APPENDIX II.

SURVEYORS' BOARD.

THE examinations in September, 1922, and March, 1923, were held as usual. For the former thirty-three candidates sat, being sixteen new and seventeen completing. Of these, four new and six completing passed. At the March examination twenty-six sat, being six new and twenty completing, of whom one new and eleven completing passed, adding twenty-one to the list of New Zealand licensed surveyors, the statutory list of whom showed at 31st December 490 members, there having been twelve deaths during the year.

Several matters made the year important in the Board's history, notably the passing of the amending legislation referred to in last year's report, and the consequent completion of new regulations for the conduct of surveys.

The personnel of the Board suffered change. Mr. Humphries, Government nominee and former Surveyor-General, who has been upon the Board for seventeen years, and its oldest member, retired; and also Mr. H. Sladden, Institute nominee, also with a long connection with the Board, retired; both members, having been very active in the work of the Board, will be greatly missed. In their places Mr. G. H. Bullard, Chief Surveyor, Canterbury, was nominated by the Government, and Mr. S. T. Seddon, M.C., of Wellington, was nominated by the Institute.

A most important event was the conference of all the reciprocating Boards of Australia and New Zealand at Melbourne in October, 1922, attended by the Surveyor-General as delegate from New Zealand. At this conference the position of the profession and status of the examination were reviewed, and a number of matters were considered, resulting in changes of practice and procedure of a distinctly evolutionary character, since detailed generally in *Gazette* notice of the 3rd May, 1923. New regulations for examination, uniform for all the States and New Zealand, are now in preparation. The chief features of the changes are the increase of the apprenticeship period to four years, and the increased emphasis on the engineering element of surveying by making it compulsory.

W. T. NEILL, Chairman.
M. CROMPTON-SMITH, Secretary.

APPENDIX III.

MAGNETIC OBSERVATORY, CHRISTCHURCH.

ANNUAL REPORT OF THE DIRECTOR (HENRY F. SKEY, B.Sc.).

DURING the year 1922 the work of magnetic, seismological, and meteorological observation has proceeded as usual, and the resulting mean values of the magnetic elements for Christchurch determined from the magnetograms are as follows:—

	Mean Value, 1922.	Change since 1921.	Change from 1920 to 1921.
Magnetic declination (east)	17° 08·3′	+3·7	+2·9
Magnetic horizontal force..	0·22217	−24 γ	−20 γ
Magnetic inclination (south)	68° 11·2′	+0·9′	+1·1′
Northerly component	0·21230	−30 γ	−24 γ
Easterly component	0·06547	+16 γ	+13 γ
Vertical component	0·55507	−21 γ	+03 γ
Total magnetic force	0·59802	−14 γ	−04 γ

At the end of the year building operations were commenced near the Adie magnetograph house, and since the 31st December, 1922, the curves yielded by the Easterhagen magnetographs at Amberley have alone been measured for hourly values of declination, horizontal magnetic force, and vertical magnetic force. The measurements made are mean ordinates over the hour centring at the Greenwich civil hour. When a large disturbance prevails the curves are planimetered and the mean hourly ordinate thus determined. Smooth curves are measured for mean ordinates over the hour on the method adopted by the United States Coast and Geodetic Survey observatories, and it is evident that a very high degree of accurracy is obtained.

The plan of measurement adopted for curves up to the end of 1922 has been to measure ordinates at the Greenwich hour, yielding an instantaneous value at the hour. The new plan gives an average for the hour, centring about the same times of day as the instantaneous hourly values hitherto published, so that in diurnal analysis all phase angles and amplitudes can be made directly comparable, always being corrected to the true instantaneous ordinates.

The amplitudes and phase angles of the first four diurnal harmonic components for the summer, equinoctial, and winter months of the year 1922 are given below, for horizontal magnetic force.

The usual horizontal vector diagrams, and average curves of diurnal D and H for months and seasons, and monthly range diagrams, are published herewith.

Milne seismograph No. 16 has been kept in operation, and a list of records for the year is appended.

The usual meteorological observations at 9.30 a.m. and noon and 5 p.m. were taken, as in previous years.

The data for hourly H and D values for 1911 are nearing completion, and will be published this year.