20	80 5 4		
Wellington ..	24	429 2 6	18	60 15 5	13	144 0 37	40 0 11	229	3,032 1 28	512 4 6		
Nelson ..	12	60 1 37	5	9 2 0	..	..	..	21	108 0 27	16 10 6		
Marlborough ..	..	..	..	..	..	..	..	14	236 0 5	23 12 9		
Canterbury ..	118	2,549 2 11	21	829 12 10	2	58 1 37	13 8 2	296	8,127 2 33	1,584 3 0		
Otago ..	73	1,299 2 28	18	259 12 2	5	38 2 22	4 3 10	179	3,021 0 28	462 8 4		
Southland ..	66	1,190 3 25	18	114 16 0	..	..	..	129	1,842 2 27	273 15 4		
Totals ..	293	5,530 0 27	19	1,273 18 5	36	893 0 37	102 11 1	1,157*	27,314 0 18	3,753 12 10		

Name of Settlement.	Amount advanced to Settlers during the Year.			Total amount advanced to Settlers, Past and Current Transactions.		
	For Houses.	For Bush-felling.	Total Advances.	For Houses.	For Bush-felling.	Total Advances.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland ..	70 0 0	301 7 6	371 7 6	5,485 8 1	7,224 0 0	12,709 8 1
Hawke's Bay ..	..	..	..	580 0 0	296 15 9	876 15 9
Wellington ..	150 0 0	15 0 0	165 0 0	2,790 0 0	3,670 19 11	6,460 19 11
Nelson ..	30 0 0	..	30 0 0	60 0 0	..	60 0 0
Marlborough ..	..	..	..	85 0 0	18 15 0	103 15 0
Canterbury ..	50 0 0	..	50 0 0	2,460 0 0	..	2,460 0 0
Otago ..	10 0 0	..	10 0 0	1,100 0 0	441 5 0	1,541 5 0
Southland ..	..	8 2 6	8 2 6	756 0 0	350 2 2	1,106 2 2
Totals ..	310 0 0	324 10 0	634 10 0	13,316 8 1	12,001 17 10	25,318 5 11

Name of Settlement.	Payments made by Settlers during the Year.			Total Payments made by Settlers from Commencement of System.		
	Rent.	Interest.	Total.	Rent.	Interest.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland ..	349 7 1	358 4 2	707 11 3	2,115 0 5	1,249 8 0	3,364 8 5
Hawke's Bay ..	17 1 4	42 12 8	59 14 0	279 7 4	262 4 11	541 12 3
Wellington ..	257 6 3	257 9 4	514 15 7	1,544 0 5	1,151 12 4	2,695 12 9
Nelson ..	15 19 9	..	15 19 9	24 0 6	..	24 0 6
Marlborough ..	17 12 6	4 14 0	22 6 6	125 9 6	27 0 10	152 10 4
Canterbury ..	968 6 3	105 10 0	1,073 16 3	4,125 3 6	637 15 0	4,762 18 6
Otago ..	195 11 3	63 13 2	259 4 5	588 17 9	300 13 10	884 11 7
Southland ..	169 1 7	58 11 4	227 12 11	712 6 5	265 18 10	978 5 3
Totals ..	1,990 6 0	890 14 8	2,881 0 8	9,509 5 10	3,894 13 9	13,403 19 7

Name of Settlement.	Settlers in Arrear on 31st March, 1894.					Further Advances for which Government will be liable.	Value of Improvements now on the Land.
	No.	Area.	Rent.	Interest.	Total.		
		A. R. P.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland ..	176	7,961 0 17	527 4 8	659 11 5	1,186 16 1	5,165 0 0	17,546 12 0
Hawke's Bay ..	3	11 0 6	0 14 0	2 3 4	2 17 4	..	5,405 0 0
Wellington ..	129	1,762 3 11	278 15 0	368 4 10	646 19 10	450 0 0	18,987 11 3
Nelson ..	5	25 0 0	1 18 3	2 15 0	4 13 3	60 0 0	1,043 0 0
Marlborough ..	1	5 3 4	0 9 0	0 10 0	0 19 0	..	831 10 0
Canterbury ..	67	2,280 3 1	226 10 6	36 5 0	262 15 6	..	13,274 16 0
Otago ..	36	575 1 0	28 14 5	28 12 5	57 6 10	280 0 0	6,538 0 0
Southland ..	27	274 0 23	33 0 8	17 8 6	50 9 2	..	6,380 0 0
Totals ..	444	12,895 3 22	1,097 6 6	1,115 10 6	2,212 17 0	5,955 0 0	70,006 9 3

\* Includes village-homestead sections on lease-in-perpetuity and endowment lands.

## PROVINCIAL DISTRICT OF AUCKLAND.

RETURN of the Number of Horses, Working Bullocks, Cows, Calves, Sheep, Pigs, and Poultry, with Chains of Fencing, in the several Village Settlements; also the Area in Grass and Area in Garden and Orchard; together with the Number of Women and Children, on the 31st March, 1894.

Name of Settlement.	Horses.	Working Bullocks	Cows.	Calves.	Sheep.	Pigs.	Poultry.	Chains of Fencing.	Number of Women.	Number of Children.	Area in Grass.	Area in Gardens and Orchards.
											Acres.	Acres.
Aroha and Te Aroha ..	35	..	80	65	40	38	228	756	15	54	340	6
Akatea and Firewood Creek	14	..	25	31	30	3	72	153	3	15	123	3
Drury .. ..	..	..	8	4	..	1	80	100	2	12	27	1
Fern Flat .. ..	8	..	8	6	147	8	30	101	6	10	158	2
Herakino .. ..	44	49	76	89	182	142	158.	541	16	54	293	7
Hukerenui .. ..	67	..	100	118	..	68	324	1,145	25	97	384	10
Komakorau .. ..	4	..	9	10	..	7	88	60	2	9	17	2
Matatau .. ..	17	..	22	27	..	13	83	214	5	17	100	2
Motukaraka and Kohukohu	37	13	105	128	..	29	206	502	25	100	498	11
Omaha .. ..	20	17	57	66	667	13	443	723	18	46	345	10
Punakitere .. ..	31	..	50	70	161	36	167	772	19	59	210	10
Parua Bay and Pataua	14	..	24	26	28	6	74	200	4	18	97	4
Swanson and Waitakerei	2	..	9	8	..	5	117	257	9	30	29	4
Takahue .. ..	20	..	19	11	219	36	132	183	6	20	147	4
Whananaki .. ..	21	..	55	86	115	8	161	628	12	46	225	11
Waimamaku .. ..	17	5	29	27	..	12	273	130	12	34	208	5
Totals .. ..	351	84	676	772	1,589	425	2,636	6,465	179	621	3,201	92

## APPENDIX No. 10.

## CHASLANDS IMPROVED SETTLEMENT FARMS.

ANNUAL REPORT, 31ST MARCH, 1894.

ANNEXED hereto is a statement giving full details, which I trust will convey all the information necessary, although I regret to say it does not reveal the amount of progress I anxiously desired; and on this account I should like to make a few remarks bearing on this subject, and endeavour to explain as clearly as possible why a greater amount of work has not been accomplished, and the obstacles that beset me in trying to persuade the men to settle on the land.

The first detachment of men—four from Christchurch and ten from Oamaru—arrived here on the 10th of May, 1893. The road was then not sufficiently advanced to enable them to reach the settlement till August, and in the interval they were employed on the road. Mr. Hourston was the only one of this party who commenced bush-falling, and he was joined by Thomas Rewcastle, who left his road-work because he was anxious to get a piece of land.

William Hourston and Thomas Rewcastle are both on the settlement with their families. It has been a struggle with most of them getting houses erected, as they could ill afford the loss of time it entailed, and the expense of bringing their families here will also be a drag on them for some time. This is an important point, for this reason: By the time their sections are clear their difficulties will be over, and they will be in a better position to meet the rent of their sections when called upon. Having their families with them is an immense advantage, as it obviates the necessity of keeping two homes, and the boys render valuable assistance on the sections.

I can conceive no better method of encouraging this class of men, who have no means, to settle on the land. I have been careful in selection, and, although I may be disappointed in one or two instances, on the whole there is a first-rate class of men on the settlement. There can be no doubt, if the whole block were cleared and in grass it would readily be taken up. But settlement would only commence on the completion of the block, and I am afraid the families who are now here would still be found in the towns, because a little capital would be necessary in that case. It is precisely for this reason I consider the present method so well adapted to their present position, as it gives them time to establish themselves, and get their homes in order by the time their allotments are cleared. I am confident it would be futile to try and persuade those men to remain here with their families, or without them, if they suspected an uncertainty existed with respect to the ultimate possession of the allotments they have so far cleared and improved. Had this been the case, the annexed sheet, with full details, would have contained the names of two old men instead of ninety souls on Chaslands Reserve. By the end of April most of the settlers will have finished erecting their houses, and I anticipate good progress this winter with bush-falling. I am anxious to get all the front sections cleared as soon as possible, and with this object in view I will place any men who may possibly arrive this winter, seeking for bush-work, on those sections: it will then be necessary to clear and form the roads into the back sections. On this work I would suggest

employing the settlers only. There is one more subject I wish respectfully to bring before your notice with reference to the men who have been sent here for bush-felling. They are always dissatisfied on their arrival here, and inclined to give trouble. Most of them were inexperienced bushmen, and consequently earned very poor wages. This, of course, falls hard on men who have large families dependent on them.

There are still a few men engaged on road-work who are anxious to settle on back sections.

ROBERT YOUNG.

IMPROVED SETTLEMENT FARMS, CHASLANDS, to 31st March, 1894.

Section No.	Settler.	No. in Family.	Houses.	Acres Felled.	Acres Burned.	Acres Grassed.	Deductions for Tools, &c.	Cost of Work.
1	N. Coleman .. ..	3	1	42	23	23	£ s. d. 10 3 3	£ s. d. 65 6 0
2	G. Farquharson ..	11	In course of erection	23	11	11	2 3 6	*3 9 0
3	J. F. Morris .. .	1	..	2	..	..	0 7 6	3 15 0
	Family to arrive ..	10						
4	G. Warnock .. ..	5	In course of erection	40	22	22	8 14 9	60 15 0
5	W. Hourston .. ..	7	1	44	12	12	1 9 0	66 8 9
6	R. Roberts .. ..	6	In course of erection	54	10	10	16 17 0	77 14 6
7	School Reserve ..	..	..	..	7	7	..	..
8	P. Janssen .. ..	6	1	6	9	9	..	8 15 0
9	A. Little .. ..	2	..	12	1	1	1 8 0	18 17 6
	Family to arrive ..	3						
10	M. Comber .. ..	4	In course of erection	17	2	2	0 15 0	23 17 6
11	M. Welsh .. ..	10	1	8	6	6	2 10 6	12 5 0
12	K. Dingwall .. ..	1	In course of erection	12	..	..	..	13 14 4
13	A. Rhodes .. ..	6	1	13	5	5	0 1 0	16 8 9
14	F. Hunt .. ..	3	1	6	..	..	0 7 6	10 10 0
15	T. Rewcastle .. ..	7	In course of erection	12	2	2	..	20 5 0
16	M. Milligan .. ..	6	..	3	..	..	..	4 1 0
	Family to arrive ..	1						
		92	6	294	110	110	44 17 0	442 15 4
	Labour, burning, survey, &c. ..							19 14 0
	Total cost of work .. ..							462 9 4

\* Burning, &c.

APPENDIX No. 11.

CORRESPONDENCE SHOWING ARRANGEMENTS WHEREBY PERSONS WITH SOME CAPITAL MAY OBTAIN REDUCED PASSAGES TO NEW ZEALAND.

EXTRACT FROM LETTER FROM AGENT-GENERAL DATED 18TH MARCH, 1892.

3. *Small Farmers with Capital.*

This is the class above all others which I consider it desirable to attract. It is quite contrary to my intention to suggest a return to the old immigration policy. I feel that New Zealand will be able to obtain from the neighbouring colonies for years to come a sufficient number of artisans and labourers to meet any increased demand that may arise for that class of settlers, but the same remark does not apply to farmers with capital able and willing to settle on and cultivate the land with advantage to themselves and also to those now in the colony. With regard to farmers, although something can be done by setting before them the many advantages of the colony, as regards climate, fertility of soil, &c., yet I feel assured that, in order to put the colony on a fair footing in the competition with other colonies in procuring suitable colonists, it is very desirable that some assistance should be granted to them similar to that which was granted some years ago, when, after being approved by the Agent-General and paying their capital into this office, to be repaid to them on arrival in the colony, they were assisted to the extent of about £10 per adult in the cost of their passage. It will be found that during the two years this policy was in force 395 souls were sent out to New Zealand, and that capital in the aggregate amounting to £17,532 was received at this office for repayment to the owners on their arrival in the colony. The cost to the colony for passage-money was £3,025. Intending settlers of a really suitable description are, I believe, attracted by some advantage which is immediately available more perhaps than by any other inducement. I therefore venture to recommend to the Government for their consideration the granting of some assistance, even though the aggregate amount be comparatively small.

I have been in communication with the shipping companies, and I find that during ten months out of the year they are prepared to reduce the cost of the passages of intending settlers with capital on the following scale:—



## HOROWHENUA STATE FARM.

MR. WINTERBURN, the overseer in charge, reports:—

On the 24th January I proceeded to the site of the State Farm with a few men, and pitched camp.

At first the men were paid day-wages, but it was considered advisable to substitute contract work, which was partially brought into force on the 13th February, and has so far worked satisfactorily. All the work that can be let by contract is so done, but certain classes of work must be done by day-wages, this being unavoidable.

About 25 acres of manuka near edge of bush was cut, burned, and heaped, and the space sown with grass-seed, which is thriving well. The division line between the farm and village settlement has been underscrubbed and felled 2 chains wide, and the western boundary has also been completed a chain wide all through. The whole of the frontage to the Horowhenua Road is now fenced with wire and battens; also the open at eastern end up to the skirt of the bush, to be continued as division fence between the settlement and farm.

The road from front gate is completed a mile into the bush, and when extended to boundary will divide the farm in halves, east and west.

A nursery, containing about 2 acres of land, has been fenced with paling, and the stones and roots cleaned out; this work is not quite finished yet, but will in all probability be ready in a few days to receive the 2,500 fruit-trees required. Holes have been dug along the fences, and at each side of road running through the farm, for the purpose of planting 600 ornamental and shelter trees in. I am now running a fence along the skirt of the bush to form a paddock for horses, and intend to plough some of it for cropping. The boulder belt extends about 20 chains into the bush, but the land behind it is capable of growing anything, being a rich loam.

I am leaving a forest reserve, 10 chains wide, along the southern boundary and down to the Waiwiri Lake; this reserve will act as a breakwind and shelter to the farm, as well as being a good piece of natural bush.

Mr. Bartholomew is now putting in a tram-line to get at the timber in the heart of the block, and at the south-west end. It will take about twelve months or more to get the timber out. The royalty paid up to the present amounts to £94 19s. 9d., at the rate of 6d. for matai, 3d. for white-pine, and 4d. for rimu.

There are now thirty-three men employed on the place; the population, including children, numbers eighty-three. Nine men have left of their own accord, either to go to other employment or through discontent; only one man has been dismissed, and that was through repeatedly disregarding instructions, and threatening to inflict bodily harm on several of the men. At first the men, through inexperience, made small returns at contract, for instance—at underscrubbing some of them only made 2s. 5d. a day; but they kept at it, and the same men are now making between 5s. and 6s. a day at the same work: this applies all round to contract work. It seems hard at first, but it tests the men, and I may say that, with few exceptions, they have profited by the experience gained, and now make a moderate wage. It takes time, and is a difficult matter to find out what each man is best suited for, and that can only be arrived at by actual test. A man may do well at underscrubbing, and yet be lost at road-work or bushfelling; so I have just to use my own discretion and try to mete out justice to all.

Since the start, three men have been lost and spent the night in the bush; but on each occasion they were either found by search parties or got out themselves at sunrise, apparently none the worse for their night's outing. There has been very little sickness in the camp, and none of a serious nature; but two men have injured themselves slightly—one cut his foot with a slasher, and was away for a fortnight through it; the other man cut his hand with a slasher some weeks ago, and is still in camp. He has a large family to support, so the men held a meeting and unanimously decided to give a half-day's work on the unfinished road section where he met with the accident, so that when they have all had their turn at it, it will, in all probability, be completed, and he will then receive the amount earned for the contract. This will tide him over his misfortune, and speaks well for the men who came forward to assist him: they who worked not have promised cash in lieu thereof.

The Government buildings at present consist of two structures 10ft. by 14ft., built on skids, one in use as an office, and the other for living in; also a shed for keeping the carts and horse-feed in. There are five private dwellings built of wood, and six composite—calico and timber—the tents built up and floored for sleeping in, and the living-room of wood; the rest are still in tents, but most of them have ordered timber to supersede the calico.

The nucleus of a library is already here, and when the hall promised is erected I intend to obtain as many papers and books as possible, for there is a considerable amount of reading indulged in by a goodly number.

When the nursery is planted, the intention is, for a time, to utilise the space between the trees as a vegetable garden, and for the supply of plants to the people on the Farm.

I expect to be able to get about 600 acres of the bush down in time for the next year's burn, and 50 acres will then be logged up, stumped, and cleared, ready for an orchard.

The road through the Farm will, in all likelihood, be completed in two months.

I should much like to see a trade opened up in firewood and posts. If this were done the Farm would pay almost half the expense of management and working until the bush is down. A pork trade and butter-factory are things to be considered later on. It is also proposed to experiment in silk-culture, for which purpose some white mulberry-trees will be planted in the nursery at once.

There are 2 chains felled between the village settlement and farm, and one chain between Maori land and farm; and it will be necessary to have an extra chain in width felled on adjoining blocks to enable me to have the fences erected. Will your department kindly see to this?



Present Rates.	Contribution by Shipping Company.	Contribution by New Zealand Government.	Reduced Cost to Passenger.
	£ s. d.	£ s. d.	£ s. d.
Second saloon ... ..	36 15 0	8 15 0	20 0 0
Third saloon (two in room) ...	21 0 0	3 0 0	14 0 0
Ditto (enclosed berth) ... ..	18 18 0	2 18 0	13 0 0

It will be seen by this that, under this proposal, assistance to the extent of £16 15s. per adult will be available to persons going by the second class, and of from £5 18s. to £7 to those taking third-class passages, and the reduction made by the shipping company is practically equal to the contribution made by the Government.

Although this is perhaps not a very large inducement, yet I venture to think it will have a good effect, and the bare announcement that assisted passages are given to farmers with capital brings such into direct communication with this office, and, what is perhaps more important, draws the attention of others to the colony who do not desire assistance. From the number of inquiries made at this office, I have means of knowing that the great cost of the passage to New Zealand compared to other colonies acts as a serious deterrent. The cost to a man with a large family is so large as to be prohibitive in the case of a man with a very small capital.

I hope I have made it clear that, although I consider the benefit the colony will derive from the introduction of small farmers with capital to be considerable, I regard the necessary advertising which this scheme involves of the greatest importance. The adoption of this scheme will give what is so much wanted—a *raison d'être* for extensive advertising, using the term in its largest sense.

It appears to me that the present time is especially opportune for making an effort to attract settlers to the colony. The marvellous growth in our exports and land-settlement, and the buoyancy of our revenue, at a time when the expenditure of borrowed money is reduced to a minimum, are facts which bring our colony into prominent and favourable notice. The success also attending our agricultural and pastoral industries offers a favourable opportunity of bringing New Zealand under the notice of the English farmer, whose prospects appear at the present time so gloomy; while the policy now being pursued by many of the land companies in putting land on the market affords to such an opportunity of acquiring improved farm lands at a reasonable price, should they desire improved land rather than Crown lands.

SIR,—

Department of Lands and Survey, Wellington, 16th June, 1892.

In reply to paragraph 3 of your letter of the 18th March, dealing with the question of attracting small farmers with capital to the colony, I have the honour to inform you that the Government concurs in the views expressed in your letter with respect to the introduction of immigrants of the farmer class who possess more or less capital, and they would be willing to assist desirable persons desiring to settle in New Zealand by affording to them every information in their power, and by approaching the different shipping companies with a view of inducing them to grant passages to this class of settlers at reduced rates.

It is deemed advisable that the benefits which would accrue to settlers of the farmer class, together with the advantages which this colony offers to such colonists, should be advertised somewhat in the manner you have suggested, and particular attention should be given to the distribution of these advertisements in the provinces from whence we may expect to draw settlers who would come under the heading of farmers. It is believed that the colony could absorb a considerable number of farmers who possess capital varying from, say, £300 to £5,000, the more so as there is a tendency at the present time to subdivide the estates held by large proprietors in this country, which thus offers to that class of immigrants who, from age, habit, or want of colonial experience, are unfitted for coping with the pioneer work of subduing the wilderness, chances of securing partly-improved farms, where their experience may be of benefit to them.

Intending settlers could be asked to show that they were possessed of some means, and to produce some form of guarantee as to the amount of capital owned by them, and possibly the course pursued by your predecessor under the same circumstances would equally meet the present case. In addition, there should be procured satisfactory evidence as to the character and general suitability of the people for colonists. Then the Government think the shipping companies would come to some arrangement with you whereby the passage-money could be reduced, as it would be impossible for the colony at present to provide the money for such a purpose.

It does not appear necessary to confine the time during which passages may be given in this manner to the ten months that the shipping companies offer facilities to emigrants, so long as the companies were satisfied with the arrangements entered into.

You could, no doubt, enter into specific arrangements with the shipping companies trading to this colony, and insure that a proper dietary scale, medical attention, &c., is established, in which you will find assistance from the arrangement made by your predecessor under somewhat similar circumstances. The mode of payment for the passages would be subject to the same arrangements as formerly, without any assistance from the colony.

In communications with the intending settlers it will be necessary to insist upon the fact that those who desire to settle on the Crown lands should be informed that they will be practically confined in their choice to forest lands, which have to be cleared and sown with grass before any returns can be expected; and, moreover, that the lands the Crown has to offer are almost, with few exceptions, confined to those suitable for pastoral purposes, but which may, nevertheless, be held in areas varying from, say, 200 to 2,000 acres. You will see from this that farmers who have had

some experience in pastoral pursuits are the most suitable class so far as settlement on Crown lands is concerned—even the Crown lands clear of forest in the south; and that, therefore, special attention should be given to advertising in those parts of the United Kingdom where pastoral pursuits prevail.

The course of action, therefore, the Government think it most advisable you should pursue is to advertise extensively throughout the United Kingdom (the cost of which will be defrayed by the Government), giving all the information available concerning the colony; then, when suitable settlers come forward expressing their willingness to go to the colony, and show to your satisfaction that they are possessed of a certain amount of means, it will be for you, having previously so arranged with the shipping companies, to see that they are provided with tickets for their passages at reduced rates. In entering into negotiations with the shipping companies it is suggested that you should fully place before them the advantages which will accrue to themselves by offering inducements to a most desirable class of people to emigrate to and settle in the colony, a class of people who will almost immediately become producers in the colony, and naturally help to swell the business of the shipping firms trading to New Zealand.

The Agent-General for New Zealand, London.

JOHN MCKENZIE.

Westminster Chambers, 13, Victoria Street, London, S.W.,

4th August, 1892.

SIR,—

I have the honour to acknowledge the receipt, by the San Francisco mail which was delivered here on the 21st ultimo, of letters (not dated) from the Minister of Lands, communicating to me the views of the Government with reference to the proposals I submitted for consideration in the third paragraph of my letter, No. 336, of the 18th March last, and in reference thereto to state that I have placed myself in communication with the shipping companies for the purpose of endeavouring to make arrangements with them for a reduction in the amount of passage-money as regards persons who may be recommended to them by me as eligible for such assistance, it being understood that the Government on their part will advertise extensively throughout the United Kingdom, for the purpose of inducing suitable persons to proceed to the colony by the companies' direct steamers.

Owing to the absence from London of many persons who have to be consulted in this matter, I have not yet been able to come to any definite arrangement, but I trust to be able to do so shortly.

I have, &c.,

The Hon. the Premier, Wellington.

W. B. PERCEVAL.

Westminster Chambers, 13, Victoria Street, London, S.W.,

14th September, 1892.

SIR,—

Adverting to my letter of 4th ultimo, in which I informed you I had placed myself in communication with the shipping companies for the purpose of endeavouring to make arrangements with them for a reduction in the amount of passage-money for persons with capital going out to the colony, as instructed by your letter delivered here on the 21st July, and also informed you that, owing to the absence from London of many persons who had to be consulted, I was unable to make any definite arrangement, I beg to state that the matter is still in abeyance, for the reason given above, but I hope to be able to resume my negotiations in a few days. I had such difficulty in inducing the shipping companies to agree to reduce their fares on the scale sketched in my letter of the 10th March last that I fear that, now that your Government decline to make any money contribution towards passage-money, I shall have still greater difficulty. I shall, of course, make a strong point of the authority you have given me to advertise extensively, and of the increase of business which it is hoped will accrue to the shipping companies.

With regard to the advertising, I have not thought it expedient to take any steps in this direction until I have concluded some arrangement with the shipping companies. I have, however, availed myself of an offer made to me by Mr. J. R. Randerson, of Christchurch, New Zealand, who is now on a visit to this country, to distribute information regarding the colony in the provincial districts where the persons most suitable for colonial settlers are to be found. Mr. Randerson's private business necessitated his visiting a large number of farming centres in England and Ireland; and I have paid him a sum of £25 for the manuscript of three lectures he has written on New Zealand (six copies of which have been forwarded to you in the mail-box shipped by the s.s. "Ruapehu," sailing this week), and, at a cost of a further sum of £25, I have had five thousand copies printed. These are forwarded in parcels of two hundred and fifty to Mr. Randerson as he travels through the country, and he sees to their distribution. I understand Mr. Randerson delivers lectures on the colony, and exhibits lime-light views of New Zealand, and that he proposes to expend the whole of the money I have paid for his manuscript in expenses connected with these lectures. I have, however, refused to identify myself, or connect the Government of the colony, in any way with these lectures, as I have not a sufficient knowledge of his abilities or prudence to warrant such a course. I shall, however, watch with no little interest the result of his lectures.

I am pleased to state that the demands for information regarding the colony made by apparently desirable persons has considerably increased since the opening of the Information Bureau. No efforts are spared in giving full and accurate information, and a large amount of printed matter is freely circulated.

I have, &c.,

The Hon. the Premier, Wellington.

W. B. PERCEVAL.

Westminster Chambers, 13, Victoria Street, London, S.W.,

13th October, 1892.

SIR,—

Since my letter of the 14th ultimo, on the question of endeavouring to arrange for reduced fares for persons with some capital and a knowledge of farming, I have had interviews with

representatives of the shipping companies, and, following upon the interviews, correspondence has taken place between me and the manager of each shipping company. I send herewith a copy of the correspondence, from which it will be seen that the shipping companies are not inclined to fall in with my views. I regret this very much, as I am satisfied the proposed arrangement, if carried out, would have been the means of sending out to the colony a very desirable class of settlers.

I have, &c.,

W. B. PERCEVAL.

The Hon. the Premier, Wellington.

DEAR SIR,—

13, Victoria Street, 13th September, 1892.

Referring to the correspondence which passed between us some time back, relating to a proposal for reducing the passage rates of small capitalists proceeding to New Zealand, which was contained in your letter of 22nd February, and afterwards embodied in a despatch I forwarded to the colony, dated the 18th March last, the contents of which, so far as relate to the subject-matter, have already been communicated to you, I have to inform you that I have received from my Government a reply to my despatch of the 18th March. The Premier speaks favourably of my proposals for inducing small farmers with capital to emigrate to New Zealand, and has endorsed the suggestions made by me for advertising. The Government, however, decline to provide funds towards reducing the passage-money. This being the case, the offer made by your company for co-operating with the Government of New Zealand in the direction of reduced passage-money falls through. This I very much regret.

The question I now desire to submit for your consideration is whether any arrangement can be made for a reduction of the cost of passage-money in special cases (such cases being those where the passenger produces satisfactory evidence of his being in possession of capital, and has the intention of embarking in industrial pursuits in the colony), on the basis of the inauguration by me of an extensive system of advertising, as my Government seem inclined in this matter to give me absolute discretion. It is suggested that this advertising would bring the colony into prominence, and induce a number of persons to emigrate, thus causing an increased business to your company. The reduction of the fares would afford the *raison d'être* for the advertising, and, if your company can see its way to meet me liberally, some arrangement may possibly be come to which will have the effect of diverting steerage-passenger traffic from the German and cargo steamers, by which boats the number of passengers carried of late has, I have reason to believe, been greatly increasing. I am writing a similar letter to the managers of the Shaw-Savill and Albion Company and New Zealand Shipping Company, and if, after conferring with them, you think it advisable to discuss the matter with me, I shall be pleased to see you. In approaching you I wish it to be understood that I desire this matter treated entirely on a business footing, and I do not ask for any concessions which are not deemed for the mutual advantage of your company and the colony.

The Managers of the New Zealand Shipping Company  
and the Shaw-Savill and Albion Company.

Yours, &c.,

W. B. PERCEVAL.

SIR,—  
The New Zealand Shipping Company (Limited), 138, Leadenhall Street, E.C.,  
15th September, 1892.

I have to acknowledge your letter of the 13th instant, relating to proposed arrangements for reducing the cost of passage to small capitalists proceeding to New Zealand, and, after conference with the Shaw-Savill and Albion Company, will communicate further with you.

I am, &c.,

O. R. STRICKLAND, Manager.

The Agent-General for New Zealand, 13, Victoria Street.

DEAR SIR,—

Shaw-Savill and Albion Company, 34, Leadenhall Street,  
17th September, 1892.

On 15th instant we received your favour of the 13th idem, with reference to a proposal made some time back concerning passage rates for small capitalists proceeding to New Zealand, and we are sorry to note that your Government do not see their way to fall in with the suggestions which you made in connection therewith.

The alternative arrangement which you suggest will have our fullest consideration, and the writer hopes to have the pleasure of calling upon you to talk the matter over personally during the course of next week.

We are, &c.,

SHAW-SAVILL AND ALBION COMPANY  
(J. A. POTTER, Manager).

W. B. Perceval, Esq., Agent-General for New Zealand.

DEAR SIR,—

13, Victoria Street, 22nd September, 1892.

Referring to your interview with the Agent-General yesterday, I am directed to state for your information that third-class passages by the direct steamers provided for passengers approved by the Agent-General are, under the existing arrangement, charged at the rate of £15 per adult and £9 per child under twelve years and over one year. Passages were provided both by your company and the New Zealand Shipping Company in March and April last under this arrangement, and there are cases now in hand in which passages will be required under it.

In 1885, in addition to the above arrangement, and for the purpose of providing superior accommodation to that of the third class, it was arranged that passages (as described below) should be provided for passengers approved by the Agent-General, and charged as follows, namely: Second class, at the rate of £28 per statute adult; intermediate, at the rate of £21 per statute adult; intermediate, for families of four or more berthed together, at the rate of £19 per statute adult.

The second-class passengers were berthed, and had dietary scale, as in the case of ordinary second-class passengers; and the intermediate passengers had enclosed cabins, so that families could keep together, and their dietary scale was the same as that of third-class passengers.

In forwarding this information to you the Agent-General desires to express a hope that the companies will see their way to arrange for passage rates lower than those which were charged under the arrangement made in 1885.

I am &c.,

WALTER KENNAWAY.

J. A. Potter, Esq., Manager, Shaw-Savill and Albion Company.

Shaw-Savill and Albion Company, 34, Leadenhall Street,  
27th September, 1892.

DEAR SIR,—

Referring to your letter of 13th instant, and to our interview of 21st, we have to thank you for Mr. Kennaway's letter of 22nd idem, and to state that we have looked very carefully at your suggestion with a view to meet your wishes as far as possible.

We have a difficulty in satisfying ourselves that the advertising of reduced fares by you will not interfere with our passenger earnings, for it appears not unlikely that many of those who would be disposed to accept the benefit of the reductions which you ask us to authorise you to make would otherwise travel by our line in the ordinary way, and pay full tariff rate.

In addition, the position of our passenger-steamers does not warrant our embarking upon a scheme which may have the effect of curtailing their earnings. This service was inaugurated some years ago, as you are doubtless aware, by express desire of the colonists themselves, to supply a want which we were told the colony laboured under, and its inauguration was to bring advantage to us as well as the colonial community. That the colony has been benefited we think cannot be disputed; but to us the result has been very different from what we were led to expect. Although the service has been maintained with increased efficiency, and without complaint as to its character, it is to-day absolutely not self-supporting. For some time the colonial Government, in recognition of the advantage of the service, paid a subsidy for the conveyance of the mails; this has been gradually decreased until latterly it has ceased altogether, because the small amount offered was utterly disproportionate to the conditions and obligations of the contract.

You will thus see that we are not in a position to experiment in the direction you indicate, or to run the chance of curtailing our already diminished earnings by reducing the fares. If, however, your Government were to return to the old state of things and subsidise us as before by a payment of, say, £20,000 per annum for the conveyance of the mails, we would be quite pleased to set apart a portion of our steamers to be filled with passengers proceeding to New Zealand under your auspices at rates which would be satisfactory to you.

We do not think that the circumstances in connection with the inauguration and continuance of the direct passenger service to and from New Zealand make it unreasonable that we should ask to be put upon a basis similar to that which is enjoyed by the P. and O. and Orient lines and the Cape lines in their trade with other British colonies.

Unless something is done in the direction we have indicated, we fear it will be impossible for us to continue the regular sailing of passenger-steamers which has been our practice during past years.

We are, &c.,

SHAW-SAVILL AND ALBION COMPANY  
(J. A. POTTER, Manager).

The Agent-General for New Zealand, 13, Victoria Street.

DEAR SIR,—

13, Victoria Street, London, S.W., 28th September, 1892.

I am directed by the Agent-General to acknowledge the receipt of your letter of yesterday, in which you convey to him the decision of your company not to reduce your fares for second- and third-class passengers recommended by him, as suggested in his letter of the 13th instant, and to express his regret at the decision.

I am further directed to state that the Agent-General now feels himself free to approach other shipping companies on the subject.

With reference to your remarks respecting the mail-service by your steamers, I am to inform you that a copy of your letter will be transmitted to the Government in New Zealand, so that their attention may be directed to the views you express relating to that part of the question.

I am, &c.,

WALTER KENNAWAY.

The Manager, Shaw-Savill and Albion Company (Limited).

DEAR SIR,—

13, Victoria Street, London, S.W., 28th September, 1892.

Referring to your letter of the 15th instant, I am directed by the Agent-General to state that he will be glad to receive a reply to his letter of the 13th instant, relating to the reduction of the cost of passage-money in special cases. The Agent-General has received a reply from the manager of the Shaw-Savill and Albion Company to a similar letter, but he does not know whether you are aware of the decision of that company.

I am, &c.,

WALTER KENNAWAY.

The Manager, New Zealand Shipping Company.

The New Zealand Shipping Company (Limited), 138, Leadenhall Street,  
29th September, 1892.

SIR,—

Your letter of the 13th instant was placed before my Board yesterday.

The Board had at the same time before them a letter of the 27th instant from the Shaw-Savill and Albion Company, in reply to a communication, addressed to them by you, similar to that

now under reply. My Board desire me to say that, in view of the letter of the Shaw-Savill and Albion Company, they do not feel able at present to enter into any arrangement with the Government of New Zealand for a general reduction of rates to such eligible settlers as may be recommended to them by the New Zealand Government.

At the same time, the New Zealand Shipping Company will be ready to consider, in any special case recommended by you, the possibility of some concession from their published rates.

I am, &c.,

The Agent-General for New Zealand. THE NEW ZEALAND SHIPPING COMPANY (LIMITED)  
(O. R. STRICKLAND, Manager).

SIR,—

13, Victoria Street, London, S.W., 30th September, 1892.

I am directed by the Agent-General to acknowledge the receipt of your letter of the 29th instant, in which you state that your company does not feel able at present to enter into any arrangement with the New Zealand Government for a general reduction of passage rates to such eligible settlers as may be recommended by the Government, and to express his regret at the decision arrived at.

While thanking you for your company's offer to consider any special cases recommended by him, the Agent-General directs me to state that he does not consider that such a proposal would meet the objects he has in view, and that, therefore, he now feels himself free to approach other shipping companies on the subject.

I am, &c.,

The Manager, New Zealand Shipping Company (Limited). WALTER KENNAWAY.

DEAR MR. POTTER,—

13, Victoria Street, London, S.W., 6th October, 1892.

Perhaps the enclosed sample of letters we are constantly receiving may interest you, and help to convince you that the high passage rates act as a deterrent to people thinking of going out.

Yours, &c.,

J. A. Potter, Esq., Shaw-Savill and Albion Company. W. B. PERCEVAL.

DEAR SIR,—

I contemplate moving my family—four sons and four daughters—to one of the colonies. Having friends in both Canada and New Zealand, they both think their own place the best. At third-class it would cost £160 to get to New Zealand, while the £60 would take us to Canada. I have a relative at Whangarei, Auckland, New Zealand, and he thinks that a good part to go to.

1. Does your Government offer any advantages as to passage? 2. Or land (as a gift) when you arrive?

We are all workers—two boys and two girls—and don't keep any servant in the house; and, after paying £160 passage-money, should only have about £1,000 left on landing. Kindly give me any information useful as to above questions.

I think your Government are all behind as to helping good colonists, for South Africa offers every inducement to single men now for gold, that few, I imagine, find their way to your colony.

Could I get a free pass to Whangarei from Auckland on landing, think you? as it costs something to be moving ten persons about in a colony where travelling doubtless is expensive, and, no doubt, to that place, although only a hundred miles from Auckland, it would mean £20.

If you could show me some material advantage, no doubt I should be a pioneer for other families I know about here who would follow and form a community known to each other. But with most of them the *expense* seems so much that they fear to venture.

Would it be any good if I saw you in London, as I may be near there shortly?

Yours, &c.,

The Agent-General for New Zealand. ....

Shaw-Savill and Albion Company (Limited), 34, Leadenhall Street, London, E.C.,

DEAR SIR,—

7th October, 1892.

Your note of yesterday's date, addressed to Mr. Potter, has just been placed before me, he being at present absent on a holiday. I have read the enclosure with much interest, and now return it to you.

There is probably no doubt that a lower rate of passage-money would attract passengers to New Zealand, but, as explained in our letter of the 27th ultimo, the earnings of the passenger-steamers, both out and Home, are now so curtailed that it is quite impossible for us to reduce the rates. The real gist of the matter appears to me to be in the paragraph in your correspondent's letter in which he states that the New Zealand Government are all behind as to helping good colonists, and in which he contrasts the policy of that colony with that of South Africa, &c. I may mention that our last steamer was quite full of second-class passengers, and that the present one seems likely to be full also; you will thus see that if in the case of these steamers we had made the reductions suggested by you the only effect would have been to reduce the earnings and place us in a worse position than we are now.

I feel sure the service of fast steamers which has been carried on by this company and the New Zealand Shipping Company has been of immense benefit to the colony, but the time is certainly now rapidly approaching when we shall be compelled to consider whether it is possible for us any longer to continue it.

I am, &c.,

The Agent-General for New Zealand.

J. W. TEMPLE,  
Managing Director.

COPY of CABLEGRAM from AGENT-GENERAL to the PREMIER. 6th January, 1893.

SHIPPING company offers reduce fares 25 per cent. passengers recommended Agent-General. He advertise and forward passengers shipping company only. Shipping company offers 5 per cent. passage-money contribution advertising. Arrangement run for twelve months. Instruct whether may agree.

Westminster Chambers, 13, Victoria Street, London, S.W.,

SIR,—

19th January, 1893.

In accordance with the instructions contained in your (Minister of Lands) letter of July last, I have lost no opportunity of endeavouring to make arrangements under which reduced passages would be provided for suitable settlers, conditionally on the Government, at their own cost, advertising extensively throughout the United Kingdom.

A few weeks after the despatch of my letter to you, No. 1458, of the 13th October last, I had an interview on the subject, at their invitation, with Mr. Dawes and Mr. Johnson, two of the directors of the New Zealand Shipping Company, and, after several subsequent communications, their proposals were embodied in a letter (dated 19th December last), copy of which I herewith attach.

Under the instructions contained in your letter of July, to which I have already referred, I felt that I should have been justified in at once accepting these proposals; but as the New Zealand Shipping Company made it a condition that for the space of twelve months the arrangement in question should not, without their consent, be extended to vessels other than their own, I deemed it desirable to communicate with you before I finally accepted and acted on the proposals in question; and in reply, therefore, I intimated that, subject to the ratification of the same by the Government, I was prepared to accept them. I accordingly sent you on the 6th instant a cablegram conveying to you the substance of the proposals, and on the 10th I received your reply to the effect that further conditions were necessary, and that you were accordingly communicating with me on the subject by letter.

With regard to our dealing with the New Zealand Shipping Company alone in this matter, I may observe that the Shaw-Savill and Albion Company having declined to entertain the proposal I made to them in September last, and, not having shown any inclination to renew the negotiations with respect to it, I consider that the Government are at perfect liberty to make arrangements which would not extend to them; in fact, in my letter to them of the 28th September last, copy of which went with my letter to you of the 13th October, it was expressly stated that I felt myself free to approach other shipping companies on the subject.

I may also remark that I find that in previous shipping arrangements the agreements have been made with the New Zealand Shipping Company only, with liberty, and, in some cases, with the understanding, that the company might carry the arrangement thus made into effect in combination with the Shaw-Savill and Albion Company.

With respect to the proposals themselves, I would point out that, in addition to providing reduced rates for second- and third-class passengers, the company are prepared to grant reductions to first-class passengers, an arrangement which has, I think, never before been made. I attach some value to this, as the effect will be, I believe, to attract to the colony persons possessing capital, in addition to those going by the second and third class.

A new feature also, to which I would specially refer, is providing an intermediate class. I have reason to believe that this provision will encourage the settlement in the colony of a class of men who, having with thrift and care possessed themselves of small amounts of capital, will go out with the determination to settle on the land, and when there make the most of the means which they take with them.

I would also advert to the proposal by which the company propose to contribute towards the expenses of advertising, proving, as it does, that they are anxious to co-operate with the Government in the endeavour to promote, so far as possible, the settlement of the country by a class of settlers who will do good to themselves and benefit also those who are already there.

In the selection of those whom I should, on behalf of the Government, deem right to recommend for reduced passages, I shall of course be guided by the instructions which I shall from time to time receive from you.

In my first despatch to you on the subject, dated 18th March, 1892, I endeavoured to indicate the classes of persons whom I considered it was desirable to encourage, and it would be my greatest care to avoid sending out unsuitable persons of any description, whether as regards character, health, or vocation. My aim would be principally to encourage those who, with either small or large capital, intend to take up land in the colony and utilise it for their own occupation.

I believe that there is no great demand at the present time for mechanics or labourers in the colony, and I did not propose to recommend such; but the proposed arrangement would permit of my sending out any class of persons whom the Government from time to time might consider to be required in the colony. With the exception of persons possessing capital, and persons having a special and practical knowledge of farming, the only other class which it seems to me at present the colony requires is capable domestic servants; and these, unless otherwise instructed, I should propose to encourage.

It seems to me that the proposal made by the company might be accepted with great benefit to the colony, and I hope the Government will see its way to give me the necessary instructions.

I have, &c.,

W. B. PERCEVAL

The Hon. the Premier, Wellington.



SIR,—

138, Leadenhall Street, London, E.C., 19th December, 1892.

Since the company addressed to you their letter of the 29th September last, they have carefully considered whether they can extend the offer which they then made of giving some concession from their published rates of passage-money in any special cases which may be recommended by you.

It is understood in the first place that, provided the company take passengers approved by you by their direct steamers to New Zealand at reduced rates, you will extensively advertise in the United Kingdom to that effect. And under these conditions, and provided also that the passengers thus approved are for a period of twelve months sent only through this company, I beg to inform you that the rates of passengers will be reduced as follows, viz. : Saloon passengers, special terms, taking each case on its merits; second class, from £36 15s. to £28 per adult; third class, from £16 16s. to £13 per adult.

In addition to the above, it is proposed to have an "intermediate" class, which would afford a larger amount of space per adult than is made available for third class, and in which enclosed cabins and a more liberal dietary scale would be provided, and for this class of accommodation the passage rate will be £18 18s. to those passengers only who are approved by yourself.

With regard to the space for intermediate passengers, the company are prepared to allot 25ft. per adult, it being remembered that under the Passengers Act the minimum space is 15ft. only; and, as regards the dietary scale, the details, no doubt, could be satisfactorily arranged after a conference with yourself.

In further reference to this matter, I would further add that the company are prepared to contribute towards the expense of advertising to the extent of 5 per cent. on the amount of passage-money received by them on account of the passengers approved by yourself.

It is also to be understood that the company will pay a commission of not less than 5 per cent. to you or your shipping agent to cover agency charges.

Awaiting your approval of the proposals contained herein,

I remain, &c.,

THOMAS JOHNSON,  
A Director, New Zealand Shipping Company.

The Agent-General for New Zealand.

SIR,—

31st January, 1893.

Referring to your telegram of 6th instant, stating the terms upon which the shipping company will forward passengers to New Zealand who may be recommended by yourself, the Government views your proposal favourably, but is of opinion that the concession should be restricted to persons possessing capital, somewhat as follows:—

Each head of a family should prove to your satisfaction that he is possessed of £100 in cash, and that he is also possessed of cash equal to the sum of £50 for each member of his family over twelve years of age.

Subject to the above you may enter into an arrangement with the shipping company for twelve months, and advertise as you propose.

JOHN MCKENZIE,  
For Premier.

The Agent-General for New Zealand, Westminster Chambers,  
Victoria Street, London.

CABLEGRAM TO AGENT-GENERAL, dated 3rd February, 1894.

MESSAGE received 6th January: Government approve of proposals, but concessions should be restricted to persons possessed of £100 each, and £50 each child over twelve years, subject to this arrangement with shipping company for twelve months, and advertise. PREMIER.

Westminster Chambers, 13, Victoria Street, London, S.W.,

SIR,—

17th March, 1893.

Referring to your cablegram of the 2nd February, relating to the proposal of the New Zealand Shipping Company to provide passages at reduced rates to persons approved by the Agent-General, I beg to inform you that the arrangement has been completed in the terms contained in Mr. Johnson's letter of the 19th December last, copy of which went with my letter No. 75 of the 19th January last.

I herewith transmit the undermentioned forms and notices which have been prepared for use in this matter: 1. Notice as to reduced fares to New Zealand; 2. Application form; 3. Approval notice; 4. Memo. to Treasury authorising payment of capital deposited by passenger; 5. Memo. to passenger directing him how to obtain payment of deposit on arrival.

I also enclose copy of pamphlet, "Farming and Labour in New Zealand" (six copies of which I forwarded to you by last mail), in which the reduced fares are advertised. I have arranged to sell a number of these pamphlets at W. H. Smith and Sons' railway book-stalls, selecting those which are situated in the country districts. The New Zealand Shipping Company are also distributing the pamphlet through their agents, and I am sending about three hundred copies to newspapers in the country for review or notice.

With regard to advertising, I have, pending any instructions I may receive, arranged to insert an advertisement in a large number of country newspapers, limiting the cost of the same so that it may not exceed £400 per annum, and special paragraphs referring to the system of reduced fares have also appeared in the papers in which the advertisement has been inserted. I have also made use of the New Zealand Tourist map, which is exhibited at one hundred of the railway-stations, by

attaching to each a printed notice calling attention to the reduced rates of passage. By these and other means the announcement has been, I believe, very widely circulated, and is causing increased attention to the advantages New Zealand presents to suitable settlers. The New Zealand Shipping Company are also advertising extensively.

The Hon. the Premier, Wellington.

I have, &c.,

W. B. PERCEVAL.

Westminster Chambers, 13, Victoria Street, London, S.W.,

3rd August, 1893.

SIR,—

I beg to transmit herewith a statement showing the number of the persons who have, up to the present date, taken passages to New Zealand under the special arrangements made with the New Zealand Shipping Company for providing passages at reduced rates.

It will be seen by this statement that within the last five months 142 souls, equal to 127½ statute adults, taking with them capital amounting to over £15,000, have taken advantage of these arrangements.

The amount (£15,000) of capital given in the statement is that which, by either direct payment to this office or by production of bank-drafts on the colony, these passengers have specified in support of their applications as that which they are taking out with them; but in many cases it is well known that the full amount which is being actually taken is not given in the application, the applicants, while possessing larger means, contenting themselves with naming the minimum amount required by the regulations.

Considering the short period during which the arrangement has been in operation, and that it takes considerable time in this country to disseminate very widely full information respecting such matters, I think the result, up to the present time, may be regarded as sufficiently satisfactory.

I have, &c.,

W. B. PERCEVAL.

The Hon. the Premier, Wellington.

NUMBER of PERSONS who have taken Passages to New Zealand under the Reduced Passage Regulations.

1893.				Capital.
				£
March 2, s.s. "Kaikoura"	...	...	1 = 1	600
March 30, s.s. "Tongariro"	...	...	12 = 10½	620
April 27, s.s. "Aorangi"	...	...	26 = 20½	1,640
May 26, s.s. "Rimutaka"	...	...	16 = 13½	3,021
June 27, s.s. "Ruahine"	...	...	37 = 36½	4,000
July 20, s.s. "Kaikoura"	...	...	26 = 22½	1,610
August 17, s.s. "Tongariro"	...	...	24 = 23	3,942
		142		127½
				15,433

Of the above 142, the destinations were stated to be for—Auckland, 18; Wellington 20; Lyttelton, 19; Dunedin, 11; New Plymouth, 56; Napier, 8; Timaru, 3; Invercargill, 3 Oamaru, 2; Gisborne, 1; Wanganui, 1.

Westminster Chambers, 13, Victoria Street, London, S.W.,

21st March, 1894.

SIR,—

I beg to transmit copy of correspondence with the New Zealand Shipping Company, by which it will be seen that, in accordance with the instructions contained in your cablegram of the 12th instant, the arrangement with that company under which passages at reduced rates are granted to persons approved by myself has been renewed for a further period of twelve months.

Your cablegram of the 14th instant came to hand subsequent to my communicating the decision of the Government to the New Zealand Shipping Company, and I was therefore unable to act in accordance therewith.

I desire to state for your information that during the past twelve months 358 souls, equal to 318 statute adults, have left for New Zealand under the provisions of the reduced-rate system, and that these people have taken over £40,000 capital with them. This amount consists of the sums which have been either remitted through this office to the Treasury for repayment in the colony, or have been represented by bank drafts payable in the colony, which I have required to be produced in order to satisfy myself that the applicants were taking out the amount stated in their applications.

But there is no doubt that in very many cases applicants for this class of passages have contented themselves with naming the minimum amount of capital which they are required to take with them, and that there is consequently every reason to believe that the actual amount taken has considerably exceeded the declared amount, which, as I have stated, is over £40,000.

I may add that the only cost to the Government has been that of advertising, and by these advertisements the advantage has been gained of not only directing attention to the reduced-rate system, but also of keeping the colony constantly before the public of this country, and inviting inquiries in respect thereto at this office. The total cost of advertising for the past twelve months is in round numbers about £400; but against this expenditure is to be placed the contribution of the New Zealand Shipping Company—namely, 5 per cent. on the amount of the passage-money received on account of the persons approved by me, and which amounts to over £300—thus bringing the actual cost to the Government down to about £100.

I have, &c.,

W. B. PERCEVAL.

The Hon. the Premier, Wellington.

SIR,—

13, Victoria Street, S.W., 22nd February, 1894.

Referring to your letter of the 16th February, 1893, and to previous correspondence, relating to the arrangement under which your company provided passages to New Zealand to persons approved by the Agent-General, I am directed, now that the twelve months during which the arrangement was to remain in force is about to terminate, to inquire whether your company are prepared to agree to a similar arrangement to run for another twelve months, in order that the Agent-General may at once communicate with his Government in respect thereto.

I am, &amp;c.,

WALTER KENNAWAY.

The Manager, New Zealand Shipping Company,  
138, Leadenhall Street, E.C.

New Zealand Shipping Company (Limited), 138, Leadenhall Street, E.C.,  
23rd February, 1894.

SIR,—

I beg to acknowledge your letter of 22nd February, inquiring if this company is prepared to agree to an arrangement for another twelve months similar to that already existing, under which passages are provided at reduced fares to persons approved by the Agent-General, and will place your letter before my Board at its next sitting.

I am, &amp;c.,

O. R. STRICKLAND, Manager.

The Agent-General for New Zealand.

SIR,—

New Zealand Shipping Company (Limited), 27th February, 1894.

Referring to my letter of 23rd February, I have now to inform you that this company is prepared to agree to provide passages to New Zealand to persons approved by yourself, on the same terms and conditions as arranged in their letter of the 16th February, 1893, and, subject to your concurrence, is agreeable to extend the arrangement for a longer period than twelve months, as, in the opinion of my Board, the extensive advertising and circulation of printed matter has not yet had its full effect, and that in the next few months it is anticipated there will be a considerable increase in the number of passengers for the colony.

I am, &amp;c.,

O. R. STRICKLAND.

The Agent-General for New Zealand.

SIR,—

13, Victoria Street, S.W., 12th March, 1894.

Referring to your letter of the 27th ultimo, I am directed by the Agent-General to inform you that he has this day received a cablegram from his Government authorising him to renew for twelve months the arrangement under which your company provides passages to New Zealand at reduced rates for persons approved by him.

In accordance with the terms and conditions of the arrangement, the Agent-General will at once take the necessary steps for continuing the advertisements in which the attention of the public is directed thereto.

I am, &amp;c.,

WALTER KENNAWAY.

The Manager, New Zealand Shipping Company (Limited).

Westminster Chambers, 13, Victoria Street, London, S.W.,

18th April, 1894.

SIR,—

Referring to my letter, No. 352, of the 21st March last, I beg to inform you that I have received from the New Zealand Shipping Company, and paid into the Public Account, the sum of £332 12s. 8d., being the company's contribution (computed at the rate of 5 per cent. on the amount of the passage-money received on account of the persons approved by me for passages at reduced rates) towards the cost of advertising.

I have, &amp;c.,

W. B. PERCEVAL.

The Hon. the Premier, Wellington.

Information to be furnished to the...  
The following information is being furnished to you for your information...

The Manager, [Name], [Address]

It is requested that you...  
If you have any questions, please contact the undersigned...

The Manager, [Name], [Address]

Information to be furnished to the...  
The following information is being furnished to you for your information...

The Manager, [Name], [Address]

Information to be furnished to the...  
The following information is being furnished to you for your information...

The Manager, [Name], [Address]

Information to be furnished to the...  
The following information is being furnished to you for your information...

The Manager, [Name], [Address]

# NEW ZEALAND

SHOWING THE  
ROADS TO OPEN CROWN LANDS FOR SALE  
SURVEYED & CONSTRUCTED DURING 1881-1894

Scale of English Miles.

- Reference.
- Chief Towns ..... shown thus **WELLINGTON**
  - Minor Towns and Post Offices ..... **HAMILTON**
  - Roads .....
  - Railways .....
  - Roads cleared .....
  - Roads cleared and formed .....
  - Roads surveyed and graded .....

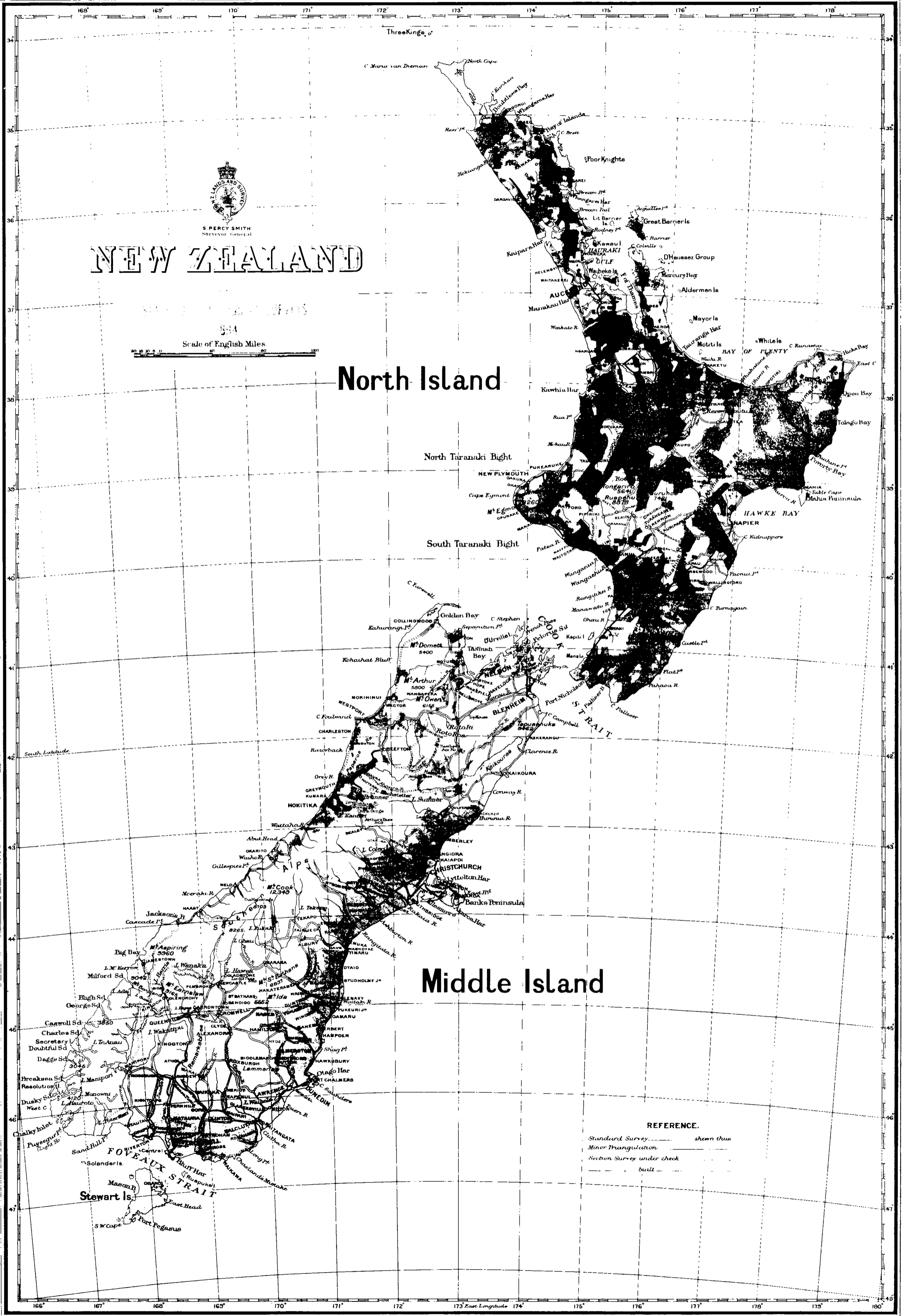
## North Island

North Taranaki Bight

South Taranaki Bight

## Middle Island





# NEW ZEALAND

Scale of English Miles  
 0 20 40 60 80 100 120

## North Island

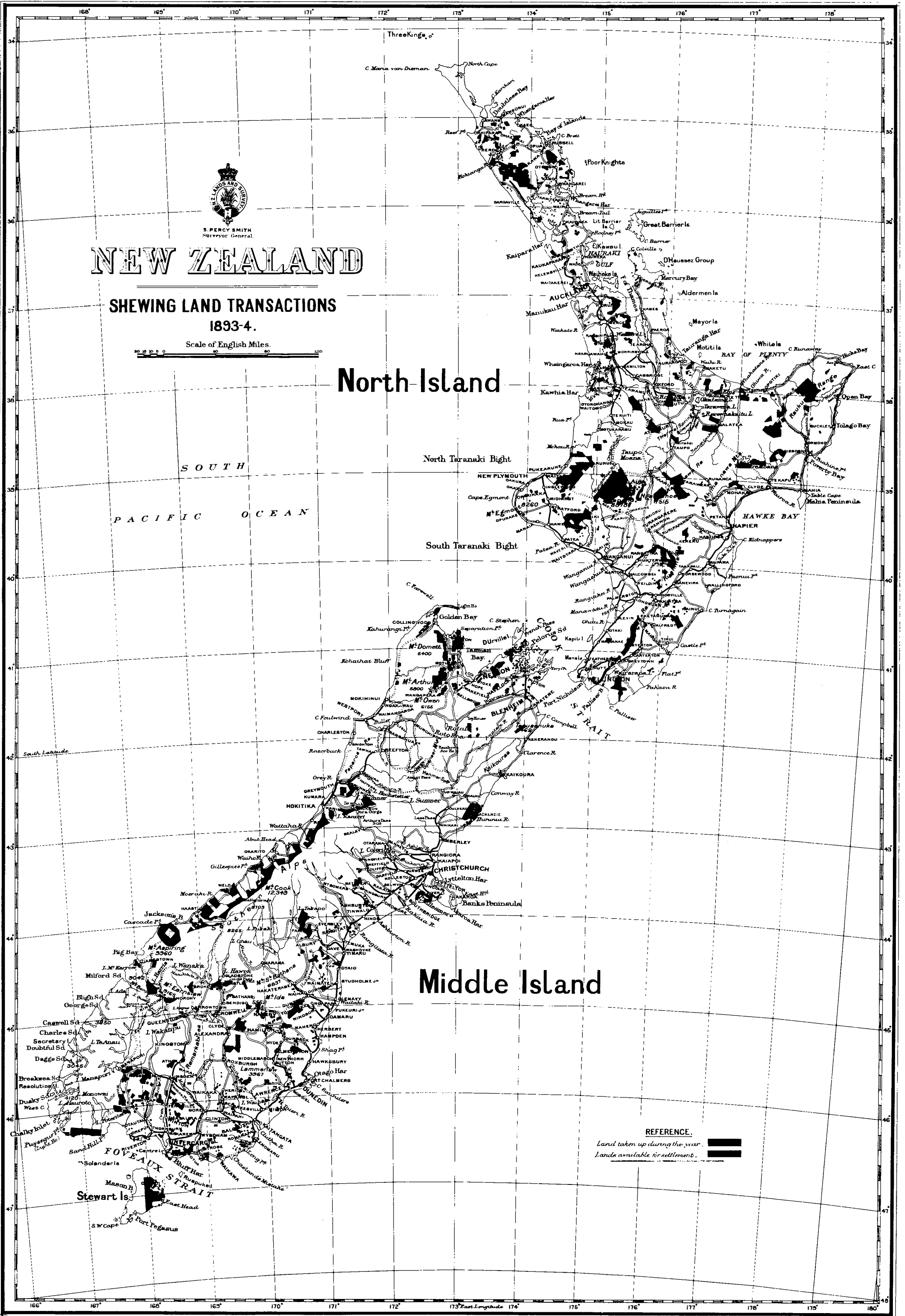
## Middle Island

### REFERENCE.

Standard Survey ..... shown thus  
 Minor Triangulation .....  
 Section Survey under check .....  
 built ..... built







S. PERCY SMITH  
Surveyor General

# NEW ZEALAND

SHEWING LAND TRANSACTIONS  
1893-4.

Scale of English Miles.  
0 10 20 30 40 50 60 70 80 90 100 110 120

## North Island

## Middle Island

**REFERENCE.**

Land taken up during the war.   
 Lands available for settlement.

Published at the Head Office, Department of Lands and Survey, Wellington, N.Z., June 1894.  
A. Burns, Superintending Surveyor.







**Table A.—SUMMARY of LANDS taken up during the Year ended 31st March, 1894 (exclusive of Pastoral Runs and Miscellaneous Leases).**

For Details see	Auckland.	Hawke's Bay.	Taranaki.	Wellington.	Nelson.	Marlborough.	Canterbury.	Westland.	Otago.	Southland.	Totals.	Exchanges from Other Tenures during the Year.	Revenue received for Sales, Rents, &c., on Lands selected during the Year.	Area taken up during Previous Years to 31st March, 1893.	Total Forfeitures.	Total Area held on 31st March, 1894: Past and Current Transactions.	Revenue received during Year on Previous Transactions.	Total Area made Freehold to Date.
	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	A. R. P.	£ s. d.	A. R. P.	A. R. P.	A. R. P.	£ s. d.	A. R. P.
Table C—Cash lands ..	9,186 0 23	841 1 21	145 2 26	864 2 8	19,914 0 29	6 0 24	856 0 14	120 0 0	952 0 9	748 0 19	33,634 1 13	..	20,000 2 11	12,891,146 2 28	..	..	..	12,926,059 2 15
D—Deferred payments	64 0 0	..	244 0 0	..	11,570 3 17	..	..	..	789 2 28	..	12,668 2 5	559 2 15	502 2 5	1,244,296 2 25	226,783 3 28	456,067 2 21	47,723 7 10	580,230 3 35
E—Perpetual lease and small areas	..	..	..	..	3,544 0 39	..	..	..	309 3 10	..	3,854 0 9	..	38 2 1	1,320,719 3 28	178,236 3 36	1,022,458 2	639,795 18 7	120,294 0 2
F—Occupation with right of purchase	57,433 3 1	8,312 0 0	3,125 0 0	20,981 1 5	..	113 3 16	2,913 0 8	1,046 1 17	6,285 1 8	7,922 2 13	108,133 0 28	..	3,551 4 8	54,271 1 30	1,832 0 9	160,572 2 9	679 5 1	..
G—Lease in perpetuity	31,676 2 12	9,128 1 10	10,438 0 0	10,594 0 10	1,709 2 20	2,001 1 0	24,340 3 1	180 0 0	28,289 2 23	32,965 3 16	151,324 0 12	32,401 2 2	3,283 7 4	56,970 0 4	4,295 1 18	235,597 2 12	978 14 9	..
H—Agricultural lease	..	..	..	..	..	..	..	..	364 3 35	..	364 3 35	..	8 6 0	285,315 0 31	142,055 1 8	6,464 2 19	391 15 5	197,389 1 14
I—Village settlement, cash	1 0 24	..	1 0 0	..	..	..	..	..	..	..	2 0 24	..	30 0 0	6,936 0 2	..	..	..	6,951 0 8
J—Village settlement, deferred payment	..	..	..	..	..	..	..	..	..	..	..	..	7 10 0	14,680 0 3	1,999 1 32	3,396 0 18	1,975 7 11	9,284 1 33
K—Village settlement, perpetual lease	..	..	..	..	..	..	..	..	..	..	..	..	..	6,685 2 21	490 0 2	5,687 3 34	886 4 9	507 2 25
L—Village settlement, occupation with right of purchase	..	..	..	..	..	..	1 1 0	..	..	..	1 1 0	..	0 16 0	..	..	1 1 0	..	..
M—Village settlement, lease in perpetuity	..	34 3 17	..	429 2 6	..	66 8 39	1,282 2 13	..	966 0 21	1,172 3 30	3,953 0 6	..	494 8 10	22 0 5	..	3,975 0 11	0 14 4	..
N—Village-homestead special settlement	..	..	..	..	..	..	1,021 0 5	..	..	..	1,021 0 5	..	106 0 0	32,286 3 24	10,550 2 23	22,757 1 6	2,276 11 2	..
O—Special settlement associations	20,000 0 0	..	..	48,852 0 0	..	..	..	..	..	..	68,852 0 0	..	..	320,076 2 33	5,795 3 16	279,185 0	710,594 19 3	39,053 0 10
P—Homestead	..	..	..	..	..	..	..	..	..	..	..	..	..	89,489 0 34	8,656 1 9	9,902 0 9	..	70,930 3 16
Q—Small-grazing runs	16,630 0 0	6,039 0 0	..	3,150 0 0	..	6,039 0 0	11,027 1 0	..	116,925 2 22	66,858 3 35	226,669 3 17	..	2,440 18 3	880,362 0 34	179,698 3 35	927,333 0 15	18,042 7 0	..
Totals ..	134,991 2 20	24,355 2 8	13,953 2 26	84,871 1 29	36,738 3 25	8,227 0 39	41,442 0 11	1,346 1 17	154,883 0 36	109,668 1 33	610,478 1 34	32,961 0 17	30,462 18 6	17,203,258 2 22	760,394 3 17	3,133,398 3 7	123,345 6 11	13,890,700 3 33
CHEVIOT ESTATE—																		
Cash ..	..	..	..	..	..	..	1,364 2 7	..	..	..	1,364 2 7	..	4,731 5 8	..	..	..	..	..
Lease in perpetuity ..	..	..	..	..	..	..	23,251 2 36	..	..	..	23,251 2 36	..	3,047 5 11	..	..	..	..	..
Village-homestead special settlement ..	..	..	..	..	..	..	1,528 2 6	..	..	..	1,528 2 6	..	302 3 9	..	..	..	..	..
Grazing farms ..	..	..	..	..	..	..	26,023 0 0	..	..	..	26,023 0 0	..	1,842 10 1	..	..	..	..	..
"LAND FOR SETTLEMENTS ACT, 1892"—	..	..	..	..	..	..	1,251 1 16	..	4,166 1 24	..	5,417 3 0	..	770 17 3	..	..	..	..	..
Lease in perpetuity ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand totals ..	..	..	..	..	..	..	94,861 0 26	1,346 1 17	159,049 2 20	109,668 1 33	668,064 0 3	..	41,157 1 2	..	..	..	..	..

NOTE.—For analysis of holdings, see Table B.

**Table B.—ANALYSIS of HOLDINGS taken up during the Year ended 31st March, 1894.**

Description of Land.	No. of Selectors.	No. of Selectors under 1 Acre.	No. of Selectors 1 to 50 Acres.	No. of Selectors 51 to 250 Acres.	No. of Selectors 251 to 500 Acres.	No. of Selectors 501 to 1,000 Acres.	No. of Selectors 1,001 Acres and upwards.
Cash ..	458	134	214	92	11	4	3
Deferred payment ..	96	..	12	68	16	..	..
Perpetual lease ..	17	..	..	12	3	2	..
Occupation with right of purchase ..	461	..	80	245	93	33	10
Lease in perpetuity ..	447	..	64	178	105	76	24
Agricultural lease ..	5	..	3	2	..	..	..
Village settlement, cash ..	3	2	1	..	..	..	..
Village settlement, occupation with right of purchase ..	5	5	..	..	..	..	..
Village settlement, lease in perpetuity ..	208	4	200	4	..	..	..
Village-homestead special settlement ..	53	..	50	3	..	..	..
Special-settlement associations ..	290	..	..	246	44	..	..
Small grazing-runs ..	124	..	..	6	23	29	66
Pastoral runs ..	85	..	..	1	19	21	44
Miscellaneous leases and licenses ..	387	27	220	68	8	..	14
Total ..	2,589	172	844	925	322	165	161
CHEVIOT ESTATE—							
Cash ..	39	31	2	4	2	..	..
Lease in perpetuity ..	95	..	..	52	42	1	..
Village-homestead special settlement ..	65	..	60	5	..	5	12
Grazing farms ..	18	..	..	..	1	..	..
"LAND FOR SETTLEMENTS ACT, 1892"—	..	..	..	..	..	..	..
Lease in perpetuity ..	70	..	53	16	1	..	..
Grand totals ..	2,876	203	959	1,002	368	171	173

**Table C.—RETURN of CROWN LANDS SOLD for CASH during the Year ended 31st March, 1894.**

District.	Area disposed of.								Average Price per Acre.			Consideration received.		
	Town.		Suburban.		Rural.		Total.		Town.	Suburban.	Rural.	Cash.	Scrp.	Total.
	Number of Purchasers.	Area.	Number of Purchasers.	Area.	Number of Purchasers.	Area.	Number of Purchasers.	Area.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland ..	24	A. R. P. 13 3 0	58	A. R. P. 320 0 0	120	A. R. P. 8,852 1 23	202	A. R. P. 9,186 0 23	£ s. d. 31 19 2½	£ s. d. 2 17 10½	£ s. d. 0 10 11	£ s. d. *6,367 13 8	£ s. d. 135 0 0	£ s. d. 6,502 13 8
Hawke's Bay ..	18	8 3 37	..	..	3	832 1 24	21	841 1 21	60 13 4	..	0 10 4½	519 19 6	115 0 0	634 19 6
Taranaki ..	11	4 2 19	..	..	3	141 0 7	14	145 2 26	63 15 0	..	8 6 8	1,104 6 8	..	1,104 6 8
Wellington ..	11	6 0 0	..	..	10	858 2 8	21	864 2 8	45 0 0	..	0 19 9	152 4 10	375 0 0	527 4 10
Nelson ..	..	..	..	..	56	19,914 0 29	56	19,914 0 29	..	..	0 8 11	8,896 2 3	30 0 0	8,926 2 3
Marlborough ..	1	6 0 24	..	..	..	..	1	6 0 24	20 8 0	..	..	125 10 0	..	125 10 0
Canterbury ..	23	15 3 6	..	..	12	840 1 8	35	856 0 14	26 4 4	..	1 4 0	963 1 2	550 0 0	1,513 1 2
Westland ..	..	..	..	..	2	120 0 0	2	120 0 0	..	..	0 10 0	121 0 0	..	121 0 0
Otago ..	13	3 3 36	4	27 1 7	33	920 3 6	50	952 0 9	28 1 7½	2 8 7	0 16 7½	917 11 5	30 0 0	947 11 5
Southland ..	41	16 1 21	5	11 0 38	10	720 2 0	56	748 0 19	23 2 4	4 19 0	0 13 10	932 13 5	..	932 13 5
<b>Totals ..</b>	<b>142</b>	<b>75 2 23</b>	<b>67</b>	<b>358 2 5</b>	<b>249</b>	<b>33,200 0 25</b>	<b>458</b>	<b>33,634 1 13</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>20,000 2 11</b>	<b>1,235 0 0</b>	<b>21,235 2 11</b>

\* Includes £370 13s. 8d., survey-fees. † Survey-fees deposited.

**Table D.—RETURN of DEFERRED-PAYMENT LANDS taken up during the Year ended 31st March, 1894.**

District.	Taken up during the Year.			Exchanged from other Tenures during the Year.			Forfeitures, Surrenders, and Exchanges during the Year.			Capitalised during the Year.			Total Area held on 31st March, 1894, including Capitalised Holdings.			Amount received during the Year ended 31st March, 1894.		Freehold acquired during the Year.		Made Freehold from Commencement of System to 31st March, 1894.			Selectors in Arrear on 31st March, 1894.		
	Number of Selectors.	Area.	Yearly Instalments payable.	Number of Selectors.	Area.	Yearly Instalments payable.	Number of Selectors.	Area.	Yearly Instalments payable.	Number of Selectors.	Area.	Yearly Interest payable.	Number of Selectors.	Area.	Yearly Instalments and Interest payable.	On Year's Transactions.	On Past Transactions.	Number of Selectors.	Area.	Number of Selectors.	Area.	Total Amount realised, exclusive of Interest.	Number of Selectors.	Area.	Amount.
Auckland ..	1	A. R. P. 64 0 0	£ s. d. ..	..	..	..	11	A. R. P. 1,175 1 11	£ s. d. 67 11 0	3	A. R. P. 332 0 20	£ s. d. 10 3 8	477	A. R. P. 65,197 3 14	£ s. d. 5,482 13 11	£ s. d. 30 0 0	£ s. d. *1,861 9 4	4	189 1 36	56	A. R. P. 7,582 2 0	£ s. d. 7,961 19 6	111	A. R. P. 11,083 3 8	£ s. d. 794 17 9
Hawke's Bay ..	..	..	..	..	..	..	1	A. R. P. 179 2 10	£ s. d. 7 10 0	14	A. R. P. 1,199 0 4	£ s. d. 25 4 2	101	A. R. P. 15,187 3 3	£ s. d. 1,058 17 6	..	£ s. d. †2,546 11 0	30	2,577 1 38	707	A. R. P. 70,315 3 39	£ s. d. 72,160 5 9	9	A. R. P. 2,340 1 18	£ s. d. 60 4 3
Taranaki ..	2	244 0 0	18 16 10	2	414 0 0	58 8 9	3	395 1 0	33 14 4	43	6,649 2 35	201 15 8	533	71,032 1 10	5,887 0 11	33 11 11	16,171 15 2	101	13,708 1 1	822	87,741 3 37	154,327 1 9	144	25,889 0 32	1,137 12 11
Wellington ..	..	..	..	2	145 2 15	21 17 10	2	83 3 0	16 7 6	27	6,441 1 1	124 8 8	174	38,323 1 1	5,529 3 10	..	£ s. d. ‡6,619 15 6	26	4,216 0 39	530	100,577 1 14	106,719 19 3	75	15,810 0 12	1,067 16 2
Nelson ..	89	11,570 3 17	582 3 6	..	..	..	9	415 2 11	42 12 0	..	..	..	1,060	109,182 2 28	6,910 9 9	387 3 8	£ s. d. †6,214 9 3	80	7,050 0 30	498	36,858 3 1	33,992 16 6	..	..	..
Marlborough ..	..	..	..	..	..	..	..	..	..	..	..	..	31	2,743 1 32	119 13 4	..	£ s. d. ‡206 0 1	3	372 3 10	22	2,026 3 88	1,779 10 5	1	132 0 0	3 1 11
Canterbury ..	..	..	..	..	..	..	..	..	..	..	..	..	58	22,154 3 21	2,193 11 3	..	£ s. d. †4,039 12 8	5	3,142 2 13	60	5,926 3 14	16,598 3 4	9	422 0 39	71 17 9
Westland ..	..	..	..	..	..	..	..	..	..	..	..	..	35	2,542 1 5	169 2 11	..	£ s. d. ‡155 2 2	5	376 0 0	40	2,130 3 22	2,311 14 0	32	2,415 1 5	235 16 1
Otago ..	4	789 2 28	56 8 6	..	..	..	3	449 0 21	49 7 2	9	2,241 2 2	48 16 10	300	78,375 1 7	3,359 14 5	51 6 10	£ s. d. †5,841 9 6	40	6,472 1 20	848	121,850 2 22	168,463 9 6	104	30,018 1 21	787 9 6
Southland ..	..	..	..	..	..	..	2	228 3 13	31 3 8	1	161 1 4	3 3 10	294	51,327 3 20	1,918 3 3	..	£ s. d. ‡4,067 3 2	46	6,229 2 37	1,044	145,219 0	8,212,374 18 9	115	27,675 2 11	888 0 4
<b>Totals ..</b>	<b>96</b>	<b>12,668 2 5</b>	<b>657 8 10</b>	<b>4</b>	<b>559 2 15</b>	<b>80 6 7</b>	<b>32</b>	<b>3,031 0 22</b>	<b>258 18 8</b>	<b>97</b>	<b>17,024 3 26</b>	<b>538 12 10</b>	<b>3,063</b>	<b>456,067 2 21</b>	<b>32,628 11 1</b>	<b>502 2 5</b>	<b>£ s. d. †47,723 7 10</b>	<b>340</b>	<b>44,335 0 24</b>	<b>4,633</b>	<b>580,230 3 35</b>	<b>776,689 18 9</b>	<b>600</b>	<b>115,786 3 26</b>	<b>5,046 16 8</b>

\* £30 scrip also received. † £120 scrip also received. ‡ Under Section 114 of "The Land Act, 1892." § £320 scrip also received. || Completed during the year. ¶ £15 deposited for survey-fees.

**Table E.—RETURN of PERPETUAL-LEASE and SMALL-AREA LANDS taken up during the Year ended 31st March, 1894.**

District.	Taken up during the Year.			Previous Transactions to 31st March, 1894.			Exchanges to other Tenures.			Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ended 31st March, 1894.		Freeholds acquired during the Year.		Made Freehold from Commencement of System to 31st March, 1894.			Selectors in Arrear, 31st March, 1894.			
	No. of Selectors.	Area.	Annual Rental payable.	No. of Selectors.	Area.	Annual Rental payable.	No. of Selectors.	Area.	Annual Rental.	No. of Selectors.	Area.	Annual Rental.	No. of Selectors.	Area.	Annual Rental.	On Year's Transactions.	On Past Transactions.	No. of Selectors.	Area.	No. of Selectors.	Area.	Total Amount realised, exclusive of Interest.	No. of Selectors.	Area.	Amount.	
																										A. R. P.
Auckland ..	..	..	..	1,001	A. R. P. 260,233 2 5	£ s. d. 5,487 18 10	1	A. R. P. 36 0 0	£ s. d. 1 7 0	40	A. R. P. 6,181 2 9	£ s. d. 159 11 0	946	A. R. P. 260,743 3 23	£ s. d. 3,899 14 1	..	£ s. d. *4,305 16 10	14	3,272 0 13	29	A. R. P. 7,096 3 16	£ s. d. 3,225 17 1	261	A. R. P. 58,262 2 11	£ s. d. 1,439 2 2	
Hawke's Bay ..	..	..	..	303	138,391 0 15	5,342 16 3	10	3,867 3 14	163 4 10	8	7,153 0 13	186 18 6	254	112,514 3 5	4,372 6 11	..	£ s. d. †4,694 14 7	31	14,855 1 23	78	A. R. P. 34,829 3 16	£ s. d. 27,350 15 7	26	11,518 0 32	193 16 0	
Taranaki ..	..	..	..	544	130,467 1 5	6,523 7 0	3	642 0 0	58 8 9	3	682 0 0	15 2 9	411	103,688 0 11	5,175 5 9	..	£ s. d. ‡5,306 6 5	22	5,367 2 3	58	A. R. P. 14,365 2 14	£ s. d. 13,186 3 8	181	50,101 2 18	1,557 1 3	
Wellington ..	..	..	..	763	298,552 3 33	14,797 6 10	5	2,028 2 32	66 15 11	4	856 0 0	33 2 0	679	264,818 1 21	13,283 4 5	..	£ s. d. †12,185 7 10	75	30,846 3 20	154	A. R. P. 55,653 3 11	£ s. d. 53,970 1 3	273	108,941 3 2	4,139 15 6	
Nelson ..	14	3,544 0 39	56 17 11	27	7,332 0 25	217 15 3	..	..	..	..	..	..	41	10,876 1 24	274 13 2	28 8 10	£ s. d. ‡167 15 3	..	..	..	..	..	2	323 3 3	3 12 10	
Marlborough ..	..	..	..	16	2,609 1 29	73 2 3	..	..	..	..	..	..	..	..	..	..	..	£ s. d. †63 5 10	1	300 0 0	..	300 0 0	82 10 0	..	..	..
Canterbury ..	..	..	..	216	78,492 0 27	5,258 13 5	1	1,650 0 0	113 8 9	2	624 0 18	38 11 6	208	75,900 0 34	5,082 3 1	..	£ s. d. †4,751 19 2	5	317 3 15	16	A. R. P. 1,416 1 23	£ s. d. 2,340 10 11	17	7,387 1 13	294 0 0	
Westland ..	..	..	..	9	802 1 32	40 2 10	1	60 0 0	..	..	..	..	8	742 1 32	37 2 10	..	£ s. d. ‡137 12 0	..	..	4	370 2 36	370 14 6	7	682 1 32	34 12 2	
Otago ..	3	309 3 10	15 10 0	955	225,590 3 23	11,391 14 7	99	24,838 2 16	983 17 10	7	6,387 2 16	245 11 6	649	145,362 1 35	5,050 15 5	7 15 0	£ s. d. †6,327 19 4	12	2,279 3 21	21	A. R. P. 4,170 2 2	£ s. d. 2,862 17 6	222	54,263 0 18	1,324 3 7	
Southland ..	..	..	..	302	77,525 3 22	2,943 15 11	..	..	..	..	..	..	17	6,784 0 16	235 2 6	233	£ s. d. ‡55,692 1 32	3	692 2 27	10	A. R. P. 2,090 1 4	£ s. d. 1,703 19 11	144	34,239 2 12	1,364 3 2	
<b>Totals ..</b>	<b>17</b>	<b>3,854 0 9</b>	<b>72 7 11</b>	<b>4,196</b>	<b>1,219,997 3 16</b>	<b>52,076 13 2</b>	<b>2120</b>	<b>33,123 0 22</b>	<b>1,387 3 1</b>	<b>83</b>	<b>28,858 1 32</b>	<b>919 13 9</b>	<b>9,443</b>	<b>1,022,458 2 6</b>	<b>639,397 19 5</b>	<b>38 2 1</b>	<b>£ s. d. †99,795 18 7</b>	<b>163</b>	<b>57,932 1 2</b>	<b>371</b>	<b>120,294 0 2</b>	<b>£ s. d. 210,093 10 5</b>	<b>1,133</b>	<b>325,770 1 21</b>	<b>10,350 6 8</b>	

\* £13 4s. 4d. deposited for survey-fees. † Completed during the year. ‡ £9 deposited for survey-fees. § Under Section 114 of "The Land Act, 1892."

Table F.—RETURN of OCCUPATION-WITH-RIGHT-OF-PURCHASE LANDS taken up during the Year ended 31st March, 1894.

District.	Taken up during the Year.				Previous Transactions to 31st March, 1893.			Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ended 31st March, 1894.		Selectors in Arrear, 31st March, 1894.							
	No. of Selectors.	Area.		Average Upset Rent per Acre.	Annual Rental payable.	No. of Selectors.	Area.		Annual Rental payable.	No. of Selectors.	Area.		Annual Rental.	No. of Selectors.	Area.		Annual Rental.	On the Year's Transactions.	On Past Transactions.	No. of Selectors.	Area.		Amount.
		A.	R. P.	s. d.	£ s. d.		A.	R. P.	£ s. d.		A.	R. P.	£ s. d.		A.	R. P.	£ s. d.	£ s. d.	£ s. d.		A.	R. P.	£ s. d.
Auckland .. .. .	283	57,438	3 1	0 6-3	1,511 1 1	73	12,119	2 22	254 2 0	3	230	3 0	5 15 6	353	69,322	2 23	1,759 7 7	*2,702 11 3	127 14 0	5	678	2 22	9 13 0
Hawke's Bay .. .	18	8,312	0 0	0 9	311 0 6	9	9,690	2 0	326 6 6	..	..	..	..	27	18,002	2 0	637 7 0	90 0 11	56 11 6	..	..	..	..
Taranaki .. .. .	11	8,125	0 0	1 4-12	209 12 10	10	5,784	0 0	273 7 6	1	755	0 0	18 17 6	20	8,154	0 0	464 2 10	135 11 7	35 3 6	4	2,915	0 0	75 19 0
Wellington .. .	70	20,981	1 5	1 1-5	1,178 2 4	28	10,730	0 0	660 11 0	..	..	..	..	98	31,711	1 5	1,838 13 4	216 19 8	70 10 0	5	889	1 0	30 16 4
Marlborough .. .	2	113	3 16	0 11	5 5 0	..	..	..	..	..	..	..	..	2	113	3 16	5 5 0	5 9 6	..	..	..	..	..
Canterbury .. .	9	2,913	0 8	1 5-25	209 8 2	2	185	0 0	17 1 6	..	..	..	..	11	3,098	0 8	226 9 8	113 1 8	21 3 8	5	1,893	2 8	77 3 10
Westland .. .. .	8	1,046	1 17	0 6	26 3 0	1	60	0 0	1 10 0	..	..	..	..	9	1,106	1 17	27 13 0	157 9 0	..	2	189	2 22	2 7 6
Otago .. .. .	30	6,285	1 8	0 11-07	290 1 2	15	2,750	1 19	95 19 4	5	846	1 9	29 14 2	40	8,189	1 18	356 6 4	87 3 11	87 10 8	17	3,788	0 13	72 6 5
Southland .. .. .	30	7,922	2 13	0 8-5	285 10 4	23	12,951	3 29	464 6 2	..	..	..	..	53	20,874	2 2	749 16 6	142 17 2	280 11 9	8	4,635	2 5	119 12 10
Totals .. .. .	461	108,138	0 28	..	4,026 4 5	161	54,271	1 30	2,093 4 0	9	1,832	0 9	54 7 2	613	160,572	2 9	6,065 1 3	3,551 4 8	679 5 1	46	14,989	2 30	387 18 11

\* Includes £2,319 18s. 10d. deposited for survey. † Includes £50 deposited for survey.

Table G.—RETURN of LEASE-IN-PERPETUITY LANDS taken up during the Year ended 31st March, 1894.

District.	Taken up during the Year.				Exchanges from other Tenures during the Year.			Previous Transactions to 31st March, 1893.			Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ended 31st March, 1894.		Selectors in Arrear, 31st March, 1894.								
	No. of Selectors.	Area.		Average Upset Rent per Acre.	Annual Rental payable.	No. of Selectors.	Area.		Annual Rental payable.	No. of Selectors.	Area.		Annual Rental payable.	No. of Selectors.	Area.		Annual Rental.	No. of Selectors.	Area.		Annual Rental.	On the Year's Transactions.	On Past Transactions.	No. of Selectors.	Area.		Amount.
		A.	R. P.	s. d.	£ s. d.		A.	R. P.	£ s. d.		A.	R. P.	£ s. d.		A.	R. P.	£ s. d.	£ s. d.	£ s. d.		A.	R. P.	£ s. d.	£ s. d.	£ s. d.		
Auckland .. .. .	132	31,676	2 12	0 5-3	701 16 5	15	802	2 28	34 10 6	31	4,948	2 24	100 6 0	1	607	1 0	12 3 0	162	36,820	2 24	789 19 5	*912 0 5	83 12 4	3	261	3 2	3 18 4
Hawke's Bay .. .	19	9,128	1 10	0 6-5	247 19 0	9	3,867	3 14	149 10 10	19	20,070	0 0	473 1 1	..	..	..	..	47	33,066	0 24	870 10 11	81 8 11	81 2 0	3	992	0 4	20 19 0
Taranaki .. .. .	23	10,438	0 0	0 9-84	429 12 6	3	565	1 0	19 3 4	8	2,843	0 0	144 10 6	..	..	..	..	34	13,846	1 0	593 6 4	1378 14 9	52 8 4	4	1,940	0 0	45 17 0
Wellington .. .	36	10,594	0 10	0 11-5	480 8 6	3	1,886	0 17	46 8 10	13	5,578	0 0	287 2 9	..	..	..	..	52	18,058	0 27	814 0 1	105 2 0	..	..	..	..	
Nelson .. .. .	11	1,709	2 20	0 3-5	26 7 10	..	..	..	..	..	..	..	..	..	..	..	..	11	1,709	2 20	26 7 10	12 5 7	..	..	..	..	
Marlborough .. .	6	2,001	1 0	0 4-3	36 8 8	..	..	..	..	..	..	..	..	..	..	..	..	6	2,001	1 0	36 8 8	3 12 4	..	..	..	..	
Canterbury .. .	62	24,340	3 1	1 3	1,473 5 6	..	..	..	..	7	3,402	0 0	155 2 10	1	880	0 0	23 16 8	68	26,862	3 1	1,604 11 8	953 5 6	222 5 7	3	2,943	0 0	67 2 9
Westland .. .. .	3	180	0 0	0 4-8	3 12 0	..	..	..	..	1	100	0 0	2 0 0	..	..	..	..	4	280	0 0	5 12 0	118 0 0	..	..	..	..	
Otago .. .. .	88	28,289	2 23	0 10-27	995 10 10	74	25,279	2 23	802 18 10	16	4,291	2 6	130 8 3	3	2,220	2 22	58 5 4	175	55,648	0 0	1,870 9 1	406 8 8	136 16 10	49	18,651	3 0	332 6 0
Southland .. .. .	67	32,965	3 16	0 6-75	954 5 0	..	..	..	..	32	14,926	1 16	628 0 6	2	587	1 36	27 1 0	97	47,304	2 36	1,605 3 0	412 9 2	402 9 8	24	13,626	0 6	278 19 2
Totals .. .. .	447	151,324	0 12	..	5,349 6 3	104	32,401	2 2	1,052 12 4	127	56,159	2 6	1,920 11 11	7	4,295	1 18	121 6 0	656	285,597	2 12	8,216 9 0	3,283 7 4	978 14 9	86	38,414	2 12	749 2 3

\*Includes £665 1s. 10d. survey-fees. † Includes £191 3s. 4d. survey-fees. ‡ Survey-fees.

**Table H.—RETURN of AGRICULTURAL-LEASE LANDS taken up during the Year ended 31st March, 1894.**

District.	Taken up during the Year.				Forfeitures, Surrenders, Expiries, &c., during the Year.			Total Area held on 31st March, 1894.			Amounts received during the Year ended 31st March, 1894.		Made Freehold from Commencement of System to 31st March, 1894.			Selectors in Arrear on 31st March, 1894.																
	Number of Selections.	Area taken up.	Average to each Selector.	Yearly Rental payable.	Number of Selectors.	Area.	Yearly Rental payable.	Number of Selectors.	Area.	Yearly Rental payable.	On the Year's Transactions.	On Past Transactions.	Number of Selectors.	Area.	Total Amount realised.	Number of Selectors.	Area.	Amount.														
	A.	R.	P.	A.	R.	P.	£	s.	d.	A.	R.	P.	£	s.	d.	£	s.	d.														
Auckland .. .. .	..	..	..	..	..	..	..	..	..	26	1,575	2 27	113	13	6	..	..	67	1,739	2 10	590	5 0	17	850	0 0	193	15	0				
Westland .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	32	279	0 15	488	12 11	..	..	..	..	..	..				
Otago .. .. .	5	364	3 35	72	3 39	16	12	0	6	188	3 3	13	16	0	52	4,888	3 32	466	3 7	8 6	0 39	1 15	51,306	128,800	1 24	128,760	15 0	26	2,690	3 36	1,310	7 3
Southland .. .. .	..	..	..	..	..	..	..	..	1	18	2 16	2	7	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Totals .. .. .	5	364	3 35	72	3 39	16	12	0	7	207	1 19	16	3 6	78	6,464	2 19	579	17 18	6 6	0 39	1 15	51,455	137,389	1 14	136,409	17 11	43	3,740	3 36	1,504	2 3	

**Table I.—RETURN of VILLAGE-SETTLEMENT LANDS disposed of for CASH during the Year ended 31st March, 1894.**

District.	No. of Selectors.	Area.	Amount realised during 1893-94.	* Total Area made Freehold from Commencement of System to 31st March, 1894.									
				No. of Selectors.	Area.	Total Amount realised.							
		A.	R.	P.	£	s.	d.	A.	R.	P.	£	s.	d.
Auckland .. .. .	2	1 0 24	25 0 0	4	1 2 24	35 0 0	..	..	..	..	..	..	..
Hawke's Bay .. .. .	..	..	..	232	621	1 3	4,013	11 10	..	..	..	..	..
Taranaki .. .. .	1	1 0 0	5 0 0	297	845	3 9	6,834	0 9	..	..	..	..	..
Wellington .. .. .	..	..	..	262	451	0 29	3,276	3 5	..	..	..	..	..
Nelson .. .. .	..	..	..	38	12	3 22	200	0 0	..	..	..	..	..
Marlborough .. .. .	..	..	..	9	22	1 11	75	16 10	..	..	..	..	..
Canterbury .. .. .	..	..	..	163	1,207	1 4	5,460	17 4	..	..	..	..	..
Otago .. .. .	..	..	..	99	885	3 5	1,719	17 2	..	..	..	..	..
Southland .. .. .	..	..	..	548	2,902	3 21	8,844	17 0	..	..	..	..	..
Totals .. .. .	3	2 0 24	30 0 0	1,652	6,951	0 8	30,460	4 4	..	..	..	..	..

\* The total area made freehold includes the village and small-farm sections taken up prior to "The Land Act, 1892."



**Table J.—RETURN OF VILLAGE-SETTLEMENT DEFERRED-PAYMENT LANDS: Transactions during the Year ended 31st March, 1894.**

District.	Forfeitures and Exchanges during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ended 31st March, 1894.			Made Freehold during the Year.			Freeholds acquired from Commencement of System to 31st March, 1894.			Selectors in Arrear on 31st March, 1894.		
	Number of Selectors.	Area.	Yearly Instalments payable.	Number of Selectors.	Area.	Yearly Instalments payable.	On the Year's Transactions.	On Past Transactions.	Number of Selectors.	Area.	Amount realised.	Number of Selectors.	Area.	Amount realised.	Number of Selectors.	Area.	Amount.	
																		A. R. P.
Hawke's Bay	..	..	..	32	369 3 32	167 16 8	..	64 15 8 11	130 3 12	300 3 9	78	822 2 10	2,034 4 1	1	10 0 0	2 0 0		
Taranaki	..	..	..	7	191 2 34	43 7 6	..	419 6 5 3	150 0 0	538 4 9	113	2,048 0 2	10,094 19 4	3	83 0 0	11 11 6		
Wellington	..	..	..	1	20 0 0	6 0 0	..	347 1 3 26	282 1 11	1,073 8 0	68	627 2 6	2,517 9 8	16	115 0 14	124 6 2		
Marlborough	..	..	..	..	..	..	..	9 4 8	..	..	..	..	..	..	..	..		
Canterbury	..	..	..	2	59 0 0	6 17 3	..	608 0 3 30	324 1 37	2,394 0 0	481	2,155 2 12	18,908 15 4	7	62 1 0	9 17 11		
Otago	..	..	..	2	21 3 26	13 12 0	..	185 3 1 22	218 3 8	550 5 4	67	699 1 37	1,897 5 3	14	214 2 25	21 0 4		
Southland	..	..	..	4	45 0 10	24 10 4	7 10 0	341 16 7 16	223 2 17	548 8 11	192	2,931 1 6	7,200 18 7	38	589 1 29	162 6 11		
Totals	..	..	..	9	145 3 36	50 19 7	265	3,396 0 18	1,093 0 5	7 10 0	1,975 7 11	108	1,329 3 35	5,404 5 9	999	9,284 1 33	42,653 12 3	

**Table K.—RETURN OF VILLAGE-SETTLEMENT PERPETUAL-LEASE LAND TRANSACTIONS during the Year ended 31st March, 1894.**

District.	Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ended 31st March, 1894.			Made Freehold during the Year.			Freeholds acquired from Commencement of System to 31st March, 1894.			Selectors in Arrear on 31st March, 1894.		
	Number of Selectors.	Area.	Annual Rent.	Number of Selectors.	Area.	Annual Rent payable.	On the Year's Transactions.	On Past Transactions.	Number of Selectors.	Area.	Amount realised.	Number of Selectors.	Area.	Amount realised.	Number of Selectors.	Area.	Amount.	
																		A. R. P.
Hawke's Bay	..	..	..	1	1 0 0	0 5 0	7	96 3 1	9 11 6	..	11 6 9	..	50 0 0	103 2 6	2	35 0 0	1 12 0	
Wellington	..	..	..	..	..	..	12	99 3 34	1 16 8	..	18 9 7	2	32 0 18	59 13 0	16	19 2 30	2 17 8	
Marlborough	..	..	..	..	..	..	1	10 0 0	1 5 0	..	1 5 0	..	..	..	..	..	..	
Canterbury	..	..	..	3	30 0 0	21 10 0	119	2,246 2 10	801 11 1	..	543 14 2	1	50 0 0	62 10 0	6	1,028 1 11	428 5 2	
Otago	..	..	..	1	35 0 0	1 15 0	49	1,094 0 6	97 19 8	..	79 10 6	1	11 3 0	10 10 0	4	297 1 20	15 14 0	
Southland	..	..	..	6	94 3 19	13 10 14	5	2,140 2 23	266 11 4	..	231 18 9	..	..	..	4	654 2 10	75 14 1	
Totals	..	..	..	11	160 3 19	37 0 10	333	5,687 3 34	1,178 15 3	..	886 4 9	4	93 3 18	132 13 0	29	2,084 3 31	524 2 11	

**Table L.—RETURN OF VILLAGE-SETTLEMENT LANDS disposed of on OCCUPATION WITH RIGHT OF PURCHASE during the Year ending 31st March, 1894.**

District.	Taken up during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ending 31st March, 1894.	
	Number of Selectors.	Area.	Yearly Instalments payable.	Number of Selectors.	Area.	Yearly Instalments payable.	On the Year's Transactions.	On Past Transactions.
Canterbury	..	..	..	5	1 1 0	2 0 0	..	0 16 0

**Table M.—RETURN OF VILLAGE-SETTLEMENT LANDS disposed of on LEASE IN PERPETUITY during the Year ending 31st March, 1894.**

District.	Taken up during the Year.			Total Area held on 31st March, 1894.			Amount received during the Year ending 31st March, 1894.				
	Number of Selectors.	Area.	Annual Rent payable.	Number of Selectors.	Area.	Annual Rent payable.	On the Year's Transactions.	On Past Transactions.			
									A. R. P.	£ s. d.	A. R. P.
Hawke's Bay	..	..	..	10	34 3 17	23 12 0	12	38 3 27	24 8 2	12 4 0	0 8 1
Wellington	..	..	..	24	429 2 6	60 15 5	24	429 2 6	60 15 5	..	..
Marlborough	..	..	..	2	66 3 39	8 0 10	2	66 3 39	8 0 10	4 0 5	..
Canterbury	..	..	..	54	1,282 2 13	736 17 2	54	1,282 2 13	736 17 2	369 4 4	..
Otago	..	..	..	53	966 0 21	101 9 8	53	966 0 21	101 9 8	53 14 11	..
Southland	..	..	..	65	1,172 3 30	112 13 6	66	1,190 3 25	114 15 10	55 5 2	0 6 3
Totals	..	..	..	208	3,953 0 6	1,043 8 7	211	3,975 0 11	1,046 7 1	494 8 10	0 14 4

**Table N.—RETURN OF SELECTORS under the VILLAGE-HOMESTEAD SPECIAL-SETTLEMENT REGULATIONS for the Year ended 31st March, 1894.**

District.	Taken up during the Year.				Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894.			Amount advanced to Selectors during the Year.			Total Amount advanced to Selectors: Past and Current Transactions.			Payments made by Selectors during the Year.		Total Payments made by Selectors from Commencement of System.		Selectors in Arrear on 31st March, 1894.			Value of Improvements now on the Land.					
	Number of Selectors.	Area allotted.	Average Area to each Selector.	Average per Acre.	Number.	Area.	Rental.	Number of Selectors.	Area.	Rental, including Interest on Advances.	For Houses.	For Bush-felling and other Works.	Total Advances.	For Houses.	For Bush-felling and other Works.	Total Advances.	Rent.	Interest.	Rent.	Interest.	Number.	Area.	Amount.						
																							Rent.		Interest.				
Auckland	..	..	..	..	16	651 3 21	44 18 2	258	10,742 1 10	800 13 1	70 0 0	301 7 6	371 7 6	5,485 8 1	7,224 0 0	12,709 8 1	349 7 1	358 4 2	2,115 0 5	1,249 8 0	176	7,961 0 17	527 4 8	659 11 5	17,546 12 0				
Hawke's Bay	..	..	..	..	13	144 0 37	40 0 11	205	2,602 3 22	451 9 1	150 0 0	15 0 0	165 0 0	2,790 0 0	3,670 19 11	6,460 19 11	257 6 3	257 9 4	1,544 0 5	1,151 12 4	129	1,762 3 11	278 15 0	368 4 10	18,987 11 3				
Wellington	..	..	..	..	..	..	..	14	236 0 5	23 12 0	..	..	..	85 0 0	103 15 0	18 0 0	..	4 14 0	125 9 6	27 0 10	1	5 3 4	0 9 0	0 10 0	831 10 0				
Marlborough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Canterbury	..	..	..	..	53	1,021 0 5	19 1 20	4 1 2	58	2 14	13 8 2	231	6,599 0 27	967 15 6	50 0 0	50 0 0	2,460 0 0	105 10 0	3,822 19 9	637 15 0	67	2,280 3 1	226 10 6	36 5 0	13,274 16 0				
Otago	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Southland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Totals	..	..	..	..	53	1,021 0 5	19 1 2	..	36	893 1 14	102 11 1	908	22,757 1 6	2,685 11 5	280 0 0	324 10 0	604 10 0	13,256 8 1	12,001 17 10	25,258 5 11	1,491 16 6	890 14 8	9,002 8 13	3,894 13 9	439	12,870 3 22	1,095 8 3	1,112 15 6	68,963 9 3



**Table P.—RETURN of HOMESTEAD LANDS TRANSACTIONS during the Year ended 31st March, 1894.**

District.	Forfeitures and Surrenders during the Year.		Total Area held on 31st March, 1894: Past and Current Transactions.		Made Freehold since Commencement of System to 31st March, 1894.	
	Number of Selectors.	Area.	Number of Selectors.	Area.	Number of Selectors.	Area.
Auckland ..	2	A. R. P. 125 0 0	76	A. R. P. 9,057 1 5	393	A. R. P. 67,439 2 5
Westland ..	..	..	1	40 0 0	38	1,440 0 0
Otago ..	..	..	7	804 3 4	14	2,051 1 11
Totals ..	2	125 0 0	84	9,902 0 9	445	70,930 3 16

**Table Q.—RETURN of SMALL GRAZING-RUNS taken up during the Year ended 31st March, 1894.**

District.	Taken up during the Year.					Forfeitures and Surrenders during the Year.			Total Area held on 31st March, 1894: Past and Current Transactions.			Amount received during the Year ended 31st March, 1894.			Arrears on 31st March, 1894.		
	Number of Holders.	Area.	Average Rent per Acre.	Annual Rental payable.	Number.	Area.	Annual Rental.	Number of Holders.	Area.	On the Year's Transactions.	On Past Transactions.	Number.	Area.	Amount.			
Auckland..	3	A. R. P. s. d. 16,630 0 0	5,543 1 13 0 1.49	103 12 6	5	7,203 0 0	72 14 0	15	67,230 0 0	51 16 3	291 3 6	3	18,465 0 0	88 19 9			
Hawke's Bay ..	2	6,039 0 0	3,019 2 0 0 3.66	94 7 4	..	..	..	47	122,994 2 18	47 3 8	1,214 10 0	12	34,261 1 6	161 12 2			
Taranaki ..	..	..	..	..	2	4,212 3 2	49 13 6	14	13,273 0 38	..	..	10	7,610 0 38	51 15 1			
Wellington ..	1	3,150 0 0	3,150 0 0 0 1	13 2 6	3	4,355 3 15	73 9 8	87	84,353 1 15	..	2,086 19 11	39	35,104 0 18	952 15 7			
Marlborough ..	12	6,039 0 0	503 1 0 0 3	75 10 4	..	..	..	45	26,023 2 25	74 12 6	247 18 3	3	1,726 0 0	13 5 9			
Canterbury ..	6	11,027 1 0	1,837 3 10 0.10.25	480 0 0	..	..	..	40	93,407 1 27	242 14 1	4,740 12 4	6	17,308 1 12	466 19 5			
Otago ..	78	116,925 2 22	1,499 0 7 0 6.55	3,194 11 10	17	48,733 1 24	1,888 6 4	236	451,498 0 9	1,592 5 4	9,131 14 2	124	254,941 0 27	4,364 8 7			
Southland ..	22	66,858 3 35	3,039 0 5 0 3.25	864 12 10	..	..	..	24	68,552 3 3	432 6 5	138 16 7	5	10,887 0 13	75 14 2			
Totals ..	124	226,669 3 17	..	4,825 17 4	27	64,495 0 1	2,084 3 6	498	927,333 0 15	2,440 18 3	18,042 7 0	202	380,303 0 34	6,175 10 6			

**Table R.—NUMBER and AREA of PASTORAL LICENSES for the Year ended 31st March, 1894.**

District.	Taken up during the Year.				Total Area held on 31st March, 1894.				Holders in Arrear on 31st March, 1894.			
	No. of Holders.	Area.	Annual Rental.	No. of Holders.	Area, approximately.	Average Holdings.	Rent paid during the Year.	No.	Area.	Amount.		
Auckland	2	A. 54,788	£ s. d. 92 5 0	12	A. 121,711	A. 10,142	£ s. d. 65 7 4	1	A. 10,000	£ s. d. 16 0 0		
Hawke's Bay	1	R. P. 7,069	30 0 0	22	R. P. 161,845	7,356	1,122 2 5	3	R. P. 1,427	66 16 0		
Wellington	29	A. 12,093	69 13 4	24	A. 41,916	1,716	843 3 7	4	A. 14,796	111 13 4		
Nelson	11	R. P. 12,013	51 10 6	258	R. P. 643,278	2,492	6,346 0 0	2	R. P. 15,010	136 13 4		
Marlborough	4	A. 33,341	675 16 0	139	A. 1,112,090	8,000	8,569 6 5	4	R. P. 92,350	975 0 0		
Canterbury	13	R. P. 74,000	92 0 0	86	R. P. 2,930,685	34,077	41,493 1 10	4	R. P. 114,000	74 0 0		
Westland	20	A. 416,082	3 051 6 11	51	A. 504,500	9,892	577 18 6	10	R. P. 242,915	702 10 2		
Otago	5	R. P. 36,915	26 5 10	329	R. P. 4,230,537	13,010	42,261 13 1	33	R. P. 35,130	8 5 0		
Southland	85	A. 646,253	4 088 17 7	1,023	A. 11,017,587	10,769	104,452 14 11	59	R. P. 525,628	2,090 17 10		
Totals												

**Table S.—RETURN of MISCELLANEOUS LEASES and LICENSES not otherwise enumerated issued during the Year ended 31st March, 1894.**

District.	Object for which leased.										Total Area in Occupation on 31st March, 1894.	Lessees in Arrear on 31st March, 1894.					
	Coal and Mineral.		Timber-cutting.		Flax-cutting.		Miscellaneous.		Total Area.				Total Amount received during the Year ended 31st March, 1894.	Total Annual Rental, &c.	Annual Rental.	No.	Amount.
	Area.	Annual Rental.	Area.	Amount received.	Area.	Amount received.	Area.	Annual Rental payable.	Area.	Annual Rental.							
Auckland	A. 3	£ s. d. 0 0 0	4	£ s. d. 62 0 0	A. 60	£ s. d. 6 0 0	A. 1,062	£ s. d. 13 5 0	A. 1,062	£ s. d. 13 5 0	£ s. d. 1,693 12 5	£ s. d. 13 5 0	39	£ s. d. 318 0 6	10	£ s. d. 46 18 3	
Hawke's Bay	R. P. 1	0 0 0	1	0 0 0	R. P. 1	0 0 0	R. P. 12	0 0 0	R. P. 12	0 0 0	260 14 9	1 4 0	43	262 11 0	27	61 7 7	
Taranaki	A. 1	97 19 4	1	97 19 4	A. 1	97 19 4	A. 58	3 20	A. 58	3 20	234 3 11	18 16 0	73	257 10 10	12	479 6 11	
Wellington	A. 1	0 0 0	1	0 0 0	A. 1	0 0 0	A. 471	3 14	A. 471	3 14	359 13 7	18 16 0	15	123 5 10	13	281 5 0	
Nelson	A. 6	22 2 0	6	22 2 0	A. 6	22 2 0	A. 471	3 14	A. 471	3 14	4,128 18 7	54 15 0	221	3,730 16 3	13	281 5 0	
Marlborough	A. 1	2 0 0	1	2 0 0	A. 1	2 0 0	A. 1,262	0 0	A. 1,262	0 0	874 10 11	10 10 0	62	37,436 0 0	24	227 3 5	
Canterbury	A. 1	2 0 0	1	2 0 0	A. 1	2 0 0	A. 5,913	3 0	A. 5,913	3 0	1,578 10 7	223 13 9	190	80,199 0 11	11	86 7 0	
Westland	A. 3	17 1 0	3	17 1 0	A. 3	17 1 0	A. 62	3 39	A. 62	3 39	54 18 0	12 5 0	30	78 19 3	11	155 8 6	
Otago	A. 127	1,594 15 10†	127	1,594 15 10†	A. 127	1,594 15 10†	A. 45,366	6 10	A. 45,366	6 10	1,661 1 3	211 17 11	200	50,330 3 35	38	184 15 11	
Southland	A. 1	0 0 0	1	0 0 0	A. 1	0 0 0	A. 34,109	1 21	A. 34,109	1 21	2,266 3 1	501 17 3	219	32,436 2 22	79	184 15 11	
Totals	831	3 29 30	141	2,036 18 2	3	35 0 28	679,601	3 18	679,601	3 18	13,112 7 11	1,048 3 11	11,092	249,423 3 8	214	1,522 12 7	

\* Statisticians. † Includes 569 5s. firewood licenses. ‡ Includes gold-prospecting and wild-cattle-killing.

Table T.—RETURN of TERRITORIAL REVENUE received during the Year ended 31st March, 1894.

	Auckland.	Hawke's Bay	Taranaki.	Wellington.	Nelson.	Marlborough.	Canterbury.	Westland.	Otago.	Southland.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Cash lands ..	5,997 0 0	519 19 6	1,104 6 8	874 2 4	8,896 2 3	125 10 0	963 1 2	..	917 11 5	932 13 5	20,330 6 9
Perpetual lease made freehold	1,427 6 9	11,939 11 7	5,279 18 0	28,284 9 0	..	82 10 0	490 5 0	..	1,564 7 6	508 14 11	49,577 2 9
Village-settlement perpetual-lease made freehold	..	..	..	59 13 0	..	..	..	..	10 10 0	..	70 3 0
Deferred payment ..	1,891 9 4	2,381 11 4	16,205 7 1	6,619 15 6	6,601 12 11	206 0 1	1,369 17 5	140 2 2	5,419 14 8	3,969 14 11	44,805 5 5
Deferred payment, pastoral	..	164 19 8	..	..	..	..	2,669 15 3	..	473 1 8	97 8 3	3,405 4 10
Perpetual lease and small areas	4,292 12 6	4,694 14 7	5,306 6 5	5,121 185 7	196 4 1	63 5 10	4,751 19 2	28 12 0	6,335 14 4	1,956 19 7	39,811 16 4
Occupation with right of purchase	510 6 5	146 12 5	170 15 1	287 9 8	..	5 9 6	134 5 4	7 9 0	174 14 7	423 8 11	1,860 10 11
Lease in perpetuity ..	330 10 11	162 10 11	239 19 9	105 2 0	12 5 7	3 12 4	1,175 11 1	..	*881 15 7	814 18 10	3,726 7 0
Agricultural lease ..	..	..	..	..	..	..	..	..	400 1 5	..	400 1 5
Village-settlement, cash ..	25 0 0	..	5 0 0	253 4 9	..	..	..	..	..	..	283 4 9
Village-settlement, deferred payment ..	..	64 15 8	419 6 5	347 1 3	..	9 4 8	608 0 3	..	185 3 1	349 6 7	1,982 17 11
Village-settlement, perpetual lease ..	..	11 6 9	..	18 9 7	..	1 5 0	543 14 2	..	79 10 6	231 18 9	886 4 9
Village-settlement occupation, with right of purchase	..	..	..	..	..	..	0 16 0	..	..	..	0 16 0
Village-settlement, lease in perpetuity ..	..	12 12 1	..	..	..	4 0 5	369 4 4	..	1125 2 1	55 11 5	566 10 4
Village-homestead special settlement ..	707 11 3	59 14 0	..	514 15 7	..	22 14 0	771 12 6	..	134 2 4	172 1 6	2,382 11 2
Special-settlement association, deferred payment	382 14 10	463 10 0	..	9,428 3 10	..	..	..	..	..	..	10,389 8 8
Special-settlement association, perpetual lease ..	66 17 0	..	..	..	..	..	..	..	..	..	66 17 0
Special-settlement association, lease in perpetuity	342 19 9	1,261 13 8	190 12 3	2,086 19 11	..	322 10 9	4,983 6 5	..	10,723 19 6	571 3 0	20,483 5 3
Small grazing-runs ..	65 7 4	1,122 2 5	..	343 3 7	6,346 1 2	8,569 6 5	41,493 1 10	577 18 6	642,261 13 1	3,674 0 7	104,452 14 11
Pastoral runs ..	523 2 0	..	..	..	304 16 4	..	18 18 6	..	164 8 6	87 5 5	1,098 10 9
Coal and mineral leases ..	..	..	..	..	..	..	..	..	..	13 0 0	13 0 0
Prospectors' mining leases ..	846 6 9	13 5 7	97 19 4	8 8 0	3 2 6	82 3 1	2 0 0	..	86 2 0	69 5 0	1,208 12 3
Timber licenses and other leases ..	..	..	..	..	..	14 10 8	..	..	5 0 0	2 10 0	33 0 8
Flax-cutting ..	11 0 0	..	..	..	..	29 4 6	20 0 0	25 0 0	1,252 6 8	6 10 0	2,354 5 6
Miscellaneous leases ..	138 10 8	260 14 9	34 8 4	..	587 10 7	52 10 0	51 2 0	31 9 0	370 6 0	346 4 0	1,889 18 11
Transfer, lease, and license fees, &c. ..	384 11 0	142 17 9	128 2 0	97 4 0	285 13 2	748 12 8	1,555 2 1	34 18 0	97 1 9	412 1 10	4,523 3 8
Rents of reserves ..	23 13 4	26 1 0	101 16 3	232 6 1	1,291 10 8	6 9 0	1,235 18 3	24 16 0	127 0 5	237 4 0	2,313 1 3
Miscellaneous ..	479 17 3	25 12 1	35 17 4	118 19 6	21 7 5	5 6 1	1,162 5 0	3 2 1	132 7 9	129 18 0	1,411 11 8
Crown-grant fees ..	227 16 3	115 14 5	139 1 6	386 0 7	110 0 0	..	..	17 11 2	156 1 4	1,675 10 10	1,900 17 3
State forests ..	151 13 11	..	..	..	..	..	..	..	..	..	..
Survey Fees,—	..	..	..	..	..	..	..	..	..	..	..
Amounts which do not form part of payment for land	3,895 13 6	..	..	10 13 6	242 5 0	..	..	50 3 2	350 13 0	215 9 6	4,764 17 8
Amounts which do form part of payment for land	370 13 8	..	191 3 4	5 6 0	119 12 6	133 0 0	74 19 2	24 0 0	..	..	918 14 8
Totals ..	23,102 14 5	23,595 0 2	29,649 19 9	62,505 9 1	25,018 4 2	10,487 5 0	63,444 14 11	965 1 1	172,328 9 2	16,952 19 3	328,049 17 0

\* Includes £338,10s. 1d., received for lands disposed of under "The Land for Settlements Act, 1862." † Includes £71 7s. 2d. received for lands disposed of under "The Land for Settlements Act, 1862." ‡ Includes £14 10s. on account of Canterbury District.

**Table U.**—SUMMARY of ARREARS due to the CROWN on the 31st March, 1894.

System.	Reference to Detail, see Table	Number of Selectors.	Area.		Amount.		Total.
					On Year's Transactions.	On Past Transactions.	
			A.	R. P.	£ s. d.	£ s. d.	£ s. d.
Deferred payment .. .. .	D	600	115,786	3 26	..	5,046 16 8	5,046 16 8
Perpetual lease .. .. .	E	1,133	325,770	1 21	16 13 4	10,333 13 4	10,350 6 8
Occupation with right of purchase .. .. .	F	46	14,989	2 30	172 4 1	215 14 10	387 18 11
Lease in perpetuity .. .. .	G	86	38,414	2 12	443 3 10	305 18 5	749 2 3
Agricultural lease .. .. .	H	43	3,740	3 36	..	1,504 2 3	1,504 2 3
Village settlements on deferred payment .. .. .	J	79	1,074	1 28	92 19 7	238 3 3	331 2 10
Village settlements on perpetual lease .. .. .	K	112	2,034	3 31	..	524 2 11	524 2 11
Village settlements on occupation with right of purchase .. .. .	L	..	..	..	..	..	..
Village settlements on lease in perpetuity .. .. .	M	..	..	..	..	..	..
Village-homestead special settlements: Interest on advances, and rents .. .. .	N	439	12,870	3 22	..	2,208 3 9	2,208 3 9
Special-settlement associations .. .. .	O	305	38,680	3 6	..	2,835 15 11	2,835 15 11
Small grazing-runs .. .. .	Q	202	380,303	0 34	617 7 6	5,558 3 0	6,175 10 6
Pastoral runs .. .. .	R	59	525,628	3 34	111 13 4	1,979 4 6	2,090 17 10
Miscellaneous (not otherwise specified) .. .. .	S	214	28,672	0 20	281 5 0	1,241 7 7	1,522 12 7
Totals .. .. .	..	3,318	1,487,967	3 20	1,735 6 8	31,991 6 5	33,726 13 1

**Table V.**—RETURN of LANDS RESERVED, alienated by Act, Scrip, &c.

District.	During the Year ending 31st March, 1894.				Total Area reserved, granted under Acts, &c., from the Foundation of the Colony to the 31st March, 1894.					
	Area reserved for Various Purposes.	Area granted under Acts.	Area taken up by Scrip.	Total Area alienated during the Year.						
	A.	R. P.	A.	R. P.	A.	R. P.	A.	R. P.		
Auckland .. .. .	2,721	0 14	92,354	3 39	..	..	95,076	0 13	2,904,171	1 7
Hawke's Bay .. .. .	1,772	1 22	..	..	..	..	1,772	1 22	229,698	3 5
Taranaki .. .. .	2,452	3 0	3	1 13	90	2 26	2,546	2 39	570,422	1 8
Wellington .. .. .	657	2 30	50	0 0	..	..	707	2 30	771,809	2 35
Nelson .. .. .	3,587	3 5	..	..	100	0 0	3,687	3 5	231,264	0 32
Marlborough .. .. .	221	0 0	..	..	..	..	221	0 0	179,765	1 8
Canterbury .. .. .	547	0 34	176	0 0	294	0 0	1,017	0 34	688,976	0 12
Westland .. .. .	3	2 0	..	..	..	..	3	2 0	99,414	0 34
Otago .. .. .	647	1 30	..	..	..	..	647	1 30	588,379	2 31
Southland .. .. .	253	2 28	..	..	..	..	253	2 28	589,316	3 23
Totals.. .. .	12,864	2 3	92,584	1 12	484	2 26	105,933	2 1	6,853,218	1 35

**Table W.**—STATEMENT of the NUMBER of SELECTORS on the Books of the Lands and Survey Department on the 31st March, 1894.

District.	Deferred Payment.	Perpetual Lease.	Occupation with Right of Purchase.	Lease in Perpetuity.	Agricultural Lease.	Village Settlement, Deferred Payment.	Village Settlement, Perpetual Lease.	Village settlement, Occupation with Right of Purchase.	Village settlement, Lease in Perpetuity.	Village Homestead Special Settlement.	Associations.		Small Grazing-runs.	Pastoral.	Homestead.	Miscellaneous.	Totals.
											Complete.	Not yet balloted for.					
Auckland .. .. .	477	946	353	162	26	..	..	..	..	258	106	* 82	15	12	76	39	2,470
Hawke's Bay .. .. .	101	254	27	47	..	32	7	..	12	31	30	12	47	22	..	43	653
Taranaki .. .. .	533	411	20	34	..	7	..	..	..	..	114	335	14	..	..	73	1,206
Wellington .. .. .	174	679	98	52	..	41	12	..	24	205	1,379	416	87	24	..	15	2,790
Nelson .. .. .	1,060	41	..	11	..	..	..	..	..	..	..	..	..	258	..	221	1,591
Marlborough .. .. .	31	14	2	6	..	5	1	..	2	14	..	..	45	139	..	62	321
Canterbury .. .. .	58	208	11	68	..	50	119	5	54	231	32	..	40	86	..	190	1,152
Westland .. .. .	35	8	9	4	..	..	..	..	..	..	..	..	..	51	1	30	138
Otago .. .. .	300	649	40	175	52	38	49	..	53	106	15	..	226	329	7	200	2,239
Southland .. .. .	294	233	53	97	..	92	145	..	66	63	..	..	24	102	..	219	1,388
Totals .. .. .	3,063	3,443	613	656	78	265	333	5	211	908	1,676	845	498	1,023	84	1092	13,948

\* The figures in this column are not included in totals.

Table X. Endowments.—LANDS taken up during the Year ended 31st March, 1894.

District.	Endowments, &c.	Cash Lands.		Lease in Perpetuity.			Village-settlement Lease in Perpetuity.			Village-homestead Special Settlement.			Small Grazing-runs.		
		Numbers of Purchasers.	Area.	Amount realised.	Number of Selectors.	Area.	Annual Rent.	Number.	Area.	Annual Rent.	Area.	Annual Rent.	No.	Area.	Annual Rental.
Auckland	University	..	A. R. P.	£ s. d.	..	£ s. d.	..	A. R. P.	£ s. d.	..	A. R. P.	£ s. d.	..	£ s. d.	
	Museum	5	42 0 4	158 10 0	..	..	..	..	..	..	..	..	..	..	
	Wanganui Harbour	52	302 1 19	1,981 12 0	..	..	..	..	..	..	..	..	..	..	
Wellington	Westport Harbour	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Canterbury College	1	40 0 0	80 0 0	..	..	12	60 1 37	9 2 0	..	..	..	..	..	
Canterbury	Educational Re-serve	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Educational	..	..	..	..	..	..	..	..	..	..	..	..	..	
Otago	Bluff Harbour	..	..	..	..	..	..	166 0 5	15 8 8	..	..	..	..	..	
Southland	Educational	*6	2,063 8 23	2,206 17 8	1	31 2 0	..	..	..	..	..	..	..	..	
	Totals	64	2,448 1 6	4,426 19 8	1	31 2 0	1 5 8	12	60 1 37	9 2 0	5	13,029 3 0	131 10 8	..	

\* Perpetual-leases made freehold.

Table Y. Endowments.—RETURN of REVENUE received during the Year ended 31st March, 1894.

District.	Endowments, &c.	Auckland.		Hawke's Bay.		Taranaki.		Wellington.		Nelson.		Canterbury.		Westland.		Otago.		Southland.		Total.
		£ 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.	£ s. d.	£ s. d.
Cash lands	Deferred payments	..	158 10 0	..	..	..	..	1,981 12 0	..	..	..	..	..	..	..	..	..	..	..	4,426 19 8
	Deferred payments, pastoral	..	26 1 6	..	..	..	..	502 6 8	..	..	..	..	..	..	..	..	..	..	..	2,572 2 0
Perpetual lease and small areas	Leases in perpetuity	..	53 9 9	172 1 9	..	..	..	..	..	98 1 2	..	..	..	..	..	..	..	..	..	128 6 9
	Village-settlement lease in perpetuity	..	..	21 5 9	..	..	..	..	..	6 2 3	..	..	..	..	..	..	..	..	..	1,647 18 0
Village-homestead special settlements	Small grazing-runs	..	10 17 4	..	..	..	..	..	..	15 19 9	..	..	..	..	..	..	..	..	..	27 8 0
	Pastoral runs	..	70 0 5	95 7 7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6 15 5
Coal and mineral leases	Timber licenses and other leases	..	30 0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26 17 1
	Miscellaneous leases	..	1,077 5 0	..	..	..	..	..	..	10,112 19 3	..	..	..	..	..	..	..	..	..	624 4 1
Rents of reserves	Rotorua leases	..	0 7 6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	936 4 7
	State forests	..	944 6 9	..	..	..	..	..	..	10 0 0	..	..	..	..	..	..	..	..	..	10,112 19 3
Totals	Totals	..	2,370 18 3	288 15 1	..	483 7 8	..	2,483 18 8	..	11,389 2 3	..	305 0 0	..	184 8 3	..	1,573 7 7	..	..	23,442 9 0	





**Table AB.—COMPARATIVE STATEMENT OF SELECTORS and LANDS SELECTED under the Various Systems in Force for the Eleven Years ending 31st March, 1894.**

Year ending 31st March,	Cash.		Deferred Payment.		Perpetual Lease.		Lease in Perpetuity.		Occupation with Right of Purchase.		Agricultural Lease.		Village Settlement: Cash.		Village Settlement: Deferred Payment.		Village Settlement: Perpetual Lease.		Village-homestead Special Settlement.		Special-settlement Associations.		Homestead.		Small Grazing-runs.		Year ending 31st March,
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	
1884	1,477	144,589	624	135,603	72	14,386	..	..	..	..	56	6,410	..	..	..	..	..	..	..	..	..	..	24	4,160	..	..	1884
1885	1,242	64,975	621	69,739	111	24,410	..	..	..	..	24	2,932	..	..	..	..	..	..	..	..	..	..	31	5,628	..	..	1885
1886	770	64,383	581	58,451	138	28,166	..	..	..	..	28	4,491	..	..	..	..	..	..	..	..	..	..	35	5,830	..	..	1886
1887	426	32,633	557	50,527	272	50,329	..	..	..	..	14	475	..	..	..	..	..	..	..	..	..	..	49	6,977	..	..	1887
1888	554	28,229	319	41,100	367	72,401	..	..	..	..	15	1,222	..	..	..	..	..	..	..	..	..	..	28	4,220	..	..	1888
1889	613	68,498	397	54,419	768	204,749	..	..	..	..	11	150	..	..	..	..	..	..	..	..	..	..	11	1,050	..	..	1889
1890	543	46,922	304	41,376	756	226,905	..	..	..	..	1	53	..	..	..	..	..	..	..	..	..	..	19	1,751	..	..	1890
1891	573	100,014	258	34,091	788	288,917	..	..	..	..	4	551	..	..	..	..	..	..	..	..	..	..	9	945	..	..	1891
1892	492	40,501	223	40,467	824	282,547	..	..	..	..	2	90	..	..	..	..	..	..	..	..	..	..	8	1,010	..	..	1892
1893	552	36,326	169	21,084	385	122,557	126	55,320	161	54,271	4	193	..	..	..	..	..	..	..	..	..	..	1	38	..	..	1893
1894†	453	33,634	96	12,069	17	3,854	447	151,324	461	108,133	5	365	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1894†

\* Included in cash lands. † Exclusive of Cheviot Estate, and lands disposed of under "The Land for Settlements Act, 1892." ‡ Village settlement, lease in perpetuity.

TABLE No. 7.—STATEMENT showing CONTRACTS COMPLETED under the CO-OPERATIVE SYSTEM, from 1st April, 1893, to 31st March, 1894, in the several Land Districts.

Name of Road or Work.	Number of Contracts completed.	Average Number of Men per Gang.	Character of Work done.				Other Work.	Minimum Wage earned per Man per Day on any one Contract, all Weathers.	Maximum Wage earned per Man per Day on any one Contract, all Weathers.	Average Daily Wage earned per Man, all Weathers.	Average Hours worked per Man per Day, all Weathers.	Actual Cost.			Remarks.
			Length of Main Road constructed.	Length of Horse Road constructed.	Bushfelling and Clearing.	M. ch.						M. ch.	M. ch.	Payments to Co-operative Contractors.	
			M. ch.	M. ch.	M. ch.	M. ch.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
Otau Roads ..	10	6	7 40	7 40	7 40	..	0 5 0	0 11 7	0 7 6	10	717 5 0	79 2 0	796 7 0	13 contracts in hand. £28 5s., cost of timber, pipes, &c., included in cost of management.	
Huntly-Karaka ..	12	4	8 40	..	..	..	0 4 1	0 7 5 10 <sup>3</sup>	0 5 10 <sup>3</sup>	8	193 16 2	76 6 1	270 2 3	2 contracts in hand.	
Waimamaku-Punakitere ..	4	6	3 52 <sup>1</sup>	3 52 <sup>1</sup>	3 52 <sup>1</sup>	..	0 5 10	0 10 0	0 7 0	8	332 4 0	34 7 0	366 11 0	3 contracts in hand.	
Waimamaku-Pakane ..	..	6	..	..	..	..	0 7 0	0 7 0	0 7 0	8	66 6 0	15 16 0	82 2 0	5 contracts in hand.	
Opanaki-Hokianga ..	1	6	0 39	..	..	..	..	..	..	..	..	..	..	..	
Totals and Averages ..	27	5.1	19 52 <sup>1</sup>	11 12 <sup>1</sup>	..	..	..	..	0 7 0 <sup>3</sup>	8 <sup>1</sup>	1,309 11 2	205 11 1	1,515 2 3	..	
HAWKE'S BAY.															
Nuhaka ..	5	3	..	4 19	..	..	0 7 0	0 8 0	0 7 6	..	297 10 3	29 0 0	326 10 3	Let at the ruling rate for road-felling, and clearing.	
Pohui ..	1	2 <sup>1</sup>	..	1 2	..	..	0 11 0	0 11 0	0 11 0	..	50 15 7	3 0 0	53 15 7	Said to have worked long hours. Let to these men at half the rate it was tendered for shortly before.	
Totals and Averages ..	6	2.8	..	5 21	..	..	..	..	0 7 10 <sup>3</sup>	..	348 5 10	32 0 0	380 5 10	..	
TARANAKI.															
Rotokare Road ..	29	3.10	8-ft. bridle. 5 72	3 72	..	Maintenance 5 72	0 6 1	0 7 8	0 6 5	9	1,661 11 2	119 13 5	1,781 4 7	Including maintenance to 31st December, 1893.	
Anderson Road ..	107	2.5	..	6 4	..	11 54	0 4 11	0 9 9	0 7 2	10	3,185 1 9	198 2 4	3,383 4 1	Ditto.	
East Road ..	75	3.04	..	8 40	..	13 0	0 5 1	0 11 1 <sup>1</sup>	0 7 5	10 <sup>1</sup>	8,960 4 7	683 8 11	9,643 13 6	Including maintenance to 31st March, 1894.	
Waitotara Road ..	50	2.7	5-ft. road. 11 60	11 20	..	16 0	0 2 3	0 8 2	0 6 6	10	4,296 4 1	397 10 7	4,693 14 8	Ditto.	
Motukava Road ..	43	2.6	8-ft. road. 4 46	..	..	3 0	0 3 7	0 8 4	0 7 1	10 <sup>1</sup>	947 14 8	81 6 4	1,029 1 0	Ditto.	
Mangaere (by-roads) ..	13	3.1	..	11 64	..	..	0 6 4	0 7 6	0 7 2	9	567 6 0	31 14 0	599 0 0	By co-operative labour, out of loan moneys.	
Mangaohuku Road ..	10	3.2	5-ft. road. 2 28	Clearing. 2 28	..	..	0 3 10	0 8 4	0 7 6	9	114 16 1	..	114 16 1	Payments made in April.	
Tikorangi-Tarata ..	6	2.0	..	2 40	..	..	0 6 6	0 6 10	0 6 8	9	..	..	..	..	
Totals and Averages ..	333	2.26	15 44	46 23	..	49 46	..	..	0 7 0 <sup>3</sup>	9.37	19,732 18 4	1,511 15 7	21,244 13 11	..	
<p>NOTE.—The high rate of 11s. 1<sup>1</sup>/<sub>2</sub>d. was made by Dwyer's party in September, 1893: they were the best men on the road, and always worked from early to late, and seven days a week.</p> <p>Ongarue-Stratford (Stratford Road) 6 11.89 7 0 .. 2 70 .. 0 4 1<sup>1</sup>/<sub>2</sub> 0 7 6<sup>3</sup>/<sub>4</sub> 0 6 7<sup>1</sup>/<sub>4</sub> 6.86 3,248 7 10 307 0 3 3,555 8 1</p> <p>The contract on which the minimum wage was made was done by Maoris in the Maori manner, i.e., the whole hapu, averaging twenty in number, and comprising old, young, and stalwart, worked on it. Their average daily hours all weathers was 5.73, giving a wage of 5s. 9<sup>1</sup>/<sub>2</sub>d. for eight hours' work. The next lowest wage made was 6s. 8d.; the fair comparison is between this and the maximum, giving a difference of 10<sup>3</sup>/<sub>4</sub>d.</p>															

TABLE No. 7.—STATEMENT showing CONTRACTS COMPLETED under the CO-OPERATIVE SYSTEM, from 1st April, 1893, to 31st March, 1894, in the several Land Districts.  
WELLINGTON.

Name of Road or Work.	Number of Contracts completed.	Average Number of Men per Gang.	Character of Work done.				Minimum Wage earned per Man per Day on any one Contract, all Weathers.			Maximum Wage earned per Man per Day on any one Contract, all Weathers.			Average Daily Wage earned per Man, all Weathers.	Average Hours worked per Man per Day, all Weathers.	Actual Cost.			Remarks.
			M. ch.	Length of Main Road constructed.	M. ch.	Bushfelling and Clearing.	M. ch.	Metalling.	M. ch.	Other Work.	£ s. d.	£ s. d.			£ s. d.	£ s. d.	£ s. d.	
Otamakapua-Mangawharariki Block—																		
Mangawharariki Road .. .. .	9	6	..	3 59	..	..	..	..	0 4 8	0 10 2	0 7 2	10	350 0 0	35 0 0	385 0 0			
Cross Road .. .. .	5	2	..	2 5	..	..	..	..	0 4 8	0 10 2	0 7 2	10	350 0 0	35 0 0	385 0 0			
Watershed Road .. .. .	1	6	..	0 76	..	..	..	..	0 4 8	0 10 2	0 7 2	10	350 0 0	35 0 0	385 0 0			
Marton Nos. 1 and 2 Blocks—																		
Te Parapara Road .. .. .	3	4	1 63	1 63	..	..	..	..	0 5 4	0 8 0	0 6 8	9½	970 2 10	130 0 0	1,100 2 10			
Main South Road .. .. .	8	4	3 17	3 17	..	..	..	..	0 5 4	0 8 0	0 6 8	9½	970 2 10	130 0 0	1,100 2 10			
Mangahia East Road .. .. .	2	4	1 22	1 22	..	..	..	..	0 5 4	0 8 0	0 6 8	9½	970 2 10	130 0 0	1,100 2 10			
Mangoroa-Coal Creek Block—																		
Apiti-Norsewood Road .. .. .	7	4	3 0	3 0	..	..	..	..	0 4 6	0 9 0	0 6 9	8	697 18 6	75 0 0	772 18 6			
Table Flat Road .. .. .	3	4	1 17	1 17	..	..	..	..	0 4 6	0 9 0	0 6 9	8	697 18 6	75 0 0	772 18 6			
Palmerston North Forest Reserve—																		
Range Road, North and South	18	3½	..	4 40	..	..	..	..	0 4 10	0 11 0	0 7 0	7	699 4 5	147 18 0	847 2 5			
Waiwera Block—																		
Puhohai and Manawatu Roads	4	4	..	1 39	..	..	..	..	0 6 4	0 8 9	0 7 10	6½	350 9 9	46 3 7	396 13 4			
Kakariki Block—																		
Kakariki Road .. .. .	2	3½	1 60	1 0	..	..	..	..	0 3 4	0 7 6	0 4 8	6½	1,005 9 3	170 2 5	1,175 11 8			
Stirling Branch Road .. .. .	3	4	1 46	1 29	..	..	..	..	0 3 4	0 7 6	0 4 8	6½	1,005 9 3	170 2 5	1,175 11 8			
Central Road .. .. .	4	4	0 78	0 78	..	..	..	..	0 3 4	0 7 6	0 4 8	6½	1,005 9 3	170 2 5	1,175 11 8			
Mount Baker Block—																		
Mangamahoe Road .. .. .	5	4	1 6	0 12	..	..	..	..	0 3 4	0 7 6	0 4 8	6½	1,005 9 3	170 2 5	1,175 11 8			
Baker Road .. .. .	11	4	..	2 70	..	..	..	..	0 3 7	0 9 4	0 6 2	9	2,761 12 10	384 14 5	3,096 7 3			
Mangatakato Road .. .. .	7	4	..	1 0	..	..	..	..	0 3 7	0 9 4	0 6 2	9	2,761 12 10	384 14 5	3,096 7 3			
Mangarong Road .. .. .	6	4	..	1 15	..	..	..	..	0 3 7	0 9 4	0 6 2	9	2,761 12 10	384 14 5	3,096 7 3			
Barton's Road .. .. .	8	4	..	2 36	..	..	..	..	0 4 1	0 6 11	0 5 9	9	86 19 1	4 14 1	41 13 2			
Hastwell Village Settlement	2	4	0 10	0 34	..	..	..	..	0 4 1	0 6 11	0 5 9	9	86 19 1	4 14 1	41 13 2			
Puketoi Block—																		
Alfredton-Weber Road .. .. .	39	..	1 20	1 20	..	..	..	..	0 4 10	0 10 4	0 6 7	..	4,043 14 0	467 0 0	4,510 14 0			
Utwai Road .. .. .	14	5	0 75	3 28	..	..	..	..	0 4 10	0 10 4	0 6 7	..	4,043 14 0	467 0 0	4,510 14 0			
Rakauui Road .. .. .	5	5	2 4	2 4	..	..	..	..	0 4 4	0 6 8	0 5 5	..	408 14 8	56 11 10	465 6 6			
Makuri-Aohanga Road .. .. .	11	5	..	3 39	..	..	..	..	0 4 4	0 6 8	0 5 5	..	408 14 8	56 11 10	465 6 6			
Eketahuna and Stirling Road through Wellington Forest Reserve	5	5	1 34	1 34	..	..	..	..	0 4 4	0 6 8	0 5 5	..	408 14 8	56 11 10	465 6 6			
Pemberton Farm Settlement Reserve	24	4	..	..	..	..	..	..	0 5 1	0 10 8	0 7 4	8½	1,513 15 5	116 5 4	1,630 0 9	1,034 acres bush felled.		
Totals and averages .. .. .	206	4.5	9 3	30 42	48 42	..	..	..	..	..	0 6 10	6.43	12,888 0 9	1,583 9 8	14,421 10 5			

TABLE No. 7.—STATEMENT showing CONTRACTS COMPLETED under the CO-OPERATIVE SYSTEM, from 1st April, 1893, to 31st March, 1894, in the several Land Districts.

WELLINGTON—continued.

Name of Road or Work.	Number of Contracts completed.	Average Number of Men per Gang.	Character of Work done.				Minimum Wage earned per Man per Day on any one Contract, all Weathers.	Maximum Wage earned per Man per Day on any one Contract, all Weathers.	Average Daily Wage earned per Man, all Weathers.	Average Hours worked per Man per Day, all Weathers.	Payments to Co-operative Contractors.	Actual Cost.			Remarks.
			Length of Main Road constructed.	Length of Horse Road constructed.	Bush-felling and Clearing.	M. ch. Metallizing.						Other Work.	Cost of Plant, Inspection, and Management.	Total Cost.	
Tunnel, Karioi Road (south end)	14	2.7	M. ch. 5 60	M. ch. 5 60	M. ch. 5 60	..	£ s. d. 0 5 1	£ s. d. 0 9 4	£ s. d. 0 7 3	9	£ s. d. 1,399 14 6	£ s. d. 194 13 0	£ s. d. 1,594 7 6		
Moawhanga-Karioi ..	8	1.9	..	..	..	..	0 5 0	0 11 10	0 8 4	9	261 2 6	77 4 3	338 6 9	11s. 10d. wages, sawing totara.	
Hunterville-Turangarere ..	6	2.5	..	..	..	..	0 3 7	0 7 6	0 5 5	8	195 10 0	14 10 0	210 0 0		
Turangarere-Tokaanu ..	9	5.0	..	..	..	..	0 6 4	0 10 5	0 8 4	10	861 12 5	217 2 1	1,077 14 6	12s. 7d. wages, papa tunnel. Of the item £1,987 7s. 5d., the sum of £1,866 13s. 11d. was for supplies, e.g., timber, powder, iron, tools, oats, chaff, &c.	
Pipiriki-Ohakune ..	67	3.0	..	..	..	..	0 3 0	0 12 7	0 7 0	8	5,213 5 8	1,987 7 5	7,200 13 1		
Watershed Road ..	12	3.7	..	..	..	..	0 4 9	0 9 6	0 7 6	9	1,049 11 11	108 4 4	1,157 16 3		
Turakina Valley ..	12	4.0	..	..	..	..	0 5 5	0 10 7	0 8 0	9	1,326 4 8	559 10 2	1,885 14 10	10s. 7d. wages, papa tunnel. The item £559 10s. 2d., includes supply of powder, timber, iron, tools, &c.	
Totals and averages ..	128	3.2	28 25	..	11 40	0 40	..	..	0 7 3½	885	10,307 1 8	3,188 11 3	13,464 12 11		
Upper Makuri ..	19	5	3 0	3 0	3 0	..	0 4 5	0 8 0	0 5 8	8	1,477 12 6	202 2 8	1,679 15 2		
Mangarama Village Settlement ..	2	5	..	1 40	..	..	0 4 1	0 4 9	0 4 5	8	145 15 0	8 0 0	153 15 0		
Makuri-Aohanga Road ..	4	5	..	1 0	..	..	0 3 8	0 7 0	0 5 0	8	220 1 2	66 7 0	286 8 2		
Makuri Township streets ..	8	5	1 40	1 40	1 0	..	0 4 2	0 9 8	0 6 9	8	532 5 3	83 18 11	616 4 2		
Makaro Road ..	29	5	0 40	7 40	8 0	..	0 5 7	0 9 9	0 7 8	8	1,675 19 4	208 4 10	1,884 4 2		
Upper Mangatiti ..	18	5	..	6 0	..	..	0 4 6	0 8 6	0 6 3	8	1,198 17 11	154 2 3	1,353 0 2		
Towai Road ..	12	5	1 40	2 14	3 53	..	0 5 0	0 10 4	0 7 2	8	778 9 2	89 12 10	868 2 0		
Makuri Township ..	2	5	..	..	..	..	0 4 9	0 6 9	0 5 9	8	123 8 0	7 10 0	130 18 0		
Mangatoro Road ..	1	5	0 40	1 0	1 0	..	0 7 6	0 7 6	0 7 6	8	83 10 8	42 14 3	126 4 11		
Totals and averages ..	95	5	7 0	16 54	25 53	..	..	..	0 6 5½	8	6,235 19 0	862 12 9	7,098 11 9	* Bush-felling, 66 acres.	

MARLBOROUGH.

Nil.

WESTLAND.

Hokitika-Christchurch ..	40	4	3 74	..	3 74	3 74	0 10	0 5 1	0 11 1	0 7 1	6.22	2,835 15 2	271 19 8	3,256 0 1	In this total is included £148 5s. 3d. cost of survey labour.
Lake Mapourika to Franz Josef Glacier Track ..	2	4	..	2 19	2 19	0 33	1 66	0 7 10	0 10 9	0 8 2	7.54	166 3 0	38 5 9	204 8 9	
Makawhio to Bruce Bay Road ..	8	5	..	3 49	2 33	0 76	(forming) 2 bridges	0 6 3	0 10 5	0 7 8	6.72	1,046 11 5	123 5 2	1,245 4 1	In this total cost is included £75 7s. 6d. cost for mapping, office-work, travelling expenses, &c.
Totals and averages ..	50	4.2	3 74	5 68	8 46	5 23	1 76	..	..	0 7 3½	6.84	4,048 9 7	433 10 7	4,705 12 11	

TABLE No. 7.—STATEMENT showing CONTRACTS COMPLETED under the CO-OPERATIVE SYSTEM, from 1st April, 1893, to 31st March, 1894, in the several Land Districts.

Name of Road or Work.	Number of Contracts completed.	Average Number of Men per Gang.	Character of Work done.				Other Work.	Minimum Wage earned per Man per Day on any one Contract, all Weathers.			Maximum Wage earned per Man per Day on any one Contract, all Weathers.			Average Daily Wage earned per Man, all Weathers.	Average Hours worked per Man per Day, all Weathers.	Actual Cost.			Remarks.		
			Length of Main Road constructed.	Length of Horse Road constructed.	M. ch.	M. ch.		M. ch.	M. ch.	£ s. d.	£ s. d.	£ s. d.	£ s. d.			£ s. d.	£ s. d.	£ s. d.		£ s. d.	Total Cost.
<b>Cheviot Roads—</b>																					
Honestead—Waipara, <i>viâ</i>	76	4.5	7 21	..	..	..	..	0 4 6	0 4 6	0 9 0	0 9 0	0 6 7½	8	2,514 8 1	842 18 9	3,357 6 10				Maximum wage to experts on concrete work.	
Hurunui Road	55	4.7	5 40	..	..	..	..	0 4 8	0 4 8	0 12 1	0 8 4	8.5	8,418 12 7	1,199 11 7	9,618 4 2				Maximum wage to special work on Bluff.		
Honestead—Port Robinson Road	17	4.7	3 0	..	..	..	..	0 4 6	0 4 6	0 9 6	0 6 9	8	938 19 11	260 1 0	1,199 0 11				Maximum wage to experts on concrete work.		
Port Hurunui Flats Road	30	4.1	2 47	..	..	..	..	0 5 0	0 5 0	0 8 0½	0 6 10	8	1,163 19 9	171 9 5	1,335 9 2						
Honestead—Leamington Road	2	5	0 20	..	..	..	..	0 6 4	0 6 4	0 6 7	0 6 5½	8	87 10 0	37 8 9	124 18 9						
Sinclair Road	3	5.5	0 25	..	..	..	..	0 4 6	0 4 6	0 7 0	0 5 6½	8	212 2 3	155 17 4	367 19 7						
Parnassus Road	6	4.5	1 10	..	..	..	..	0 6 9	0 6 9	0 7 0	0 6 10½	8	482 8 6	59 0 5	541 8 11						
East Waiau Road	11	0.4	0 57	..	..	..	..	0 6 6	0 6 6	0 10 4	0 8 5	8	738 14 8	267 1 4	1,129 13 6						
Bealey Valley Road deviation	200	4.6	20 60	..	0 11	0 46	..	..	..	..	0 7 7½	8	14,556 15 9	2,993 8 7	17,674 1 10						
Totals and averages ..																					
<b>OTAGO.</b>																					
Cadlin's—Waikawa ..	1	3	0 18	..	..	..	..	0 6 1	0 6 1	0 6 5½	0 6 1	..	..	85 16 4	7 15 0	93 11 4				No actual time kept.	
Tahaukupu Valley ..	7	3.27	2 33	0 6	0 6	..	..	0 3 9½	0 3 9½	0 7 0	0 5 2½	..	..	535 9 1	96 18 3	632 7 4				"	
Purakaiti ..	2	4	..	0 6	0 6	..	..	0 4 6	0 4 6	0 7 0	0 5 9	..	..	83 17 0	14 19 9	98 16 9				"	
Kaler's—Saddle ..	5	3.20	..	1 34½	0 1	..	..	0 3 5½	0 3 5½	0 4 7½	0 4 0½	5.87	..	426 7 8	53 5 9	479 13 5					
Block VIII., Woodland	7	3.14	..	1 17½	0 1	..	..	0 4 6½	0 4 6½	0 7 5½	0 6 3½	6.28	..	383 1 7	36 7 8	419 9 3					
Long Point ..	11	2.91	..	3 9	0 1	..	..	0 4 11	0 4 11	0 6 10½	0 5 5½	5.34	..	454 4 2	35 4 9	489 8 11					
Ratani (Lake) ..	4	4.75	0 57	..	0 43	..	..	0 3 9	0 3 9	0 5 8½	0 4 10½	7.25	..	309 12 6	5 9 9	315 2 3					
Hunt's ..	9	3.66	..	1 42	3 4	..	..	0 3 1	0 3 1	0 6 6½	0 5 1½	5.75	..	461 0 1	89 5 2	550 5 3					
Block VIII., Glenomaru	1	4	..	..	1 75	..	..	0 5 11	0 5 11	0 5 11	0 5 11	..	..	50 0 0	2 10 0	52 10 0				No time kept.	
Papatowai—"Paddock"	1	1	..	..	..	..	..	0 5 7½	0 5 7½	0 5 7½	0 5 7½	..	..	6 15 0	0 6 9	7 1 9				* 3¼ acres.	
Block IX., Woodland—Farms	10	3.65	..	..	0 77*	..	..	0 4 2	0 4 2	0 6 10	0 5 3½	6.75	..	773 8 9	99 16 2	873 4 11				* 437 acres.	
Totals and averages	58	3.10	3 28	7 29½	10 73½	..	..	..	..	..	0 5 2	6.22	..	3,569 12 2	441 19 0	4,011 11 2					

Owing to the fact of the majority of the men employed in this district being settlers, in many cases they were doing work for themselves while holding contracts on the roads, thus reducing the averages.

TABLE No. 7.—STATEMENT showing CONTRACTS COMPLETED under the CO-OPERATIVE SYSTEM, from 1st April, 1893, to 31st March, 1894, in the several Land Districts.

SOUTHLAND.

Name of Road or Work	Number of Contracts completed.	Average Number of Men per Gang.	Character of Work done.				Minimum Wage earned per Man per Day on any one Contract, all Weathers.	Maximum Wage earned per Man per Day on any one Contract, all Weathers.	Average Daily Wage earned per Man, all Weathers.	Average Hours worked per Man per Day, all Weathers.	Actual Cost.			Remarks.
			Length of Main Road constructed.	Length of Horse Road constructed.	Bushfelling and Clearing.	M. Ch.					M. ch.	M. Ch.	Other Work.	
Waikawa-Catlin's Road	51	5	M. ch. 10 58	M. ch. ..	M. ch. ..	M. Ch. 1 35	Culverts, 151 lin. ft.; bridges, 180 lin. ft.; fascines, 28 ch.	£ s. d. 0 4 4	£ s. d. 0 6 9	7	£ s. d. 7,205 17 6	£ s. d. 672 18 6	£ s. d. 7,878 16 0	
Lilburn Roads	25	3	M. ch. 4 20	..	..	..	Drainage, 6m. 74ch.; bridges, 23 lin. ft.; Culverts, 900 lin. ft.	0 2 2*	0 6 5	7.4	1,605 1 7	642 6 10†	2,247 8 5	* The small wage earned is partly owing to bad weather, and partly to unfitness of the men for the class of work.
Waiau Bush Road..	3	4	..	..	1 47	..	..	0 2 2*	0 5 1	7.4	237 5 3	6 4 6	243 9 9	† Cost of inspection and management applies to both works.
Longwood Roads	19	4	M. ch. 0 63	..	8 32	..	Drainage, 18 chains; culverts, 114 lin. ft.; grubbing, 56 chains	0 1 1*	0 4 4‡	7.2	590 17 7	354 17 6‡	945 15 1	Engineering survey: Mr. Withers' party £161 19s. Mr. Turner's party £77 17s. 6d. † Engineering survey: Mr. Turner's party, £123 4s.
Kisbee-Wilson's River Tramway	16	5	M. ch. 5 11	..	5 11	..	Bridges, 194 lin. ft.; culverts, 1351 lin. ft.; drainage, 79½ chains; sleepers & decking No. 9398	0 4 3	0 7 10‡	7	2,256 6 4	606 11 9§	2,862 18 1	§ Engineering survey: Mr. Turner's party, £161 19s. Part cost of inspection and management of Waiau-Preservation Inlet Road included.
Waiau - Preservation Inlet Road	11	2.5	..	7 0	..	..	..	0 2 2*	0 6 3	..	286 7 6	25 1 2	311 8 8	This work was under the control of the Mines Department. I can only show the amount of disbursements from this office since May, 1893.
Totals and averages	125	4.3	20 72	7 0	15 10	1 35	..	..	0 6 7‡	7.10	12,181 15 9	2,308 0 3	14,489 16 0	

TABLE No. 8.—RETURN of FIELD-WORK executed by the STAFF and CONTRACT SURVEYORS, from 1st April, 1893, to 31st March, 1894.

LAND DISTRICT OF AUCKLAND.

Table with columns: Surveyor and District, Major Triangulation, Minor Triangulation, Topographical Survey for Selection under 'The Land Act, 1892', Rural and Suburban, Town Section Survey, Native Land Court Survey, Gold-mining Survey, Roads, Railways, and Water-races, Detention by Native Opposition or other Causes, Other Work, Total Cost of Surveyor and Party from 1st April, 1893, to 31st March, 1894, Remarks. Rows include Staff Surveyors (L. Cussen, J. Baber, etc.), Temporary Surveyors (N. F. Haszard, etc.), and Authorised Surveyors (E. F. Adams, etc.).

LAND DISTRICT OF HAWKE'S BAY.

Table with columns: Surveyor and District, Major Triangulation, Minor Triangulation, Topographical Survey for Selection under 'The Land Act, 1892', Rural and Suburban, Town Section Survey, Native Land Court Survey, Gold-mining Survey, Roads, Railways, and Water-races, Detention by Native Opposition or other Causes, Other Work, Total Cost of Surveyor and Party from 1st April, 1893, to 31st March, 1894, Remarks. Rows include E. C. Goldsmith, James Hay, W. D. Gillies, etc.

\* Fivepence an acre was spent last year on topographical survey.

TABLE No. 8.—RETURN of FIELD-WORK executed by the STAFF and CONTRACT SURVEYORS, from 1st April, 1893, to 31st March, 1894—continued.

LAND DISTRICT OF TARANAKI.

Table with columns: Surveyor and District, Minor Triangulation, Topographical Survey for Selection under 'The Land Act, 1892.', Rural and Suburban, Town Section Survey, Native Land Court Survey, Gold-mining Surveys, Roads, Railways, and Water-races, Detention by Native Opposit' or other Causes, Other Work, Total Cost of Surveyor and Party from 1st April, 1893, to 31st March, 1894, Remarks. Rows include Staff Surveyors (H. M. Skeet, G. H. Bullard, etc.) and Contract Surveyors (C. Finnerty, A. H. Palmer, etc.).

LAND DISTRICT OF WELLINGTON.

Table with columns: Surveyor and District, Minor Triangulation, Topographical Survey for Selection under 'The Land Act, 1892.', Rural and Suburban, Town Section Survey, Native Land Court Survey, Gold-mining Surveys, Roads, Railways, and Water-races, Detention by Native Opposit' or other Causes, Other Work, Total Cost of Surveyor and Party from 1st April, 1893, to 31st March, 1894, Remarks. Rows include L. Smith (General), J. D. Climie, W. D. B. Murray, F. A. Thompson, H. J. Lowe, P. A. Dalziel, J. McKay, W. T. Morpeth, J. G. Littlejohn, C. A. Mountfort, H. J. Lewis, T. W. Hughes, A. A. Seaton, R. B. Bristead, A. Simpson, A. J. Mountfort, W. H. Dunnage, P. R. Earle, H. Maitland, A. L. Foster, C. C. Otway, J. M. Morice, J. Dickie, H. J. Biggs, C. E. O. Smith, F. Fairburn, J. King, J. Anderson, H. J. Wylde, Richardson and Reardon.







TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894.

Vote	Item	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.	
			£	s. d.	£	s. d.	M. ch.	Bridle-track.	Bridges constructed over 30ft. Span.	Dray-road.	Bridle-road.	Dray-road.	Bridle-road.	Dray-road.	Bridle-road.			Acres.
89	1	MAIN ROADS.																
	2	Warkworth-Avanui	4,000	0 0	2,153	6 5			M. ch.									
	3	Raglan-Waipā	100	0 0														
	4	Oxford-Rotorua	721	0 0	747	1 10												
	5	Tauranga, East Cape, Whakatane, Te Teko, and sundry Roads, Bay of Plenty	600	0 0	425	0 0												
	6	Tauranga-Napier, <i>via</i> Taupo	2,500	0 0	1,640	5 1												
	7	Opoitiki-East Cape	250	0 0														
	8	Ormond-Opotiki (maintenance)	500	0 0	446	15 10												
		Nelson-Havelock and bridges	700	0 0	100	0 0												
	9	Nelson, Westport, Greymouth, and Hokitika	3,770	0 0	2,593	5 4												
	10	Kaikoura-Blenheim	600	0 0	538	3 0												
	11	Hokitika-Christchurch	4,080	0 0	7,159	13 2	5 53											
	12	Cook's River (southward)	300	0 0	21	10 6												
	13	Waikawa-Catlin s	3,000	0 0	5,479	4 10												
	14	Miscellaneous and engineering	200	0 0														
	15	Belgrave, Tophouse, and Tairdale	250	0 0	138	0 0												
	16	Haast Pass Track	218	0 0	77	18 10												
	17	Paeroa-Teremakau	300	0 0	194	1 8												
	18	Hokianga County Roads	400	0 0	270	0 0												
	19	Threemile Creek Bridge	250	0 0	250	11 2												
	20	Tokanui-Niagara	300	0 0														
		TOTAL VOTE No. 89	23,039	0 0	22,234	17 8	5 53		1 0	20 38	3	140	116 7	23 60	854 75	114 0	55,000	
90		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS.																
	1	Auckland—Ahipara-Herekino	200	0 0	107	19 6				0 24			3 0		10 0		6,000	One 20ft. bridge repaired, and further works now in progress.
	2	Orru-Manganuka	100	0 0	80	0 0								8 0				Repairs.
	3	Bridge over Puhī River, Mongonui	70	0 0	20	0 0												Engineering survey.
	4	Bridge over Kaitiaki. (Smith's gate)	400	0 0	68	10 6	1 37											
	5	Victoria Valley—Main Road	300	0 0	44	4 9												
	6	Takahu-Herekino	1,090	0 0	330	14 9	1 37			1 61			3 0	8 0	10 0		6,000	
		Carried forward																

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE ON ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.				Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.						
			£	s.	d.	£	s.	d.	M. ch.	Bridle-track.	No.	Length. Ft.	Dray-road.	Bridle-road.	Dray-road.	Bridle-road.			Dray-road.	Bridle-road.				
90		Brought forward ..	1,090	0	0	320	14	9	1	37	1	61	3	0	8	0	10	0	6,000					
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.																						
		Auckland—continued.																						
7		Utakura Bridge..	250	0	0																			
8		Tangowahine Bridge	400	0	0																			
9		Mongonui Boundary to Iwitauna..	200	0	0																			
10		Whangaroa County Roads ..	300	0	0	300	0	0																
11		Whangaroa-Kaeo ..	100	0	0																			
12		Iwitauna-Kaeo ..	200	0	0																			
13		Ohaeawai-Rawene ..	200	0	0																			
14		Rawene-Hokianga Heads ..	200	0	0																			
15		Kohukohu ..	50	0	0																			
16		Head's Point-Takahue ..	1,200	0	0	209	8	6			1	23	0	23										
17		Manganui Bluff Road ..	100	0	0	96	9	0					4	0										
18		Kaeo-Waimate Road ..	450	0	0	250	0	4																
19		Opua-Waimate ..	500	0	0	172	2	4																
20		Waimamaku-Pakanae ..	200	0	0	92	6	11																
21		Ngapipito Road ..	300	0	0	28	0	0																
22		Kawakawa-Hukerenui ..	300	0	0																			
23		Ramarama Valley Road ..	200	0	0	20	16	0																
24		Dargaville to Tatariki and Tiki ..	200	0	0																			
25		Towai-Ruapekapeka ..	150	0	0																			
26		Main Road to Opanaki Railway-station ..	100	0	0																			
27		Maropiu-Kai Iwi ..	200	0	0	50	0	0																
28		Puhipuhi Forest ..	215	0	0	155	5	6																
29		Bridge over Mongonui River ..	300	0	0	49	12	6																
30		Maretu..	300	0	0																			
31		Maungatapere Road ..	200	0	0	146	8	3																
32		Maunu ..	200	0	0																			
33		Wairua-Helena Bay ..	100	0	0																			
34		Tokatoka-Mangapai ..	500	0	0	255	16	6																
35		Tokatoka Post-office ..	200	0	0																			
36		Tangihua ..	200	0	0	100	0	0																
		Carried forward ..	9,105	0	0	2,247	0	3	20	70	3	7	5	50	11	63	12	0	10	0	19	40	21,000	

Detailed information not to hand.

Large slips have been removed, and blasting operations to remove large boulders. Road roughly formed.

Resurvey made as deviations were necessary; works now in progress. Preliminary survey done.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.	Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.					
			£	s. d.	£	s. d.		M. ch.	Bridle-track.	Bridges constructed over 30ft. Span.	M. ch.	Dray-road.	M. ch.	Bridle-road.			M. ch.	Dray-road.	M. ch.	Acres.	
90		Brought forward ..	9,105	0 0	2,247	0 3	20	70	M. ch.	3 7	M. ch.	5 50	M. ch.	11 63	M. ch.	12 0	M. ch.	10 0	19 40	21,000	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.																			
		<i>Auckland</i> —continued.																			
37		Maungakaramea ..	200	0 0	100	0 0			M. ch.	0 25											
38		North River, Waipu ..	500	0 0	25	16 4	4	48													
39		Matakohe-Tokatoka ..	300	0 0	150	0 0				3 20	1 10										
40		Grahamstown-Whangarei ..	150	0 0	100	0 0				1 20											
41		Whareora-Grahamstown ..	100	0 0	100	0 0				0 50											
42		Whangarei Heads ..	300	0 0	200	0 0				0 16											
43		Ruatangata to Railway-station ..	200	0 0																	
44		Ngunguru Main Road ..	100	0 0																	
45		Waipu to Marsden Point ..	150	0 0																	
46		Waipu-Mareretu ..	500	0 0	100	0 0															
47		Puarua-Ruatangata-Mangakahia ..	250	0 0																	
48		Opuawhanga-Main Road ..	350	0 0	262	10 4				0 55											
49		Pahi Wharf ..	100	0 0																	
50		Pahi-Waikiekie ..	100	0 0																	
51		Puhoi-Makarau ..	300	0 0																	
52		Pahi Road ..	100	0 0																	
53		Wakworth ..	300	0 0																	
54		Birkenhead Slip, £1 for £1 ..	200	0 0	100	0 0															
55		Kaukapakapa-Port Albert Road ..	200	0 0																	
56		Waide-Lucas Creek Road ..	300	0 0	15	0 0															
57		Whangateau Wharves ..	400	0 0																	
58		Roads to Kaukapakapa Railway-station ..	400	0 0																	
59		Otamatea County Roads ..	400	0 0	200	0 0															
60		Pakiri District Roads ..	110	0 0	110	0 0															
61		Waikomiti West ..	120	0 0																	
62		Waipu-Mangawhai Road ..	200	0 0																	
63		West Coast Road, Hoteo ..	150	0 0																	
64		Waitehuna Bridge ..	200	0 0																	
65		Kaipara Flats Settlement Road ..	200	0 0																	
66		Kourawera District ..	150	0 0																	
67		Whiskey Creek Road ..	300	0 0	149	2 8				2 30											
68		Huntly-Kahuru Road ..	300	0 0	245	9 0				0 40											
69		Huntly Punt ..	200	0 0																	
70		Alexandra-Kawhia ..	100	0 0	158	17 0															
		Carried forward ..	16,635	0 0	4,163	15 7	28	28	11 63	9 20	5	162	12 3	69 40	52 0	24 40				26,500	

Detailed information not to hand.  
Detailed information not to hand.

A tender has just been accepted for the construction of this bridge. Works carried on under co-operative system.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE ON ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.						
			£	s.	d.	£	s.	d.	M. ch.	Bridle-track.	Bridges constructed over 30ft. Span.	M. ch.	Dray-road.	Bridle-road.	M. ch.			Dray-road.	Bridle-road.	Acres.			
90		Brought forward ..	16,635	0	0	4,163	15	7	M. ch.	11 63	M. ch.	9 20	No.	5	Length.	M. ch.	12 3	M. ch.	69 40	M. ch.	24 40	26,500	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.																					
		Auckland—continued.																					
71		Aotea-Raglan ..	70	0	0	70	0	0															
72		Otorohanga-Kihikahi ..	100	0	0	54	6	6															
73		Otorohanga-Te Kuiti ..	100	0	0	58	12	5															
74		Waingarara-Ngaruawahia ..	750	0	0	587	18	7															
75		Waiotaki-Village Homestead ..	250	0	0	..	..	..															
76		Wangamarino District ..	150	0	0	100	0	0															
77		Waipomo Caves Road ..	50	0	0	47	16	4															
78		Te Aroha-Katikati Road ..	100	0	0	50	0	0															
79		Tairua-Whenuakite ..	450	0	0	200	0	0															
80		Rotorua-Waitapu ..	150	0	0	165	5	2															
81		Rotorua-Galatea ..	223	0	0	191	14	11															
82		Rotorua-Te Wairoa ..	100	0	0	41	14	0															
83		Works at Rotorua ..	700	0	0	446	7	4															
84		Maketu-Rotorua ..	50	0	0	21	7	6															
85		Huka Falls-Paketarata ..	23	0	0	16	2	0															
86		Whakatane Road and Bridges, £1 for £1	300	0	0	..	..	..															
87		Roads and Bridges in Native districts	100	0	0	25	0	0															
88		Okaihau-Victoria Valley ..	461	0	0	44	6	0															
89		Maungataniwha ..	510	0	0	..	..	..															
90		Takahue Block ..	300	0	0	..	..	..															
91		Waimamaku ..	500	0	0	605	19	3															
92		Opunaki-Hokianga ..	1,800	0	0	2,307	15	10															
93		Motatau ..	300	0	0	..	..	..															
94		Wairua Bridge and Road ..	295	0	0	15	11	8															
95		Ruapekapeka ..	300	0	0	10	0	0															
96		Opunahanga No. 1 ..	232	0	0	49	18	0															
97		Opunahanga-Wbangarei ..	300	0	0	300	0	0															
98		Kaimarama ..	150	0	0	0	45	..															
99		Mangapiko ..	207	0	0	203	15	3															
100		Akaaka Swamp ..	427	0	0	72	14	0															
101		Maioro Swamp ..	350	0	0	240	7	9															
102		Roads, Otatau Parish ..	401	0	0	969	16	0															
103		Kawakawa Roads ..	150	0	0	150	0	0															
104		Tauhoa District ..	155	0	0	80	0	0															
		Carried forward ..	27,140	0	0	11,290	4	1															

\* Culverts, side-cuttings made, and others in hand. † Widening and deepening drain. ‡ Drain 66 chains in length now being continued. § Co-operative works. Seven and a half miles further being constructed under co-operative system.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote	Item	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land covered by better accessible.	Remarks.		
			£	s.	d.	£	s.	d.	M. ch.	M. ch.	Bridle-tract.	No.	Length. Ft.	Dray-road.	Bridle-road.			Dray-road.	Bridle-road.
90		Brought forward ..	27,140	0	0	11,290	4	1	M. ch. 82 48	M. ch. 23 31	M. ch. 34 53	No. 7	Length. Ft. 192	M. ch. 41 71	M. ch. 80 40	M. ch. 112 76	M. ch. 63 40	Acres. 177,000	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.																	
		Auckland—continued.																	
	105	Tauhoa and Komokoriko ..	325	0	0	289	19	0	..	..	..	..	..	..	..	..	..	..	..
	106	Ahuroa ..	500	0	0	191	2	5	6 20	..	..	..	..	..	..	..	..	4 000	..
	107	Maramara ..	300	0	0	134	1	9	8 21	..	..	..	..	..	..	..	..	9,200	..
	108	Waimana Parish ..	300	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	109	Watotahi ..	300	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	110	Waiawa ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	111	Te Aroha Hot Springs Domain Board ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	112	Bridge over Opanaki River ..	300	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	113	Thompson's Track (subsidy, £2 for £1) ..	2,000	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	114	Opanaki Bridge and Crossing ..	250	0	0	81	3	9	10 20	..	..	..	..	..	..	..	..	..	..
	115	Miscellaneous and engineering ..	1,200	0	0	740	18	11	..	..	..	..	..	..	..	..	..	..	..
		Totals, Auckland ..	32,915	0	0	12,727	9	11	107 29	23 31	39 53	7	192	41 71	80 40	112 76	63 40	190,300	Works delayed through opposition of Natives.
		Hawke's Bay—																	
	116	Gisborne-Tolago-Tauwhareparu ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	117	Gisborne-Wairoa ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	118	Wainata-Waiapu ..	600	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	119	Waiapu County ..	400	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	120	Motu Bridge and Road ..	750	0	0	733	16	6	..	..	..	..	..	..	..	..	..	..	..
	121	Wairoa County Roads ..	200	0	0	200	0	0	..	..	..	..	..	..	..	..	..	..	..
	122	Napier-Wairoa (£1 for £1) ..	1,500	0	0	625	0	0	..	1 0	0 40	1	190	..	..	..	..	..	..
	123	Muriwai-Mahia ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	124	Tautane-Weber Road ..	1,558	0	0	750	0	0	..	11 69	..	4	200	..	..	..	..	..	..
	125	Bridge over Mohaka ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	126	Totara Road, Tahoraite ..	825	0	0	692	10	0	..	..	..	..	..	..	..	..	..	..	..
	127	Waikohu-Motu ..	507	0	0	194	5	0	..	..	11 4	..	..	..	..	..	..	..	..
	128	Ormond-Opotiki and Branch Roads ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	129	Mata Valley ..	600	0	0	200	0	0	..	2 40	..	1	30	..	..	..	..	..	..
	130	Frasertown-Waikaremoana ..	668	0	0	488	3	0	3 0	..	7 21	..	..	..	..	..	..	..	..
	131	Nuhaka ..	100	0	0	..	..	..	..	..	1 42	..	..	..	..	..	..	..	..
	132	Rotokakarangu ..	238	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	133	Pohui ..	400	0	0	..	..	..	..	..	3 40	..	..	..	..	..	..	..	..
	134	Umutoaoroa ..	300	0	0	..	..	..	..	1 16	..	..	..	..	..	..	..	..	..
	135	Miscellaneous and Engineering ..	10,596	0	0	4,555	8	4	3 0	16 45	24 69	15	800	..	..	..	..	141,300	Restoring part of Waipatu-Gisborne Inland Trunk Road
		Totals, Hawke's Bay ..							3 0	16 45	24 69	15	800	..	..	..	..	..	..

\*Bridges rebuilt.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE ON ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.	Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.	
			£	s. d.	£	s. d.		M. ch.	Dray-road.	Bridle-track.	No.	Length. Ft.	Dray-road.	Bridle-road.			Dray-road.
90		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.															
		<i>Taranaki</i> —															
136		Mohakatino Bridge	300	0 0	4	6 5	0	16	..	..	..	..	..	..	..	..	Bridge site surveyed, and plans and specifications prepared for bridge.
137		Mimi-Mangaroa Road (metalling), £1 for £1	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
138		Okoke Road, £1 for £1	200	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
139		Junction Road, Tarata to Purangi, £1 for £1	1,000	0 0	*	..	10	70	..	..	1	40	..	6	60	..	Metalled.
140		Bridge over Purangi	300	0 0	100	0 0	..	..	..	..	..	..	..	..	..	..	Felling, clearing, and cart-way stumped.
141		Tikorangi—Te Tarata	300	0 0	..	..	..	..	..	2	40	..	..	..	..	..	An extreme flood in July last, the pier-work of bridge was washed away, construction has therefore been delayed.
142		Tikorangi Bridge, £1 for £1	543	0 0	318	3 6	..	..	..	..	..	..	..	..	..	..	Felling, clearing, and cart-way stumped.
143		York and adjacent Roads	100	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
144		Awarata Bridge	150	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
145		Waiveranui Road	150	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
146		Alfred Road	100	0 0	10	0 0	..	..	..	1	60	..	..	..	..	..	..
147		Pukearube inland to Mangaroa	700	0 0	272	2 0	..	..	..	2	8	..	..	..	..	..	..
148		Roads east of Waitara (Tanner)	1,489	0 0	1,790	6 7	..	..	..	8	60	..	..	..	3	0	..
149		Lepperton Block (Mimi)	150	0 0	..	..	..	..	..	1	40	..	..	..	..	..	..
150		Oxford Block	150	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
151		Upper Waitara Block	126	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
152		Milson Block	300	0 0	350	17 6	..	..	..	11	40	..	..	..	4	0	..
153		Huroa District	500	0 0	803	3 4	..	..	..	1	78	..	..	..	..	..	..
154		Roads east of Waipuku (Ngatimaru)	200	0 0	..	..	..	..	..	4	36	..	..	..	..	..	..
155		Mangaere Block	560	0 0	569	12 3	..	..	..	5	0	..	..	..	..	..	..
156		Mangaehu Block	300	0 0	13	6 0	..	..	..	2	0	..	..	..	..	..	..
157		Mangamingi Block	1,500	0 0	5,872	18 9	..	..	..	10	40†	..	..	..	6	0	..
158		Rotokare and other Roads	500	0 0	438	0 6	..	..	..	2	0	..	..	..	..	..	..
159		Anderson's Road and Bridges	1,000	0 0	495	12 8	..	..	..	5	48	..	..	..	..	..	..
		Carried forward	10,918	0 0	11,038	9 6	11	6	43	36	7	291	1	40	12	60	32,500

\* Expenditure not brought to charge, 1893-94.

† 4 miles 40 chains felling and clearing, 6 miles formed.



TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE ON ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.						
			£	s.	d.	£	s.	d.	M. ch.	Bridle-track.	No.	Length, Ft.	M. ch.	Bridle-road.	M. ch.			Dray-road.	M. ch.	Bridle-road.			
90		Brought forward ..	10,918	0	0	11,088	9	6	M. ch.	43	36	7	291	M. ch.	1	40	M. ch.	12	60	32,500			
		MISCELLANEOUS ROADS, AND ROADS TO OPEN UP LANDS—continued.																					
		Taranaki—continued.																					
160		Mangaotuku ..	500	0	0	*			..	2	28	..	..	..	..	..	..	..	..	2,000	226ft. culverting for- mation of road in hand.		
161		Kaimanuka and Rawhitiroa ..	1,500	0	0	1,586	4	11	..	11	60	2	158	..	..	..	..	..	..	2,000	94 culverts, tota length 1,410ft.		
162		Miscellaneous and engineering ..	1,629	0	0	814	5	4	..	0	13	..	..	..	..	..	..	..	..	2,000	Felling and clearing.		
		Totals, Taranaki ..	14,547	0	0	13,488	19	9	32	46	61	32	9	449	12	60	12	60	12	60	38,500		
		Wellington—																					
163		Wanganui River Trust ..	400	0	0	200	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	Snagging and clearing Felling and clearing; 57 acres felled; see S.G. 17949/13.	
164		Raetihi Township (clearing) ..	200	0	0	149	12	6	..	..	..	..	..	..	..	..	..	..	..	..	..	Detailed information not to hand.	
165		Rangitikei Bridge (Olara), £1 for £1	1,250	0	0	67	13	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
166		Rangitikei Bridge (Vinegar Hill), £1 for £1	1,250	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
167		Watershed Road ..	700	0	0	1,180	3	9	11	0†	..	..	..	..	..	..	..	..	..	..	..	..	
168		Pakihikura Road ..	400	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
169		Waitotara-Omahine ..	650	0	0	526	2	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
170		Turakina Valley Road ..	700	0	0	1,002	3	8	6	20	..	..	..	..	..	..	..	..	..	..	..	..	
171		Mangahao Bridge ..	250	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
172		Mangatamoka Bridge ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
173		Tiraumea Bridge (Ngaturi) ..	1,000	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
174		Bridge and Road, Napier's Crossing ..	1,000	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
175		Mangaone Bridge ..	250	0	0	252	7	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
176		Makakahi Bridge Road ..	150	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
177		Hukanui-Havera, £1 for £1 ..	350	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
178		Pahiatua-Palmerston North ..	197	0	0	60	9	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
179		Aohanga-Waewaepa Road ..	700	0	0	18	7	0	3	0	..	..	..	..	..	..	..	..	..	..	..	..	
180		Aohanga-Gorge Road ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
181		Alfreton-Weber Road ..	2,000	0	0	1,881	6	0	8	39	..	..	..	..	..	..	..	..	..	..	..	..	
182		Mangatoro Valley Road ..	500	0	0	105	7	10	7	0	..	..	..	..	..	..	..	..	..	..	..	..	
183		Kaiwhata Valley ..	600	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
184		Te Aupapa Road ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
		Carried forward ..	13,747	0	0	5,443	13	0	30	59	3	0	1	70	3	30	16	20	16	20	50,000	..	

\* Expenditure not brought to charge, 1893-94. † 4 miles 60 chains surveyed, and 6 miles 20 chains traversing. ‡ Concrete foundation. (a) metalled. § One contract let for 1 mile of road.; other contracts being prepared.  
 ¶ Repairing damage caused by slips. ¶ The works have been carried out by co-operative labour.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.
			£	s. d.	£	s. d.	M. ch.	Bridle-track.	Bridges constructed over 30ft. Span.	M. ch. Dray-road.	M. ch. Bridle-road.	M. ch. Dray-road.	M. ch. Bridle-road.	M. ch. Dray-road.	M. ch. Bridle-road.		
90		Brought forward ..	13,747	0 0	5,443	13 0	30 59	M. ch. 3 0	M. ch. 3 0	1	Length. Ft. 70	M. ch. 0 40	M. ch. ..	M. ch. 3 60	M. ch. 16 20	50,000	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.															
		Wellington—continued.															
185		Makuri Gorge, &c. ..	800	0 0	1,046	0 2	..	M. ch. 7 40	..	1	40	4 0	..	4 0	..	12,000	Also culverts, 400ft.
186		Makairo Road ..	800	0 0	2,218	4 1	5 0	..	..	..	..	..	..	..	..	3,000	Also 413ft. culverting.
187		Towai Road ..	500	0 0	637	0 9	1 0	M. ch. 2 14	..	..	..	..	..	..	..	600	With Wellington Forest Reserve
188		Eketahuna-Stirling ..	300	0 0	297	19 1	..	..	..	..	..	..	..	..	..	..	90/204.
189		Mangamahoe Road ..	500	0 0	22	15 3	2 36	M. ch. 0 34	..	..	..	..	..	..	..	5,000	Culverts also, 1,530ft.
190		Barton's Road to Wairere ..	600	0 0	527	11 7	7 0*	..	..	..	..	..	..	..	..	..	..
191		Upper Mangaiti Road ..	200	0 0	1,435	8 6	..	..	..	..	..	..	..	..	..	..	..
192		Waitangi Bridge, Chatham Islands ..	200	0 0	4,910	15 10	19 21	M. ch. 6 75	..	..	..	..	..	..	..	88,500	Also protective fascine works.
193		Puketapu, East and North-east ..	4,401	0 0	232	4 2	..	M. ch. 1 0	..	..	..	..	..	..	..	..	..
194		Makuri-Aohanga Road ..	220	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
195		Upper Makuri Valley Road ..	1,300	0 0	2,876	14 2	3 0*	..	..	4	20	..	..	10 29	..	..	..
196		Makuri Township Roads ..	620	0 0	390	0 0	..	M. ch. 1 40	..	2	20	1 40	..	1 40	..	8,290	Culverting. All works carried out by co-operative labour.
197		Mount Baker (Pioneer) ..	1,505	0 0	2,763	4 3	9 60	M. ch. 4 10	..	1	32	0 10	..	0 10	..	3,906	..
198		Waiwera Block ..	400	0 0	504	2 1	..	M. ch. 1 73	..	..	..	..	..	..	..	4,805	..
199		Kakariki Block ..	532	0 0	1,136	3 0	..	..	..	..	..	..	..	..	..	..	..
200		Coonor ..	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
201		Stirling Association ..	498	0 0	309	15 11	..	..	..	1	70	3 21	..	..	..	4,770	..
202		Hall Association ..	450	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
203		Palmerston North Forest Reserve ..	400	0 0	877	9 5	5 24	M. ch. 1 0	..	..	..	..	..	..	..	4,012	With Vote 90, Item 188, Eketahuna to Stirling.
204		Wellington Settlement Forest Reserve ..	200	0 0	200	0 0	..	..	..	3	161	..	..	..	..	600	Felled and cleared.
205		Ornithine Block ..	114	0 0	50	0 0	..	M. ch. 0 60	..	..	..	..	..	..	..	20,000	..
206		Hautapu-Ruahine (Marton 1 and 2) ..	500	0 0	899	4 9	16 3	M. ch. 6 22	..	1	40	..	..	..	..	6,293	..
207		Otamakapu ..	390	0 0	184	11 10	2 78	..	..	..	17	6 25	..	..	..	6,000	..
208		Kawatapu-Hautapu ..	310	0 0	304	2 6	..	..	..	..	..	..	..	..	..	1,000	..
209		Oroua-Coal Creek Block ..	529	0 0	664	10 3	..	M. ch. 0 65	..	..	..	..	..	..	..	..	..
210		Pohangina Valley (Forest Reserve) ..	500	0 0	500	0 0	..	..	..	..	..	..	..	..	..	..	..
211		Salisbury and Delaware ..	200	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
212		Pohangina ..	200	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
213		Mangoira-Coal Creek Block ..	300	0 0	639	12 1	6 67	M. ch. 5 47	..	1	36	..	..	..	..	6,500	Culverts.
214		Waimarino ..	1,705	0 0	146	18 2	5 40	..	..	..	..	..	..	..	..	50,000	The bush-work on this road is very heavy.
215		Pohonnictane Block (Hunterville, 1, 2, 3) ..	569	0 0	28	9 9	..	M. ch. 1 20	..	..	..	..	..	..	..	..	Hale's track, clearing.
		Carried forward ..	34,183	0 0	29,252	10 7	114 68	M. ch. 56 22	M. ch. 54 2	15	516	16 2	15 43	20 58	39 34	269,676	..

\* Plans only † And Plans. ‡ Metalled.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.		Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.										
			£	s.	d.	£	s.	d.	M. ch.	Ft.	No.	Bridges constructed over 30 ft. Span.	Dray-road.	Bridle-track.			Dray-road.	Bridle-road.	Dray-road.	Bridle-road.						
90		Brought forward ..	34,185	0	0	29,232	10	7	M. ch.	56	22	M. ch.	16	2	M. ch.	15	43	M. ch.	20	58	M. ch.	39	34	Acres.	269,676	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.																								
		Wellington—continued.																								
	216	Te Kapua (Sommerville) ..	500	0	0	148	6	2	2	72																
	217	Wanganui United and Clifton No. 1 ..	300	0	0																					
	218	Road through University Reserve ..	400	0	0	100	0	0																		
	219	Bridge over Makuri River, near Town-ship ..	300	0	0																					
	220	Waikanae-Hutt Road ..	500	0	0																					
	221	Ihutuana Valley Road ..	300	0	0																					
	222	Miscellaneous and Engineering, Wellington Fruitgrowers' Association ..	1,700	0	0	1,408	3	1																		
		Totals, Wellington ..	38,185	0	0	30,912	0	2	120	60	56	22	16	30	15	43	20	58	39	34	269,676					
		Nelson—																								
	223	Port to Stoke, Rocks Road ..	750	0	0	524	10	5																		
	224	Riwaka Valley Bridle-track ..	160	0	0	60	0	0																		
	225	Takaka-Riwaka Road ..	800	0	0	800	0	0	0	50	3	0														
	226	Little Sydney Road ..	100	0	0	100	0	0																		
	227	Pigeon Valley-Dovedale ..	300	0	0	130	0	0																		
	228	Wairoa Gorge Road ..	350	0	0	150	0	0																		
	229	Ngatimoti Bridge ..	430	0	0	250	0	0																		
		Carr.ed forward ..	2,890	0	0	2,014	10	5	0	50	3	0														

Clearing road into Sommerville Association Block.

Detailed information not to hand.

This expenditure represents excavation work by prisoners (13,700 yards removed).

Opening track up the valley.

Contracts for another 3 miles of construction let and work in progress, under the Collingwood County Council.

Track 5ft. wide with box-culverts.

Contracts prepared for further section of 60 chains dray-road.

Deviation, 6ft.-wide track, chiefly rock cutting.

Contract let and work in progress.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.	Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.	
			£	s.	d.	£		s.	d.	M. ch.	M. ch.	M. ch.	Dray-road.	Bridle-road.			Dray-road.
80		Brought forward .. ..	2,890	0	0	2,014	10	5	M. ch. 0 50	M. ch. 3 0	M. ch. 1 51	No. ..	Length, Ft. ..	M. ch. ..	M. ch. ..	Acres. ..	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.															
		Nelson—continued.															
230		Mokihinui-Karamea .. ..	450	0	0	200	0	0	..	..	..	..	..	..	..	..	Details included in Item 245.
231		Mud Flat, Karamea River-Oparara River .. ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	
232		Karamea-Whangapeka .. ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	
233		Matakitaki Road .. ..	500	0	0	..	..	..	..	..	..	..	..	..	..	..	
234		Mangles .. ..	400	0	0	363	0	0	..	1 64	..	..	..	..	..	..	
235		Larry's Creek .. ..	650	0	0	..	..	..	..	..	..	..	..	..	..	..	
236		Fox River Bridge .. ..	100	0	0	..	..	..	..	..	..	..	..	..	..	..	
237		Track, Railway to Millerton .. ..	500	0	0	500	0	0	..	..	2 58	..	..	..	..	..	Formed, metalled, culverts—9ft. dray-road.
238		Hatter's Terrace-Haupiri .. ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	
239		Graham River Bridge .. ..	100	0	0	125	0	0	..	..	..	1	30	..	..	..	
240		Bell Hill-Mount Alexander .. ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	
241		To purchase Roads through Crown Lands .. ..	100	0	0	..	..	..	..	..	..	..	..	..	..	..	
242		Hammer District (Sanatorium) .. ..	945	0	0	138	14	8	..	..	..	..	..	..	..	..	Baths, planting trees, &c., and general improvements.
243		Takaka and Mount Arthur .. ..	300	0	0	..	..	..	..	..	..	..	..	..	..	..	
244		Grey Valley Main Road - Blackball Junction .. ..	400	0	0	..	..	..	..	..	..	..	..	..	..	..	
245		Miscellaneous and Engineering .. ..	700	0	0	160	8	0	..	..	1 37	1	40	..	..	..	15 box culverts, re-metalling, widening road and general repairs.
		Totals, Nelson .. ..	9,135	0	0	3,521	13	1	0 50	3 0	5 66	2	70	..	..	..	
		Marlborough—															
246		Alfred Creek Bridge .. ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	
247		Kaituna-Tuamarina .. ..	400	0	0	400	0	0	..	1 45	..	..	..	..	..	..	
248		Spring Creek Wharf, &c. .. ..	25	0	0	25	0	0	..	..	..	..	..	..	..	..	
249		Petorus-Queen Charlotte Sound .. ..	200	0	0	224	19	0	..	..	..	..	..	..	..	..	
250		Nydia Bay to Havelock .. ..	170	0	0	260	5	8	..	..	20	3	..	..	..	..	
251		Tracks to Mahon Sound .. ..	50	0	0	1	10	6	..	..	..	..	..	..	..	..	
252		Redwood Pass Road .. ..	500	0	0	175	0	0	..	1 45*	..	..	..	..	..	..	
253		Ronga Valley Road .. ..	500	0	0	341	9	7	..	..	9 66	..	..	..	..	..	
254		Waihopai Bridge .. ..	1,000	0	0	..	..	..	..	..	..	..	..	..	..	..	
255		Waimonga-Port Underwood Track .. ..	100	0	0	..	..	..	..	..	..	..	..	..	..	..	
256		Waitaria-Manaroa .. ..	475	0	0	219	17	0	..	..	8 4	..	..	..	..	..	
257		Tracks, Queen Charlotte Sound .. ..	200	0	0	..	..	..	..	..	..	..	..	..	..	..	
		Carried forward .. ..	3,800	0	0	1,648	1	9	..	3 10	37 73	..	..	..	..	8,000	

\* Completed by Omaka Road Board.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering surveys made in 1893, to 31st March, 1894.		Roads constructed.				Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.	
			£	s. d.	£	s. d.	M. ch.	M. ch.	M. ch.	M. ch.	Bridle-track.	Bridges constructed over 30ft. Span.	Dray-road.	Bridle-road.	Dray-road.	Bridle-road.			M. ch.
90		Brought forward ..	8,800	0 0	1,648	1 9	..	..	3 10	37 73	..	..	..	..	..	..	..	8,000	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.																	
		Marlborough—continued.																	
258		Tory Heads—Watomonga ..	250	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
259		Havelock—Tuamarina Road ..	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
260		Miscellaneous and Engineering ..	200	0 0	40	0 0	..	..	..	1 40	..	..	..	..	2 20	..	..	..	
		Totals, Marlborough ..	4,550	0 0	1,688	1 9	..	..	8 10	39 33	..	..	..	..	2 20	..	..	8,000	
		Westland—																	
261		Hungerford Bridge ..	230	0 0	230	0 0	..	..	..	..	..	..	..	..	..	..	..	..	
262		Kanieri Bridge ..	46	0 0	72	9 10	..	..	..	..	..	..	..	..	..	..	..	..	
263		Teremakau Bridge ..	300	0 0	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	
264		Makawaho—Mahitahi ..	800	0 0	695	5 10	..	..	..	..	1	56	..	..	3 0	..	..	3,000	
265		Gilham's Gully—Arahura ..	250	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
266		Gillespie's Beach—Manakau ..	200	0 0	129	5 8	..	5 27	..	..	..	..	..	..	..	..	..	..	
267		Jacob's River to Bruce Bay ..	500	0 0	332	5 6	..	..	..	2 33	1	66	..	..	..	..	..	3,000	
268		Woodstock to Mahinapua ..	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
269		Lake Mapourika—Franz Josef Glacier ..	250	0 0	..	..	..	..	..	1 79	..	..	..	..	..	..	..	..	
270		Greenstone—Teremakau ..	500	0 0	..	..	..	1 39	..	..	..	..	..	..	..	..	..	2,000	
271		Kanieri Forks—Kanieri Lake ..	250	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
272		Miscellaneous and engineering ..	100	0 0	357	0 6	..	..	..	..	..	..	..	..	..	..	..	..	
		Totals, Westland ..	3,726	0 0	2,116	7 4	6 66	..	4 32	2	122	..	..	..	3 0	..	..	8,000	
		Canterbury District—																	
273		Lake Ellesmere drainage ..	750	0 0	3 17	4	..	..	..	..	..	..	..	..	..	..	..	..	
274		Ashburton Bridge (maintenance) ..	26	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
275		Peninsula Road, Akaroa, £1 for £1 ..	375	0 0	309	0 0	0 19	..	..	..	..	..	..	0 18	..	..	..	..	
275		Summit Road, £1 for £1 ..	75	0 0	71	1 3	0 27	..	..	..	..	..	..	0 27	..	..	..	..	
277		Pukaki to Mount Cook ..	250	0 0	238	16 3	..	..	1 67	..	..	..	..	0 2	..	..	..	..	
278		Cliff Road ..	200	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
279		Contribution towards erection of Pukaki Bridge ..	600	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
280		Miscellaneous and Engineering ..	675	0 0	316	10 0	..	..	2 13	..	..	..	..	4 73	..	..	..	800	
		Village-settlement roads, Canterbury Land for Settlements—	..	..	170	0 0	..	..	..	..	..	..	..	..	..	..	..	..	
		Studholme Junction ..	..	..	11	11 0	..	..	..	..	..	..	..	..	..	..	..	..	
		Carried forward ..	2,951	0 0	1,111	16 7	0 45	..	4 0	..	..	..	..	5 13	0 27	..	..	800	

\* Expenditure not brought to charge, 1893-94.

Detailed information not to hand.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.	Expenditure from 1st April, 1893, to 31st March, 1894.	Engineering Surveys made from 1st April, 1893, to 31st March, 1894.	Roads constructed.			Improved.		Maintained.		Area of Crown Land fenced or otherwise accessible.	Remarks.
						Dray-road.	Bridle-track.	Bridges constructed over 30ft. Span.	Dray-road.	Bridle-road.	Dray-road.	Bridle-road.		
90		Brought forward ..	£ s. d.	£ s. d.	M. ch.	M. ch.	No.	Length. Ft.	M. ch.	M. ch.	M. ch.	M. ch.	Acres.	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.	2,951 0 0	1,111 16 7	0 45	4 0	..	..	5 13	0 27	..	..	800	
		Canterbury—continued.												
		Land for Settlements—continued.												
		Kapua ..	..	17 6 9	..	..	..	..	..	..	..	..	..	57 chains of bush-felling and survey work.
		Pareora ..	..	7 6 6	..	..	..	..	..	..	..	..	..	
		Cheviot Estate ..	..	22,250 7 9	..	20 60	..	..	..	..	..	..	..	
		Totals, Canterbury ..	2,951 0 0	23,386 17 7	0 45	24 60	..	..	5 13	0 27	..	..	800	
		Otago District—												
281		Martin's Bay—Lake Wakatipu	220 0 0	220 0 0	..	..	..	..	3 0	19 0	..	..	..	For tourist traffic.
282		Track, Lake Te Anau—Sutherland Falls	250 0 0	24 8 5	..	..	..	..	..	..	..	..	..	
283		Glenorchy—Earnslaw	100 0 0	..	..	..	..	..	..	..	..	..	..	
284		Pembroke—Matukituki	200 0 0	200 0 0	..	1 5	..	..	..	..	..	..	1,000	
285		Kawarau—Nevis ..	200 0 0	200 0 0	..	1 8	..	..	..	..	..	..	1,200	
286		Rankleburn ..	400 0 0	216 0 0	..	..	..	..	..	..	..	..	..	
287		Teviot Small Grazing-runs ..	100 0 0	..	..	..	..	..	..	..	..	..	..	
288		Beaumont and Rankleburn	250 0 0	..	..	..	..	..	0 69	..	..	..	18,000	Detailed information not to hand.
289		Run 109 ..	100 0 0	100 0 0	..	..	..	..	..	..	..	..	..	
290		Marwhenua Bridge ..	300 0 0	300 0 0	..	..	..	..	..	..	..	..	..	Detailed information not to hand.
291		Henley protective river-works	250 0 0	250 0 0	..	..	..	..	..	..	..	..	..	
292		Henley Road ..	100 0 0	..	..	..	..	..	..	..	..	..	..	
293		Maori Kaika Road, Otago Heads	150 0 0	..	..	..	..	..	..	..	..	..	..	Detailed information not to hand.
294		Glenomaru ..	537 0 0	25 7 6	..	..	..	..	..	..	..	..	..	Detailed information not to hand.
295		Woodlands ..	500 0 0	279 4 7	..	..	..	..	..	..	..	..	..	Land all sold.
296		Ratani Road ..	350 0 0	..	..	0 57	..	..	..	..	..	..	..	Detailed information not to hand.
297		Greytown Bridge ..	1,000 0 0	..	..	..	..	..	..	..	..	..	..	Land all sold.
298		Purchase of Roads ..	980 0 0	137 11 7	..	..	..	..	..	..	..	..	..	Detailed information not to hand.
299		Hunt's Road ..	600 0 0	674 14 11	..	3 4	..	..	..	..	..	..	3,500	
300		Tahaukupu ..	600 0 0	553 11 10	..	5 0	..	..	..	..	..	..	..	
301		Catlin's Road ..	300 0 0	..	..	..	..	..	..	..	..	..	..	
302		Catlin's and Tautuku ..	3,000 0 0	2,384 14 8	..	9 27	..	..	..	..	..	..	..	
303		Waitati Road ..	100 0 0	101 4 11	..	..	..	..	0 25½	..	..	..	..	
304		Swinburn ..	288 0 0	..	..	*7 37	..	..	..	..	..	..	..	Land all sold. Expenditure not brought to charge, 1893-94.
		Carried forward ..	10,275 0 0	5,466 18 5	..	27 58	3	60	4 14½	19 0	..	..	34,950	

\* 20 culverts put in

RETURN No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.	Roads constructed.			Improved.			Maintained.		Area of Crown Land rendered better accessible.	Remarks.
			£	s. d.	£	s. d.		M. ch.	Dray-road.	Bridle-track.	No.	Length. Ft.	M. ch.	Dray-road.	Bridle-road.		
90		Brought forward ..	10,275	0 0	5,466	18 5	..	M. ch.	27 58	..	4 14½	M. ch.	19 0	..	..	Acres. 34,950	
		MISCELLANEOUS ROADS AND ROADS TO OPEN UP LANDS—continued.															
	305	Gimnerburn and Naseby ..	400	0 0	..	..	..	..	* 5 61	..	..	..	..	..	..	6,500	Expenditure not brought to charge, 1893-94. This is a final payment on last year's contract.
	306	Blackstone and Launder ..	400	0 0	100	0 0	..	..	..	..	..	..	..	..	..	..	..
	307	Maniofoto ..	100	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	308	Tiger Hill ..	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	309	Sutton ..	130	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	310	Beaumont ..	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	311	Rimu ..	200	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	312	Lower Hawea and Lower Wanaka ..	300	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	313	Livingstone-Kyeburn ..	1,000	0 0	1,047	3 5	..	..	..	..	..	..	..	..	..	..	Expenditure on bridge and road (co operative contract). Detailed information not to hand.
	314	Tuapeka West ..	367	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	315	Miscellaneous and Engineering Land for Settlements—Te Anaraki ..	575	0 0	96	15 0	..	..	..	..	..	..	..	..	..	..	..
	..	Pomahaka ..	..	..	154	6 0	..	..	..	..	..	..	..	..	..	..	..
	..	Totals, Otago ..	14,347	0 0	7,431	8 6	..	..	33 39	..	4 14½	19 0	..	..	41,450	..	..
		Southland—															
	316	Mossburn Bridge ..	350	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	317	Mossburn-Te Anau Road ..	250	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	318	Riverton-Orepuki ..	150	0 0	50	0 0	..	..	..	..	..	..	..	..	..	..	..
	319	Orepuki-Wairaurahiri ..	1,084	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	320	Waiau Bridge, Clifden ..	600	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	321	Otautau Bridge ..	500	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	322	Forest Hill Road ..	100	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	323	Tisbury-Waimatua ..	300	0 0	300	0 0	..	..	2 33	..	..	..	..	..	..	..	..
	324	Makarewa-Hedgehope ..	200	0 0	200	0 0	..	..	..	..	..	..	..	..	..	300	Designs are being prepared by Public Works Department.
	325	Makarewa Bridge ..	500	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	326	Wallacetown, Spar Bush, and Wainatuku Flat ..	150	0 0	..	..	..	..	0 60	..	..	..	..	..	..	..	..
	327	Wallacetown-Ryal Bush ..	150	0 0	..	..	..	..	0 60	..	..	..	..	..	..	..	..
		Carried forward ..	4,334	0 0	550	0 0	..	..	3 73	..	..	..	..	..	300	..	..

\* 22 culverts put in.





TABLE NO. 9.—STATEMENT showing the EXPENDITURE and WORK DONE ON ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.
			£	s. d.	£	s. d.	M. ch.	M. ch.	Dray-road.	M. ch.	Bridle-road.	Dray-road.	M. ch.	Bridle-road.	Dray-road.		
92	1	VILLAGE SETTLEMENTS—Improvements of Village Settlements	500	0 0	1,597	5 8	..	..	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	Acres.	
	2	Atakland—Village Settlement Roads ..	1,000	0 0	408	9 5	..	..	0 70	..	4 30	..	..	..	..	..	Roads have as far as practicable been kept in repair and drains made.
	3	Hawke's Bay—Village Settlement Roads ..	195	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	4	Wellington—Village Settlement Roads ..	500	0 0	295	10 4	..	..	1 40	..	2 34	..	..	..	..	2,625	Clearing.
	5	Nelson—Village Settlement Roads ..	135	0 0	377	8 6	..	..	..	..	..	..	..	..	..	..	..
	6	Canterbury—Village Settlement Roads ..	500	0 0	53	17 6	0 20	..	4 21	..	..	..	..	..	..	1,300	..
	7	Otago—Village Settlement Roads ..	300	0 0	100	0 0	..	..	0 66½	..	..	..	..	..	..	500	..
	8	Southland—Village Settlement Roads ..	250	0 0	65	0 0	..	..	1 43	..	..	..	..	..	..	1,450	4 log culverts.
		TOTAL—Vote No. 92 ..	3,380	0 0	2,897	11 5	0 20	..	6 60½	2 30	4 30	2 34	4 30	..	..	5,875	..
111		ROADS TO GIVE ACCESS TO MARION—TE AWAMUTU RAILWAY.															
	1	Tunnel-Karioi ..	4,415	0 0	1,905	5 5	2 0	..	5 60	..	30	3 0	6 0	2 0	96 0	100,000	..
	2	Moawhango-Karioi ..	1,000	0 0	503	4 9	5 0	..	*2 21	..	..	..	..	29 0	20,000	..	..
	3	Hunterville-Turangarewa ..	5,000	0 0	3,896	17 6	..	..	10 11	..	..	12 45	..	35 47	100,000	..	..
	4	Turangarewa-Tokaanu ..	3,000	0 0	2,239	1 4	..	..	2 30	..	..	10 0	..	47 26	50,000	..	..
	5	Rotocaira-Waimarino ..	250	0 0	85	4 1	..	..	..	..	..	..	..	20 0	..	..	..
	6	Ohakune-Pipiriki ..	7,000	0 0	7,298	17 1	..	..	8 58	..	200	11 60	..	25 0	100,000	..	..
	7	Ongarue-Stratford ..	15,000	0 0	17,320	0 8	32 60	..	27 62	..	200	19 0	..	19 0	30,000	..	..
	8	Taupo-Tokaanu and Jetty ..	350	0 0	288	13 3	..	..	..	..	..	..	..	36 0	..	..	..
	9	Awakino-Te Kuiti ..	1,500	0 0	397	18 8	18 48	..	..	..	..	..	..	..	..	..	..
	10	Mangawhero-Murimotu-Makotuku ..	1,000	0 0	314	14 1	7 0	..	..	..	..	..	..	..	..	..	..
	11	Waimarino-Manganui-te-au ..	216	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
	12	Wanganui River steam subsidy ..	713	0 0	575	0 0	..	..	..	..	..	..	..	..	..	..	..
	13	Miscellaneous and engineering ..	553	0 0	..	..	..	..	..	..	..	..	..	..	..	..	..
		TOTAL—Vote No. 111 ..	40,000	0 0	31,764	16 10	65 28	..	47 2	..	544	38 20	6 0	213 73	176 0	410,000	..

\* 12,000 superficial feet timber sawn and delivered.  
 † About 7½ miles extra bush-felling, 2 to 3 chains wide, has been done to admit sun and wind to this road.  
 ‡ Metalled.  
 § Also, 2,800 lineal feet of culverts and 400 chains extra bush-falling.

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE ON ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote	Item	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.		Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.
			£	s.	d.	£	s.	d.	M. ch.	M. ch.	Dray-road.	Bridle-track.	Dray-road.	Bridle-road.	Dray-road.		
89	..	SUMMARY.	..	..	..	..	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	M. ch.	Acres.	
		Main Roads	22,231	17	8	..	5 53	20 38	1 0	3	116 7	23 60	854 75	114 0	..	55,000	
		<i>Auckland District</i> (1)—															
90	..	Miscellaneous Roads, &c. ..	12,727	9	11	..	..	..	..	..	..	..	..	..	..	..	
91	..	Grants-in-aid, Co-operative works	8	10	0	..	..	..	..	..	..	..	..	..	..	..	
92	..	Village Settlements, improvements	958	7	5	..	..	..	..	..	..	..	..	..	..	..	
111	..	“ Roads	408	9	6	..	..	..	..	..	..	..	..	..	..	..	
		Roads to give access	3,220	1	5	..	..	..	..	..	..	..	..	..	..	..	
		Totals, Auckland	17,322	18	3	..	116 57	29 7	40 43	8	58 31	87 70	197 22	113 40	..	300,300	
		<i>Hawke's Bay District</i> (2)—															
90	..	Miscellaneous Roads, &c. ..	4,585	8	4	..	..	..	..	..	..	..	..	..	..	..	
91	..	Grants-in-aid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
111	..	Roads to give access	203	4	9	..	..	..	..	..	..	..	..	..	..	..	
		Totals, Hawke's Bay	4,788	13	1	..	4 40	17 45	24 69	15	..	..	9 0	..	..	149,300	
		<i>Taranaki District</i> (3)—															
90	..	Miscellaneous Roads, &c. ..	13,438	19	9	..	..	..	..	..	..	..	..	..	..	..	
91	..	Grants-in-aid, Opunake Wharf	22	7	0	..	..	..	..	..	..	..	..	..	..	..	
111	..	“ Co-operative works, &c.	1,868	2	5	..	..	..	..	..	..	..	..	..	..	..	
		Roads to give access	17,320	0	8	..	..	..	..	..	..	..	..	..	..	..	
		Totals, Taranaki..	32,649	9	10	..	65 26	60 34	61 32	18	4 40	..	31 60	40 60	..	68,500	
		<i>Wellington District</i> (4)—															
90	..	Miscellaneous Roads, &c. ..	30,912	3	2	..	..	..	..	..	..	..	..	..	..	..	
91	..	Grants-in-aid, Co-operative works	1,193	12	6	..	..	..	..	..	..	..	..	..	..	..	
		“ Improve Farm Settlements	1,857	4	6	..	..	..	..	..	..	..	..	..	..	..	
92	..	Village Settlements, improvements	638	18	3	..	..	..	..	..	..	..	..	..	..	..	
92	..	“ Roads	295	10	4	..	..	..	..	..	..	..	..	..	..	..	
111	..	Roads to give access	14,017	0	0	..	..	..	..	..	..	..	..	..	..	..	
		Totals, Wellington	48,914	8	9	..	132 20	68 75	56 62	19	34 44	18 43	122 25	137 34	..	534,301	
		<i>Nelson District</i> (5)—															
90	..	Miscellaneous Roads, &c. ..	3,521	13	1	..	..	..	..	..	..	..	..	..	..	..	
91	..	Grants-in-aid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
92	..	Village Settlements, Roads	377	8	6	..	..	..	..	..	..	..	..	..	..	..	
		Totals, Nelson	3,899	1	7	..	0 50	3 0	5 66	2	..	..	..	..	..	..	

TABLE No. 9.—STATEMENT showing the EXPENDITURE and WORK DONE on ROADS under the Control of the DEPARTMENT OF LANDS AND SURVEY, for the Twelve Months ended the 31st March, 1894—continued.

Vote.	Item.	Work.	Amount voted for Expenditure 1893-94.		Expenditure from 1st April, 1893, to 31st March, 1894.		Engineering Surveys made from 1st April, 1893, to 31st March, 1894.	Roads constructed.			Improved.		Maintained.		Area of Crown Land rendered better accessible.	Remarks.
			£	s.	d.	£		s.	d.	Dray-road.	Bridle-track.	Bridges constructed over 30ft. Span.	Dray-road.	Bridle-road.		
90	..	SUMMARY—continued.														
91	..	Marlborough District (6)—														
	..	Miscellaneous roads, &c.	1,688	1	9											
	..	Grants-in-aid, Co-operative works, &c.	278	12	9											
	..	Totals, Marlborough	1,966	14	6				3 10	39 33					8,000	
90	..	Westland District (7)—														
91	..	Miscellaneous roads, &c.	2,116	7	4											
	..	Grants-in-aid, Co-operative works, &c.	2,008	10	6											
	..	Totals, Westland	4,124	17	10		6 66			4 32	2	122			8,000	
90	..	Canterbury District (8)—														
91	..	Miscellaneous roads, &c.	1,100	4	10											
92	..	Grants-in-aid, Co-operative works, &c.	100	3	2											
	..	Village Settlements roads	53	17	6											
	..	Land for Settlements	36	5	0											
	..	Cheviot Estate	22,250	7	9											
	..	Totals, Canterbury	23,540	18	3		0 65		29 1			5 13			2,100	
90	..	Otago District (9)—														
91	..	Miscellaneous roads, &c.	6,710	16	10											
	..	Grants-in-aid, Co-operative works, &c.	210	0	5											
	..	Grants-in-aid, improve Farm Settlements	1,221	3	4											
92	..	Village Settlements roads	100	0	0											
	..	Land for Settlements	720	11	8											
	..	Totals, Otago	8,962	12	3				34 25½		2	60	4 14	19 0	41,950	
90	..	Southland District (10)—														
91	..	Miscellaneous roads, &c.	7,754	18	4											
	..	Grants-in-aid, improve Farm Settlements	187	2	10											
92	..	Village Settlements roads	65	0	0											
	..	Totals, Southland	8,007	1	2		21 70		29 61	4 13					75,650	
	..	Grand Totals	176,361	10	2		354 47		295 57½	238 30	70	2,893	222 69	154 60	1,243,101	

