

CANTERBURY.

Notwithstanding the material reduction in the number of the field officers, of whom six have either resigned or left the service in consequence of the recent retrenchment, a very satisfactory amount of work is shown to have been done.

Minor Triangulation.—Mr. C. W. Adams has completed 101,254 acres between the Fighting Hill Survey District and the head-waters of the southern branch of the Rakaia River, thus connecting with the base of verification in the Rakaia Valley, selected and chained by the Chief Surveyor of Westland, in order to check the triangulation extended across the main snowy range by his District Surveyor, Mr. Roberts, and, consequently, making a complete network from the West to the East Coast. Mr. Adams also extended his triangulation to connect with that of Mr. Connell, at Lake Heron, thus completing the circuit of the standard-bearings he had previously observed in the Gawler District.

Mr. Brodrick has done 44,062 acres with topography, and 61,038 acres without, in the Mount Thomas and Grey Survey Districts, and 37,440 with topography in the Makarora Valley, from the head of Lake Wanaka to Haast Pass. The work last mentioned was exceptionally arduous, all the stations but three being about 5,000 feet above sea-level.

Mr. Maitland completed the topography of 87,200 acres which he had previously triangulated; and it is a matter for sincere regret that this energetic young officer had, owing to illness, to obtain a lengthened leave of absence.

Mr. Welch has finished 45,741 acres, thus finishing the Peninsula triangulation, a work for which he deserves great credit, owing to the systematic manner in which it was done, carried, as it was, over a very rough and difficult piece of country, necessitating extensive clearings on many of the hills. In future, therefore, it will be an easy matter for surveyors, both staff and public, to get reliable starting-points in a country in which it had been deemed impracticable to make correct surveys under the previous system.

The total triangulation completed for the year is, therefore, nearly 300,000 acres, and the closures obtained, although not quite so satisfactory as those of the preceding twelve months, are yet considerably within the limit of allowed error, viz.:—

Survey District.	Lines.	Surveyor.	Surveyor.	Difference, in links.	Error per Mile, in links.	Mean.
Grey {	D-O	J. A. Connell—	T. N. Brodrick—	5·3	1·50	} 1·06
	O-N	28,328·7	28,334·0	2·8	1·01	
	N-B	22,091·7	22,094·5	2·4	0·66	
Mount Thomas {	A-B	T. Maben—	C. W. Adams—	4·3	1·63	} 1·10
Fighting Hill {	B-C	21,068·7	21,064·4	2·0	0·56	
	N-M	28,390·4	28,388·4	6·2	2·05	
Heron {		J. A. Connell—	C. W. Adams—			
		24,326·5	24,320·3			

Mean error of above six chainages, 1·235 links per mile.

Sectional Surveys.—Considerable progress has been made, not only in putting applicants in possession of their boundaries, but also in revising the old Canterbury surveys, which, as they could not be plotted, delayed the issue of the Crown grants; and it may be noted that, owing to the trouble of re-establishing the original survey-marks, these revisions absorb as much or more time than the new work. I trust, however, that by the end of next year I shall have finished all the old work requiring this process, with the exception of the Peninsula, which will take a considerable time to complete.

During the year have been sent in—

	1,498 sections	=	114,345 acres of new work.
	496 „	=	47,808 „ revisions.
Total ..	1,994 „	=	162,153 „
of which	1,455 „	=	109,327 „ were done by the staff.
	539 „	=	58,286 „ „ contract.
Total ..	1,994 „	=	162,153 „

Of the staff surveys, 36,555 acres were on the Peninsula, entailing heavy bush-cutting, and the remainder—with the exception of 20,107 acres of Mr. White's revision of the Messrs. Sealey Brothers' Provincial Government contract, and 4,950 acres of Mr. Pickett's revision of Contract 23—was very scattered, necessitating continued shiftings of camp, and, as a sequence, considerable loss of time and increased cost per acre. The average size of the sections was but 80 acres.

Inspection.—Both the staff and contractor's work have been inspected by Mr. Kitson, whose reports and diagrams have been duly forwarded to you.