

These base-lines have been completed by him, and, as the figures speak for themselves in his report, nothing further need be said than that they reflect his great professional ability and painstaking accuracy.

The Kaingaroa Plains base-line is the next to be measured, and work on this has already been begun by Mr. Langmuir.

#### STANDARD SURVEY.

The standard survey of the City of Auckland is now almost completed. This work was started in the field and supervised by Mr. J. Langmuir, Inspector of Surveys, and by Mr. H. M. Kensington, District Surveyor, on the 20th March, 1907. After a period of six months Mr. Langmuir's duties in connection with the office-work, preparation of plans, &c., compelled him to relinquish the field-work, which was then carried on by Mr. H. M. Kensington and staff, but still under Mr. Langmuir's supervision.

There are forty-two plans in all, each of which has a covering-sheet attached. These have been copied in duplicate, one copy being for the Auckland City Council and one for the Auckland District Survey Office, making 149 finished plans. One hundred and forty traverse-sheets have been bound and deposited in the Auckland Survey Office. Owing to municipal works and other causes, fifty-three standard blocks had to be taken out and reinstated, which, besides the time and delay caused, always requires special care in refixing in their true position. To give some idea of what this entails I would mention that the blocks are frequently reinstated bodily—i.e., surface box and all—the whole weighing from 5 cwt. to 7 cwt., illustrations of which will be found at end of report. The total length completed of street standard chainage is 65 miles, necessitating 923 standard blocks, of which 650 have been fitted with cast-iron covers, while the remainder are chiefly surface blocks level with the pavement. Besides these there are sixty iron spikes set partially in concrete. This very special work, requiring as it does such extra care and attention to details, has been carried out with such thoroughness and accuracy as to reflect the highest credit on the two officers mentioned.

Apart from the Auckland City standard survey referred to above, Mr. H. M. Kensington reports that the work during the year comprised computations in connection with the Parnell Borough standard survey, computations and plans in connection with the Rotorua standard survey, Auckland suburban standard survey, and the reinstating and fixing position of standard blocks in Auckland City and suburbs. There was also the precise levelling from high-water mark to the top of Mount Eden for the purpose of arriving at its true height relative to the new mean-tide level. This work was greatly interfered with by the bad weather that prevailed, and which has been the experience of nearly all the surveyors in the service in both Islands. Correspondence and the supplying of information in connection with the above works has also taken up a large amount of time.

Mr. J. D. Climie, Inspector of Surveys, reports that during the year the 10 miles of standard traverse, Hutt to Emerald Hill, was completed, including the connections to Mr. Mackenzie's old blocks. Forty concrete blocks were inserted. This work will be found very useful for Land Transfer surveys, and as soon as the new triangulation is available he can give the final co-ordinates for the standard blocks.

Mr. W. T. Neill, Inspecting Surveyor, who started the standard survey of the City of Dunedin last year, has made good progress with the work, as between 40 and 50 miles of streets have now been traversed and marked, despite the bad weather that has prevailed.

Mr. C. Adnam Mountfort reports, in connection with the Wanganui Borough standard survey, that the whole of the field-work has been completed, with the exception of Durie Hill and some check chaining which he hopes to finish at the beginning of the new year. The field-work was pushed on with as fast as possible, and this left no time for maps and computations to be made for this year's return.

District Surveyor Harrop made a start with the standard survey of the Borough of Grey-mouth, but as his services were required on the urgent settlement surveys of Canterbury, he was compelled to leave it in abeyance.

The standard survey of the Town of Blenheim has been extended into the suburban areas for a distance of about 2 miles. It is hoped that the Town of Invercargill and suburbs will be able to receive consideration shortly, in order to facilitate necessary work in connection with Land Transfer surveys.

#### COASTAL SURVEY.

During the year, and for a period of three months from July, Lieutenant H. L. L. Pennell, R.N., in the "Terra Nova," R.Y.S., who had associated with him Lieutenants Renwick and Bruce,