1932. NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY. SURVEYS

(ANNUAL REPORT ON).

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

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The SURVEYOR-GENERAL to the Hon. the MINISTER OF LANDS.

Wellington, 1st August, 1932.

I have the honour to present herewith the report on survey operations for the year ended 31st March, 1932.

The Hon. E. A. Ransom, Minister of Lands.

SIR,-

I have, &c., H. E. WALSHE, Surveyor-General.

REPORT.

A SUMMARY of the operations carried out for the year ended 31st March, 1932, follows, grouped under appropriate headings. A concise summary of the field-work completed during the year is tabulated in Tables A, B, and 1 to 5 herewith.

Table A shows that though there is a marked reduction in the average cost of rural surveys, the cost of Native surveys has increased considerably, due principally to the fact that there were a very large number of small isolated surveys.

Table B shows that the area of Native lands surveyed during the year only represents a little more than one-fifth of last year's return. There has also been a slight decrease in the area of rural lands surveyed. By far the greater proportion of the area under the latter heading lies in the Auckland and North Auckland Districts.

$\mathbf{2}$

MINOR TRIANGULATION.

With the exception of the revision of the triangulation in the Hawke's Bay District no work was carried out under this heading during the year.

TOPOGRAPHICAL SURVEYS.

In the Auckland and Wellington Districts an area of 66,890 acres under this heading was surveyed for settlement purposes.

SETTLEMENT SURVEYS.

The Crown lands and land-for-settlement surveys are set out in Table 2 under their appropriate headings for each land district.

NATIVE-LAND SURVEYS.

This work, the greater proportion of which was carried out by private surveyors, shows a reduction in area of 140,000 acres.

GEODETIC TRIANGULATION.

The field-work on this was stopped after one month's work had been done this year, the network now including a further base-line—Matamata.

The preliminary computation was completed as far as the network enclosing the three bases— Kaingaroa, Wairarapa, and Eltham—is concerned. This has enabled us to decide upon an azimuth for the Hawke's Bay revision, which will be practically in agreement with the geodetic work when the final datum of that work is decided upon. The distances for the sides of the geodetic have been accepted and held correct in this revision, so that it will be in harmony with it and with adjoining circuits when they are adjusted on the new basis.

HAWKE'S BAY RE-ESTABLISHMENT OF SURVEYS.

All the original survey plans and records of this district were destroyed by fire following the earthquake of the 3rd February, 1931, and the work this year has been principally taken up with the re-establishment of these records and laying down control for any future surveys or for those for which the details may be recovered. A brief outline of the procedure adopted may be of interest.

Copies of published cadastral maps on scales of half a mile and one mile to an inch for the whole of the rural areas and on 5 to 10 chains to an inch for most of the towns were available, and were utilized as key plans on which to base detailed information as it was recovered from various sources. Larger scale tracings of practically all Land Transfer subdivisions were recovered from the Valuation Department, but these do not show survey details except areas. However, these plans, together with other information which is being steadily acquired from local bodies. Government Departments, and private surveyors, has enabled the office to compile a cadastral record which will be lacking in minor details only.

The field control has been both by triangulation and precise traverse. Owing to the noticeable uplift of part of the land, it was necessary to revise a number of the triangles of the geodetic triangulation. Three stations were found to have been definitely disturbed, other differences found on readjustment being probably observation differences. The largest displacement was 4 ft. at Kauranaki, whilst Mohaka and Bluff showed differences of about 1 ft. each.

A network of second-order triangulation was thrown over the whole district with sides of from seven to ten miles in length, and several points were directly tied in by first-order work with the revised geodetic triangulation to furnish a closer control. The accuracy of the second-order work, as shown by triangular closes, is high, the average being about $2\frac{1}{2}$ seconds, and the maximum 8 seconds. This was obtained by four sets direct and four reversed with a Wild Primary triangulation theodolite. The computation of this second-order work is now in progress, and it has been found advisable to adjust in larger figures than would at first sight be thought necessary. The average figure has about sixty equations in the least square adjustment. At the same time, the bearings and distances are made to conform to the projection adopted—the Transverse Mercator—using the old initial station of the circuit as origin.

Precise or standard traverses are being run along the principal roads, permanently marked with iron pipes set in concrete and with a closing accuracy of about $\frac{1}{10}$ link to one mile. These traverses tie in all boundary corners along the frontage, and any old pegs which may be visible. The traverses are all controlled by the triangulation, and both works will be brought into harmony. To date about 630 miles have been traversed in the field, but office check is not yet complete.

It has been found possible to have a large number of the destroyed plans reproduced from information in the possession of the surveyors who made the original surveys, and to date 243 such plans have been made available. Further information of this nature is being collected, and it will be found that a large proportion of the later surveys will be recovered in this manner. In this connection, I would like to thank all the private surveyors practising in the district for placing at the disposal of the Department survey information from their office records; Mr. C. A. Mountfort for data of Napier and district standard traverses, and Messrs. Brook, Farnie, and Dyett for similar information of surveys made within the district.

Regulations are being issued under the Earthquake Act, 1931, to provide for the resurvey of certain areas that have been displaced within the Borough of Napier and to re-align streets where original marks and records have been lost.

$\mathbf{3}^{\cdot}$

STANDARD SURVEYS.

With the exception of the re-establishment surveys in Hawke's Bay, very little standard work has been done during the year. The work carried out was in Auckland and Christchurch to complete circuits already in progress. In other districts the only work done was for the maintenance of existing surveys.

FIELD INSPECTIONS.

No inspections have been made except those absolutely necessary for title investigation purposes.

TIDAL SURVEY.

The tide-tables for the year 1933 for the seven New Zealand standard ports (Auckland, New Plymouth, Wellington, Lyttelton, Dunedin, Bluff, and Westport) for which tidal predictions are published were received in Wellington on the 9th June, 1931, from the Hydrographer to the Admiralty.

The work of measuring the times and heights of high and low water was again performed at the Tidal Institute, University of Liverpool.

MAGNETIC OBSERVATORY. -

The work of the observatory was continued under the control of this Department until the 1st August, 1931, on which date the Department of Scientific and Industrial Research took over the control of this branch. All unpublished tables of hourly values, &c., were handed over to that Department for action.

PROPOSED OPERATIONS, 1932-33.

Hawke's Bay Re-establishment of Surveys.—This work will be continued in the field by the rural standard traverse of the principal roads and in the office by the collection and compilation of as complete a record of existing data as possible. At the present rate of progress it will take at least another two years to put this on a proper footing. Triangulation.—No work on the geodetic or minor triangulation work is proposed to be done

Triangulation.—No work on the geodetic or minor triangulation work is proposed to be done during the year.

Standard Surveys.—The only work of this nature (outside Hawke's Bay District) will be necessary maintenance of existing surveys.

Town Section Surveys.-Only 36 acres is at present on hand, chiefly in Canterbury and Otago.

Rural Settlement.—At present there is about 75,000 acres in hand, or which will require surveying during the coming year.

Native Land Court Surveys.—Authority for the survey of 47,000 acres is now in hand, principally in Auckland, Hawke's Bay, and Wellington.

Office Work.—The routine examination and recording of all plans as they are received will be continued, and the publication of maps as present editions become exhausted. The calculation of the revised triangulation of Hawke's Bay will be completed, and the adjustment of the rural traverses to harmonize therewith commenced.

GENERAL.

Map Publications.—In the Chief Draughtsman's report appended hereto will be found particulars of the maps published during the year.

Town Subdivisional Surveys.—These show a very large decrease in the number of schemes and the area subdivided. This decrease is really larger than shown by the figures as a large proportion involve alterations to approved schemes, and do not include new land. An analysis of the schemes is given in the Chief Draughtsman's report.

Proclamation of Roads, &c.—During the past year a number of applications for the proclamation of road-lines laid out by the Native Land Court under the provisions of the Native Land Acts were considered and dealt with. The statutory notices under section 15 of the Native Land Amendment Act, 1914, and section 487 of the Native Land Act, 1931, were forwarded to the local authorities of the districts concerned, and in the majority of cases no objections were raised to the proclamation of the road-lines as public highways.

road-lines as public highways. Under the Land Transfer Act, 1915, 152 Warrants for the issue of certificates of title were examined and certified to in terms of section 13 of the Act. A number of applications to bring land under the Land Transfer Act were also considered and approved in pursuance of section 19 of the Act.

Under section 106 of the Land for Settlements Act, 1925, seven Proclamations were issued closing unformed and unused roads intersecting or adjoining land acquired under that Act.

STAFF.

Retirements, &c.—The following officers retired during the year : J. D. Thomson (Commissioner of Crown Lands and Chief Surveyor, Hawke's Bay), who joined the Department in 1885, and occupied many responsible positions in the Service; R. J. Knight (Native Land Draughtsman, Auckland); E. O. Weir (Chief Draughtsman, Dunedin); Messrs. J. D. Watt, F. W. Clayton, L. E. Ward, W. H. Hardgrave, and J. B. McIntyre (draughtsmen); and Misses R. Earle, M. E. Rule, and M. Baird (draughtswomen).

Appreciation.—In conclusion, I wish to bring under your notice the appreciation of the various Chief Surveyors of the manner in which their staff has carried out its duties during the year, to which I desire to add my personal thanks to the whole of the technical staff for their excellent work under difficult circumstances.

H. E. WALSHE, Surveyor-General.

APPENDIX.

HEAD OFFICE, DRAUGHTING BRANCH.

(A. J. WICKS, Chief Draughtsman.)

Map Publication.—The total maps published during the year were 104 and the cost of printing $\pounds 1,555$. The maps comprised survey districts ($\frac{1}{2}$ mile to 1 in.), 50; survey districts (1 mile to 1 in.), 26; counties (1 mile to 1 in.), 4; towns (8 to 10 chains to 1 in.), 10; territorial (4 miles to 1 in.), 7; miscellaneous, 7. The total number of copies printed under all headings was 18,397.

Cash sales of litho maps from all districts amounted to $\pounds 1,389$, as against $\pounds 1,410$ for the previous year. Maps purchased by other Departments show a return of only $\pounds 289$, as against $\pounds 660$ for the previous year. Maps to the value of $\pounds 1,129$ were issued free or used in the office.

Town Schemes.—There was again a considerable decrease in the number of town schemes, 99 being approved, as against 169 for the previous year. The percentages in the principal districts were North Auckland, 34·3; Wellington, 18·2; Canterbury, 14·2; Dunedin, 11·1. Analysis of the schemes show that 601 acres were subdivided into residential lots outside the boundaries of boroughs and town districts; and of this area new roads accounted for 55 acres, recreation and other public reserves, 71 acres; leaving a balance of 475 acres subdivided into lots available for sale.

Draughtsmen's and Computers' Examination.—The annual examination was held in September, 1931, when fifty-seven candidates presented themselves for examination. The results were as follows—Draughting: Thirty-five candidates, of whom one obtained a first-grade pass (W. A. Jamieson), and sixteen obtained second-grade passes (Miss J. F. A. Cameron, Messrs. H. Bonnington, F. H. Cunningham, J. C. Foster, E. A. Goldsbury, J. A. Hayward, H. D. Henderson, C. Holdsworth, S. T. P. Kennerley, L. R. Larcombe, C. W. Lind, J. H. London, W. F. Paterson, C. W. J. Pierson, K. P. Potete, and N. R. Stanton). Computing: First grade, four candidates, no passes. Second grade, eighteen candidates, of whom eight passed (Messrs. C. Allen, F. J. Barber, H. Bonnington, W. S. Boyes, T. P. Mahony, C. W. Lind, D. H. Payne, and J. W. G. B. Wray). Mr. M. Crompton-Smith, as outside examiner, assisted in marking for the special subject of photo-litho drawing.

Standard of Length.—During the year eighty-nine bands were compared with the standard, the total length being 5 miles 55 chains. Of these, fifty-three were field surveyors' ordinary steel bands of a length of 4 miles, and thirty-six were invar bands of a length of 1 mile 55 chains.

Maps, &c.—During the year good progress has been made with the 4-mile series of maps, and also with standard maps on 1 mile to 1 in. scale. A considerable portion of the draughtsmen's time has also been taken up in searching and preparing tracings of statutory and other plans in connection with the work of the Hawke's Bay re-establishment.

TABLE A.

Topographical survey for settlement $66,890$ acres $3\cdot99d.$ per acre $1,111$ 1 Rural, by staff $114,580$ acres $1\cdot69s.$ per acre $9,659$ 17 Suburban, by staff $1,790$ acres $1\cdot29s.$ per acre $1,027$ 0 Town, by staff 273 acres $\$1\cdot94$ per section 609 8 Native Land Court, by staff $7,893$ acres $3\cdot83s.$ per acre $1,513$ 5 Native Land Court, by private surveyors $28,836$ acres $2\cdot65s.$ per acre $3,813$ 11 Roads, by staff $324\cdot8$ miles $\$25\cdot13$ per mile $8,164$ 8 Roads, by private surveyors $19\cdot6$ miles $\$30\cdot65$ per mile 600 5	Class of Work.		Area, &c.	Average Cost.	Total Cost.
0 ther work by stall	Rural, by staff Suburban, by staff Town, by staff Native Land Court, by staff Native Land Court, by private surveyors Roads, by staff Roads, by private surveyors Other work by staff	· · · · · · ·	114,580 acres 1,790 acres 273 acres 7,893 acres 28,836 acres 324-8 miles	1.69s. per acre 11.29s. per acre £1.94 per section 3.83s. per acre 2.65s. per acre £25.13 per mile	$\begin{array}{c} 1,111 & 1 \\ 9,659 & 17 \\ 1,027 & 0 \\ 609 & 8 \\ 1,513 & 5 \\ 3,813 & 11 \\ 8,164 & 8 \end{array}$

TABLE B.

	Land	Distric	t.		Rural Survey.	Native Land Court.	
4 7 7 7	1.57 7				Acres.	Acres.	
Auckland an	nd North	i Auck.	land		79,933	11,093	
Gisborne	••		••		4,381	3,799	
Hawke's Ba	y	• •			2,169	1,258	
Taranaki	• • •		• •		3,969	2,720	
Wellington			••			17,803	
Marlborough	ı		• •		856	4	
Nelson					498		
Westland					1,027		
Canterbury					2,776	4	
Otago	• •				17,563	45	
Southland	••	•••	• •	••	1,408	• •	
	Totals				114,580	36,726	

Table 1.—Return of Field-work executed by Head Office Staff from 1st April, 1931,to 31st March, 1932.

District.	Standa	rd Surveys.	Geodetic Triangulation.				
District.	Miles.	Cost.	Square Miles.	Cost.			
North Auckland Auckland and Hawke's Bay	 25 	£ s. d. 955 15 5 	5,550	£ s. d. 3,100 0 0			

Table 2.—Return of Field-work executed by the Staff and Contract Surveyors on Lands administered by the Lands and Su	JRVEY DEPARTMENT FROM
1st April, 1931, to 31st March , 1932.	

					Topograp	phical Survey for	Settlement.		Rural.			Village and Suburban.				
	Die	trict.		-	Acres.	Cost per Acre.	Total Cost.	Acres.	Cost per Acre.	Total Cost.	Acres.	Number of Sections.	Cost per Acre.	r Total Cost.		
				•		d.	£ s. d.		s.	£ s. d.			s.	£ s.d.		
Auckland and No	rth Aucl	kland		• •	45,890	$3 \cdot 05$	584 0 7	79,933	1.75	7,049 12 8	$607 \cdot 7$	33	14.73			
Gisborne	••	••		• • *	••			4,381	0.22	47 10 3						
Hawke's Bay		••		• •	••	• ••		2,169	$1 \cdot 48$	161 0 0						
Faranaki	••	••			••			3,969	$1 \cdot 21$	$239 \ 18 \ 2$						
Wellington	••	• •			21,000	$6 \cdot 02$	527 0 10	••			$36 \cdot 5$	5	20.66			
Marlborough	• •	••		· · · š	••			856	$1 \cdot 10$	47 14 4						
Velson	• •	••			••			498	2.85	孝 0 19 9		•••				
Westland			••	•• •				1,027	$4 \cdot 99$	256 8 8			· .			
Canterbury	••	••			••	·		2,776	1.55	214 19 10	$265 \cdot 1$	12	8.00			
Otago	• •	••		••	••	1		17,563	1.68	1,471 8 1	$359 \cdot 0$	50	$18 \cdot 83$	338 1 7		
Southland	• •	••	••	••	••	•••	•-	1,408	$1 \cdot 42$	100 5 11	$506 \cdot 8$	14	$2 \cdot 83$	71 13 9		
Totals	•••			••	66,890	3.99	1,111 1 5	114,580	$1 \cdot 69$	9,659 17 8	1,775.1	114	$11 \cdot 29$	1,001 3 6		
	· · ·					Town Se	ction Survey.		Road	is, Railways, and V	ater-races.	Other W	ork.			
	Distr	ict.		-	Acres.	No. of Sections.	Cost per Section.	Fotal Cost.	Miles.	Cost per Mile.	• Total Cost.	Cost		Total Cost of Completed Work.		

	Dis	trict.			Acres.	No. of Sections.	Cost per Section.	Total Cost.	Miles.	Cost per Mile.	o Total Cost.	Cost.	Total Cost of Completed Work.
								e 1	1				
		1.7			20,00	40	. t.	\pounds s. d.		£	£ s. d.	\pounds s. d.	£ s. d.
Auckland and N	North Au	ickland	••	•••	$29 \cdot 08$	49	$2 \cdot 35$	$115 \ 2 \ 11$	$58 \cdot 25$	$25 \cdot 28$	$1,473\ 10\ 2$	1,512 5 10	11,182 4 1
Gisborne	• •	••	••		••		••		••	·	••	$14 \ 16 \ 0$	62 6 3
Hawke's Bay			• •		$5 \cdot 00$	23	0.43	$10 \ 0 \ 0$	$154 \cdot 00$	$24 \cdot 61$	$3,790 0 0^*$	820 0 0	4,781 0 0
Taranaki									$1 \cdot 25$	42.78	52 8 0	440 18 10	733 5 0
Wellington				•	1.92	8	3.90	31 4 3	6.09	50.11	305 1 4	571 19 6	1,472 19 11
Marlborough									$2 \cdot 60$	9.10	23 13 3	20 18 6	92 6 1
Nelson					10.24	56	1.79	100 5 5	17.42	$33 \cdot 28$	577 6 9	$134 \ 7 \ 8$	
	••	••	••	••									882 19 7
Westland	••	••	••	••	$1 \cdot 81$	3	6.86	$20 \ 11 \ 0 \ \cdot$	$1 \cdot 00$	$31 \cdot 70$	$31 \ 14 \ 0$	139 8 3	448 1 11
Canterbury	• •		• •		$15 \cdot 16$	75	1.64	$123 \ 3 \ 4$	$30 \cdot 81$	$33 \cdot 47$	1,031 7 2	623 11 5	2,099 4 0
Otago	• •	••	• •		$209 \cdot 50$	100	$2 \cdot 09$	$209 \ 1 \ 6$	$3 \cdot 55$	$13 \cdot 34$	47 7 0	$282 \ 15 \ 2$	2,348 13 4
Southland	••	••	••	•••	••	••		•• •	30.78	$17 \cdot 09$	526 0 11	162 17 1	860 17 8
Totals			••		272.71	314	1.94	609 8 5	305.75	25.71	7,858 8 7	4,723 14 3	24,963 17 10

* Does not include plan work.

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C.—IA.

	·	Village and	Suburban,			Native La	nd Survey.		Roads, R	ailways, and	d Water-races.	1	Total Cost of	
			Cost per Acre.	Total Cost.	Acres.	Number of Sections.	Cost per Acre.	Total Cost.	Miles.	Cost per Mile.	Total Cost.	Other Work. (Cost.)	Completed Work.	
North		•••	s. 	£ s. d.	11,093	157	$\frac{s.}{3\cdot 54}$	£ s. d. 1,967 8 4		£	£ s. d. 	£ s. d. 465 12 3	£ s. d 2,433 0 '	
•••	•••	••	•••	••	$\substack{3,799\\1,258}$	$\begin{array}{c} 40\\ 34 \end{array}$	$2 \cdot 90 \\ 4 \cdot 26$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$1 \cdot 6$.36·8	59 12 5		$\begin{array}{c} 609 \hspace{0.1cm} 16 \\ 268 \hspace{0.1cm} 0 \end{array}$	
•••	•••	••	•••	••	$2,720 \\ 17,803 \\ 4$	153	$2 \cdot 17$	1,930 6 5	18.0	$30 \cdot 1$	$541 \begin{array}{c} \cdot \cdot \\ 2 \end{array} 10$		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
•••	• •	••	 		···	· · ·					••		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
•••	$15 \cdot 7$	8 	$32 \cdot 9$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$4 \\ 45$	$\frac{2}{5}$	$35 \cdot 26 \\ 11 \cdot 87$	$\begin{array}{ccc}7&12&8\\27&0&0\end{array}$	$\begin{array}{c} 13\cdot7\ 3\cdot3 \end{array}$	$14.5 \\ 24.0$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
••	 15.7		· · ·	 25.17_0	36.726		· · · · · · · · · · · · · · · · · · ·	5 396 16 9		13.0	26 0 5	1 14 0	$27 \ 14 \\ 7,119 \ 13$	
	··· ·· ·· ··	North 	Acres. Number of Sections. North 15.7	Acres. Number of Sections. Cost per Acre. North s. 15.7 8 32.9	North Sections. Acre. Hota Cost. North s. \pounds s. d. 15.7 8 32.9 25 17 0	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Acres.Number of Sections.Cost per Acre.Total Cost.Acres.Number of Sections.North \dots \dots \dots \dots $11,093$ 157 \dots \dots \dots $11,093$ 157 \dots \dots \dots $11,093$ 157 \dots \dots \dots \dots $11,258$ 34 \dots \dots \dots \dots $2,720$ 60 \dots \dots \dots \dots $17,803$ 153 \dots <td< td=""><td>Acres.Number of Sections.Cost per Acre.Total Cost.Acres.Number of Sections.Cost per Acre.North$\dots$$\dots$$\dots$$\dots$$\dots$$\dots$$\dots$$\dots$$\dots$$\dots$North$\dots$<!--</td--><td>Acres.Number of Sections.Cost per Acre.Total Cost.Acres.Number of Sections.Cost per Acre.Total Cost.North$\ldots$$\ldots$$\ldots$$\ldots$$11,093$$157$$3 \cdot 54$$1,967 \cdot 8 \cdot 4$$\ldots$$\ldots$$\ldots$$\ldots$$3,799$$40$$2 \cdot 90$$550 \cdot 3 \cdot 11$$\ldots$$\ldots$$3,799$$40$$2 \cdot 90$$550 \cdot 3 \cdot 11$$\ldots$$\ldots$$3,799$$40$$2 \cdot 90$$550 \cdot 3 \cdot 11$$\ldots$$\ldots$$3,799$$40$$2 \cdot 90$$550 \cdot 3 \cdot 11$$1,258 \cdot 34$$4 \cdot 26$$268 \cdot 0 \cdot 0$$17,803 \cdot 153 \cdot 2 \cdot 17$$1,930 \cdot 6 \cdot 5$$17,803 \cdot 153 \cdot 2 \cdot 17$$1,930 \cdot 6 \cdot 5$$17,803 \cdot 153 \cdot 2 \cdot 17$$1,930 \cdot 6 \cdot 5$$17,803 \cdot 153 \cdot 2 \cdot 17 \cdot 1,930 \cdot 6 \cdot 5$$12 \cdot 0 \cdot 0$$18,72 \cdot 2 \cdot 5 \cdot 17 \cdot 12 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10$</td><td>Acres. Number of Sections. Cost per Acre. Total Cost. Acres. Number of Sections. Cost per Acre. Total Cost. Miles. North s. £ s. d. 11,093 157 $3 \cdot 54$ 1,967 8 4 3,799 40 2.90 550 3 11 1.6 1,258 34 4.26 268 0 0 17,803 153 2.17 1,930 6 5 18.0 15.7 8 32.9 25 17 0 4 3 60.00 12 0 0 </td><td>Acres.Number of Sections.Cost per Acres.Total Cost.Acres.Number of Sections.Cost per Acres.Total Cost.Miles.Cost per Mile.Norths.£ s. d11,093157$3 \cdot 54$1,9678 411,093157$3 \cdot 54$1,9678 43,799402.905503 111.6636.81,258344.26268017,8031532.171,9306.518.030.117,8031532.171,9306.518.030.1<td< td=""><td>Acres. Number of Sections. Cost per Acre. Total Cost. Acres. Number of Sections. Cost per Acre. Total Cost. Miles. Cost per Mile. Total Cost. North s. £ s. d. 11,093 157 $3 \cdot 54$ 1,967 8 4 </td><td>Acres. Number of Sections. Cost per Acres. Total Cost. Acres. Number of Sections. Cost per Acres. Total Cost. Miles. Cost per Mile. Total Cost. Other Work. (Cost.) 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Table 3.—Return of Field-work executed by the Staff and Contract Surveyors on Lands administered by other Departments from 1st April, 1931, to 31st March, 1932.

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		rveyors ployed.			Stan Trav					
Chief Surveyors.	Staff. Contract.		District.	Topo- graphical.	Settlement.	Native.	Roads, &c.	Towns.	City.	Rural.
				Sq. Miles.	Acres.	Acres.	Miles.	Acres.	Miles.	Miles
R. G. Macmorran	10	12	Auckland and N. Auckland	100,000	32,808	15,977	74·1	••		•••
H. L. Primrose		2	Gisborne			2,600	$2 \cdot 0$			
F. R. Burnley	8	16	Hawke's Bay	• •	36,500	23,468			25	730
W. D. Armit	1	1	Taranaki	• •	202	601		0.7	••	
F. H. Waters	: 1	2	Wellington			3,796		••	••	
P. R. Wilkinson	1		Marlborough		68	1,015		••		
A. F. Waters	2	• • •	Nelson		1,475	••	1.5	••		
T. Cagney	1	••	Westland		1,951	• •	6.5	••		
W. Stewart	2		Canterbury	100	289	55	3.8	21.1	12	
N. C. Kensington	2	••	Otago	• •	949		1.0	14.0		••
B. C. McCabe	1	••	Southland	•••	944	••		••	••	
Totals	29	••	••	100,100	75,186	47,512	88.9	35.8	37	730

Table 4.—Return showing Surveyors employed and Work on Hand on1st April, 1932.

Table 5.--PRINCIPAL CLASSES OF OFFICE-WORK DONE FROM 1ST APRIL, 1931, TO 31st MARCH, 1932.

	Plans p	laced on I	nstrument	s of Title.	Deeds and	Plans	examir	ned and pa	ssed.	f	drawn or graphy.		
District.	Cro	wn.	Native	Land	other Instruments passed.			. Land	De- nts.	ard tions.	ıs, ĉc.	Lithographs sold.	
	Leases, Licenses.	Free-	Land.	Transfer.	passed.	Crown. Native.		Transfer.	Other De- partments.	Standard Publications.	Sale Plans, &c.		
							- - -					£s.d.	
Auckland and	985	640	718	14,940	8,165	242	91	519	224	17	135	322 19 10	
North Auekland											1		
Gisborne	132		304	618		21	40	22	16		9	$45 \ 10 \ 6$	
Hawke's Bay	248	16	54	141	740	15	15	76	11		4	$39 \ 11 \ 11$	
Taranaki	318		138	844	627	17	50	55	47	6	1	28 5 6	
Wellington	366	204	590	9,090	1,639	23	51	255	87	9	13	$41 \ 1 \ 6$	
Marlborough	27		17	158		6	3	8	34		1	22 6 3	
Nelson	174	36		1,731	680	23		89	26	4	30	49 15 10	
Westland	364			654	10	21	• • •	24	23		1	40 13 3	
Canterbury	422	70	10	1,969	1,290	55	4	165	52	6		100 17 1	
Otago	296	82	10	3,552	2,011	48	3	93	- 38	4	16	83 3 3	
Southland	185	34		486	905	27		44	11	1	1	$62 \ 18 \ 0$	
Head Office		••					••		•••	10	••	848 16 0	
Totals	3,517	1,082	1,841	34,183	16,067	498	257	1,350	569	57	211	1,685 18 11	

Approximate Cost of Paper.-Preparation, not given; printing (915 copies), £10 10s.

Price 6d.]

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