

HUNTLY SUBDIVISION.

The Huntly Subdivision comprises Rangiriri Survey District and the northern half of Newcastle Survey District. As already indicated, work in this part of the Waikato coalfield was begun owing to a report upon a coal-bearing area under option to the Mines Department being required. In order to obtain a better idea of the geological conditions likely to exist over this area, the surrounding districts were also examined, though not in as detailed a manner as was desirable. The field-work was in charge of Dr. Henderson, who was thus engaged from the 13th July to the 8th August, and again from the 17th October to the 14th November. During the first of these periods he was assisted by Mr. G. E. Hyde, A.O.S.M., who was temporarily employed as field assistant. The information obtained during the survey, together with that available from other sources, will enable a detailed report upon the coal, clay, and other mineral resources of the district to be written. This, if time permits, will be prepared in the next few months.

MOKAU SUBDIVISION.

Field-work in the Mokau Subdivision was resumed on the 11th January and completed on the 10th May. Unfortunately, owing to the late start in field-work, caused by the examination of the Huntly Subdivision and by the influenza epidemic, Ohura Survey District, which contains the promising Waitewhena coalfield, could not be surveyed. This district, however, was examined and briefly reported upon by Mr. Ongley over two years ago. The detailed report on the Mokau Subdivision now being written will contain a full description of the lower Mokau coalfield, and will include information concerning the Waitewhena field. It will contain also a description of the Te Kuiti district, in which, north-east of Te Kuiti, coal-outcrops occur. These were briefly mentioned in the eleventh annual report of this Survey, 1917, page 7.

BENMORE DISTRICT, MARLBOROUGH.

Dr. J. Allan Thomson, Director of the Dominion Museum, was engaged for a period of two months from the 18th March in making a geological survey of the Benmore and Ure River districts, Marlborough, where indications of petroleum had been observed. The time allotted to the survey was too short to enable a large area to be examined, but Dr. Thomson considers that he has mastered the main details of the structure, which depends largely on faulting. So far as can be judged, this structure is unfavourable to the presence of oil in quantity within the area surveyed.

LIMESTONE DEPOSITS.

During the year the limestone deposits of the Huntly and Mokau subdivisions have been given special attention. Visits, as already mentioned, were made to several localities in Otago where limestone occurs, and a hasty examination of a marble deposit in the Malvern Hills was also made. The publication of Part I of the bulletin mentioned in my last annual report, "The Limestone and Phosphate Deposits of New Zealand," was delayed for some time on account of war conditions, but the bulletin is now passing through the press. It contains general information about limestone, and a careful summary of all available data concerning our limestones, arranged so as to give each county separate consideration. Part II is to deal with the treatment of limestone by calcination or pulverization, and with phosphate occurrences in New Zealand.

COAL DEPOSITS.

The Geological Survey continues to give as much attention to the coalfields of this Dominion as its present attenuated staff permits. In my last year's report it was suggested that special legislation was necessary in order to enable coal-bearing lands held by private owners to be advantageously surveyed, and that the present system of granting leases of coal-bearing areas to almost every applicant ought to be drastically modified, if not entirely abolished. In evidence lately given by me before the Parliamentary Industries Committee attention was drawn to the comparatively small extent of our known coal resources, and the systematic exploration and prospecting of the coalfields was urged as necessary.

PUBLICATIONS.

The only report actually issued by the Geological Survey during the year was the twelfth annual report. As originally prepared this was a lengthy document, but owing to the shortage of paper it was deemed advisable to cut it down to a few paragraphs. During the past few months, however, portions of the report, giving information concerning magnesite, dolomite, chrome-iron ore, mica, tungsten-ore, manganese-ore, and graphite in New Zealand, have been published in the *New Zealand Journal of Science and Technology*.

The final proof sheets of Palaeontological Bulletin No. 7, entitled "Descriptions and Revisions of the Cretaceous and Tertiary Fish-remains of New Zealand," by Mr. F. Chapman, A.L.S., F.Z.S., Palaeontologist of the National Museum, Melbourne, were corrected and returned to the Printing Office last December, but owing to the press of other work this bulletin at the time of writing has not been issued.*

A paper of some importance, entitled "The Trias of New Zealand," by Dr. C. T. Trechmann, F.G.S., a well-known British geologist, who has twice visited New Zealand, was published in the *Quarterly Journal of the London Geological Society*, vol. 73, part 3, November, 1918. This paper is largely of a palaeontological character. Many of the fossils described by Dr. Trechmann were sent to him on loan from the Geological Survey collections. Early in the present year all the material, except a few specimens retained for further study, was returned by him to New Zealand.

* A few days after this was written copies of the report became available for issue.