

that no phosphate deposit of any importance could well exist in that locality. It is possible that the sample was wrongly labelled, and therefore that its source must be sought in some other locality.

A definite though thin phosphatic horizon was identified at Kaikoura and Amuri Bluff, between the "Amuri" limestone proper and an upper limestone.* Since analyses show the presence of 43.46 and 53.62 per cent. of phosphate of lime further exploration of the Marlborough coastal district is advisable. There is reason for believing that the same phosphate horizon exists in the neighbourhood of Port Robinson and in the Clarence Valley,† and it is also found in North Canterbury, though here the prospect of a commercial development is very slight.

Special visits were made by members of the staff to Douglas (Taranaki), Manawatu Gorge, Mauriceville, Cape Campbell, Ward, and Waikari in order to examine limestone deposits considered suitable for agricultural purposes. Particulars of the data obtained will be found in the reports on later pages. Attention may be drawn to the soft limestone deposits near Cape Campbell, Ward, and Waikari, which it is hoped will furnish naturally comminuted limestone of sufficiently good quality to be useful to farmers at some distance as well as to those in the immediate vicinity.

PALEONTOLOGICAL WORK.

During the past year Mr. H. Suter, of Christchurch, Consulting Palæontologist, has been steadily employed in identifying or describing the Tertiary Mollusca contained in the Geological Survey collections, and in dealing with fresh material supplied by Professor Park, Professor Marshall, officers of the Survey, and others. He has supplied a valuable report, entitled "Descriptions of New Tertiary Mollusca occurring in New Zealand, accompanied by a few Notes on necessary Changes in Nomenclature: Part I." This has been forwarded to the printer, and will be published as one of the series of palæontological bulletins.

For some months prior to his joining the Expeditionary Forces Mr. F. K. Broadgate, M.Sc., was employed in classifying the fossils at present stored in the Museum, and in allied work.

Mr. C. T. Trechmann, of Castle Eden, County Durham, England, who visited New Zealand in 1914, some months ago was again a visitor with the object of collecting Mesozoic fossils. A considerable number of Mesozoic fossils from the Geological Survey collections have been loaned to Mr. Trechmann, who has undertaken to identify and, so far as necessary, to describe them, or in special cases to arrange for this work being done by other competent palæontologists.

PUBLICATIONS.

During the past year the following Geological Survey publications have been issued:—

Ninth Annual Report (as part of parliamentary paper C.-2, and in separates).

Eighth Annual Report (second edition).

Bulletin No. 17 (N.S.): "The Geology and Mineral Resources of the Buller-Mokihinui Subdivision," by P. G. Morgan and J. A. Bartrum.

Palæontological Bulletin, No. 3: "Revision of the Tertiary Mollusca of New Zealand, based on Type Material, Part II," by Henry Suter.

"Alphabetical Hand-list of New Zealand Tertiary Mollusca," by Henry Suter.

OFFICE AND MISCELLANEOUS INDOOR WORK.

During the year numerous requests for information concerning New Zealand minerals and ore deposits have been answered by the Director and other members of the staff. Many mineral and rock specimens sent from all parts of New Zealand have been examined and identified. A good deal of attention has been given to the library, but owing to want of space the books cannot be satisfactorily classified.

Maps, &c.—Mr. G. E. Harris, Draughtsman, during the year compiled six maps and plans and coloured sixteen proofs of maps for the Reefton Bulletin (No. 18), drew four maps of survey districts in the Egmont and Gisborne subdivisions, two key-maps of survey districts in the Oamaru and Tuapeka districts, two geological maps and a sheet of sections for Professor Park's report on the Oamaru district, maps of Kaikoura and Huntly districts for the present report, and a small map of New Zealand. In addition to his other duties, he also attended to a considerable amount of miscellaneous office-work.

STAFF.

There have been no changes in the permanent staff during the year. Mr. H. S. Whitehorn, Assistant Topographer, who in October, 1914, joined the Expeditionary Forces with the rank of captain, remains on active service, and has recently obtained his majority. Mr. F. Fulton-Wood, chairman, after serving from the outbreak of war in Samoa and the Dardanelles, returned severely wounded in November, 1915, but was able to resume office duties towards the end of December. Mr. F. K. Broadgate, temporary assistant in palæontologist work, joined the Expeditionary Forces at the end of August, 1915. Ex-members of the staff who have joined the colours are Dr. J. M. Bell, Messrs. H. Richardson, E. J. H. Webb (accidentally killed on shipboard), John Thompson, R. J. Crawford, and Peter Clarke. It may also here be mentioned that with hardly an exception the men temporarily employed as field hands during the past few years have volunteered for active service, and at least two have laid down their lives for King and country.

* See Special Report No. 7, p. 17.

† Phosphatic pebbles or concretions have lately been found in the Clarence Valley by Dr. J. A. Thomson (verbal communication).