

MINOR TRIANGULATION.

An area of 228,193 acres, at an average cost of 1-24d. per acre, was completed during the year to control settlement surveys in Auckland, Hawke's Bay, Nelson, and Otago Districts.

SETTLEMENT SURVEYS.

The settlement surveys comprise Crown lands, land for settlement, and land for discharged soldiers. The bulk appears in Table A under the head of "Rural," the acreage shown being 266,308 acres, while the remainder includes village and suburban and town lands, totalling 817 acres.

NATIVE-LAND SURVEYS.

An area of 345,500 acres was completed by staff and contract surveyors during the year.

Table A shows that areas of 91,364 acres and 254,136 acres were surveyed by staff surveyors and contract surveyors respectively. The area surveyed in each land district is shown in Table B.

GEODETIC TRIANGULATION.

Two field parties have been engaged on this survey during the year; one was employed on the erection of signals at the selected trig. stations within the Gisborne Land District, while the other party undertook the observational work commencing from the stations marking the terminals of the Kaingaroa Plains base-line. Good progress has been made with the survey, although the season was generally unfavourable on account of rain and high winds. The state of the survey is shown on the index map appended hereto.

STANDARD SURVEYS.

The standard work executed during the year comprised the capping of standard blocks in the Boroughs of Inglewood, Levin, and Palmerston North, the reinstatement of blocks in the City of Auckland and surrounding suburbs, the levels of which had been altered by street improvements. The total cost of this work is paid by the local bodies.

The precise survey of Gisborne and suburbs has been completed during the year, forty-eight miles of traverse-lines having been laid down at a cost of £89 per mile, including the levelling operations to determine the height of each block above the mean sea-level.

Portions of the field-work of the extension of the Auckland City survey at Point Chevalier, the New Plymouth survey, and the Invercargill survey have been completed. In connection with these works the local bodies contribute two-fifths of the cost of the surveys.

One staff surveyor has been engaged on a standard survey of the Te Aroha Township, which is still in progress. Sixteen miles of roads standard traverse were completed in the Leeston Survey District, Canterbury, and the field-work of the Clutha District, Otago, is in progress.

The average closing-error per mile in the precise survey is 0.08 link per mile, which shows that the high degree of accuracy necessary in standard measurements is being maintained.

TOPOGRAPHICAL SURVEY.

Of the area shown under this heading in Table 2, 19,200 acres have been done by plane table and contoured, the balance being sketched topography for selection purposes.

Four parties, as compared with one for the previous season, are now exclusively engaged on the topographical survey proper. Of these three are engaged in surveying the thermal-springs area in the vicinity of Rotorua, where field operations were commenced last January. This survey will also include all the settled pumice lands adjoining the Rotorua area, and the completed maps will be of great assistance to the Chemists in connection with a soil-survey contemplated by the Agricultural Department.

The fourth party is engaged in the Waimea and Motueka Survey Districts, on which the officers of the Cawthron Institute are conducting a soil-survey and experimenting in afforestation. An area of 30 square miles, costing 6.37d. per acre, has been completed.

INSPECTIONS.

About twenty inspections of surveys under the Land Transfer Act have been made during the year. In most cases the work has been found satisfactory; several cases, however, show that sufficient care has not been taken to ensure the accuracy required by the Survey Regulations. It is necessary that the number of inspections should be increased in order to ensure that an adequate check is being maintained on the field operations of the staff and surveyors in private practice or on contract surveys.

TIDAL SURVEY.

The work for the past year comprised two fresh analyses for each of the ports of Auckland and Wellington, and one each for Bluff and Westport. The constants derived therefrom, combined with previous determined values of the constants of these ports and the mean values of the constants for Lyttelton and Dunedin, are contained in Table C below.