

DIRECTOR'S REPORT.

SUMMARY OF FIELD OPERATIONS.

DURING the field season ending the 31st May, 1915, detailed geological surveys were begun in the Egmont and Gisborne subdivisions. Brief visits were also made by the Director to Waikaia, Lawrence, Macrae's, Picton, Pahautanui, Huntly, Waihi, Sandy Bay district (two), various parts of North Auckland, Onewhero, Weka Pass, Liverpool State Mine, New Plymouth, Oamaru, and Clarendon. Descriptions of the first two visits were printed in last year's annual report, and accounts of most of the others are given on later pages of this report. Dr. Henderson made a flying examination of the Weber and Herbertville districts, whilst Oamaru was visited on behalf of the Geological Survey by Dr. J. Allan Thomson, Director of the Dominion Museum, who also furnishes a report on oil springs observed by him in the valley of the Ure River, Marlborough.

The Egmont Subdivision forms part of the Taranaki Division, and lies south of the New Plymouth Subdivision, geologically surveyed some years ago by Mr. E. de C. Clarke. It consists of the survey districts of Wairau, Cape, Egmont, Huiroa, and Ngatimaru, which together have an area of approximately 613 square miles. The survey of the subdivision was begun in September, 1914, by Mr. W. Gibson, Assistant Geologist, and Mr. H. S. Whitehorn, Assistant Topographer. The latter, however, joined the Expeditionary Forces in October, and thereafter all work, both topographical and geological, was under the charge of Mr. Gibson. At the end of May nearly one-half of the subdivision had been geologically surveyed in detail.

The Gisborne Subdivision is part of Raukumara Division, and lies south and east of the Whatatutu Subdivision, geologically surveyed by Mr. J. H. Adams in 1908 and 1909. It has an area of approximately 790 square miles, and includes the survey districts of Patutahi, Turanganui, Waikohu, Waimata, Whangara, and Uawa. Work in this region was begun during October, 1914, by Dr. Henderson, Mining Geologist, and Mr. M. Ongley, Assistant Geologist. The latter remained in the field during the whole season, but Dr. Henderson from November to March was engaged in other work. At the end of May about three-fifths of the subdivision had been geologically surveyed in detail.

PALÆONTOLOGICAL WORK.

During the year under review Mr. H. Suter, of Christchurch, Consulting Palæontologist, continued his work on the Tertiary Mollusca contained in the Geological Survey collections and on material supplied from other sources. As the result of his labours the revision of Hutton's type species has been completed, a large number of new species have been described, and numerous specimens authoritatively named. Mr. F. K. Broadgate, M.Sc., was employed during a considerable portion of the year in classifying fossils and in allied work.

Mr. E. A. Newell Arber, D.Sc., of Cambridge, England, has lately completed a monograph on the Mesozoic floras of New Zealand, based largely on material supplied from the Geological Survey collections. Numerous plates have been drawn in order to illustrate this memoir, and arrangements to publish the whole are now being made.

As a result of the work done by Mr. Henry Woods, M.A., of Cambridge, a valuable report, entitled "The Cretaceous Fauna of the North-eastern Part of the South Island of New Zealand," has been received from that gentleman. It is accompanied by a number of beautifully drawn illustrations. Mr. Woods finds that two faunas occur in the Cretaceous rocks of Marlborough and North Canterbury. The older of these, found at Coverham, is considered to correspond to the Lower Utatir (approximately Upper Greensand and Gault) fauna. The younger, of approximate Senonian age, occurs at Amuri Bluff and other places to the south.

Mention may here be made of a paper by Dr. Marie C. Stopes, entitled "A New Araucarioxylon from New Zealand," which was published in the *Annals of Botany*, vol. xxviii, No. cx, April, 1914. The material described was from the Geological Survey collections, and consisted of fossil wood from Amuri Bluff.

To Mr. Woods, and to Drs. Newell Arber and Stopes, the sincere thanks of the New Zealand Geological Survey are due. The examination and description of the Mesozoic fossils sent to them has been undertaken without fee or any form of honorarium.

OFFICE AND MISCELLANEOUS INDOOR WORK.

During the year a large amount of correspondence, chiefly in connection with New Zealand geology, ores, and minerals, has passed through this office. The library has been given as much attention as possible, but owing to want of space is in a more or less congested state.

A considerable number of mineral and rock specimens have been identified for various private persons, and brief descriptions furnished in connection therewith. A few rock-sections have been made by hand in the small laboratory which was built some years ago in the grounds attached to Government Buildings, and has proved very useful for various purposes.

Draughtsman.—Mr. G. E. Harris, Draughtsman, during the year drew seven survey-district maps to be reproduced by photo-lithography for the Reefton Bulletin (No. 18), together with four detail mining maps for the same bulletin, and ten sheets of figures for the Buller-Mokihinui Bulletin (No. 17). He visited New Plymouth and Gisborne in order to make tracings for the Egmont and Gisborne subdivisions maps. These and other tracings were reduced and transferred to ten field maps on the 20-chain scale. In addition to miscellaneous draughting, Mr. Harris undertook a considerable amount of ordinary office-work.