

LETTER OF TRANSMITTAL.

SIR,—

Geological Survey Office, Wellington, 9th August, 1917.

I have the honour to forward herewith the eleventh annual report of the Geological Survey Branch of the Mines Department. This report covers the work of the Geological Survey during the twelve months that ended on 31st May, 1917. Its preparation has been delayed by the pressure of my other duties, chiefly in connection with the routine work of the Mines Department.

I have, &c.,

P. G. MORGAN,

Director, New Zealand Geological Survey.

The Hon. W. D. S. MacDonald, Minister of Mines, Wellington.

DIRECTOR'S REPORT.

SUMMARY OF FIELD-WORK.

DURING the field season ending 31st May, 1917, no regularly organized field-parties were employed, and the only detailed survey undertaken was in the south-west part of Taranaki. Visits were made by the Director to Te Kuiti, Thames, Greymouth, and other localities, but these were principally on Mines Department business, and only a few geological notes were made. Dr. J. Henderson made a reconnaissance survey of a considerable area near Te Kuiti in order to determine the probability of workable coal being found. He also visited Mahoenui, Awakino, and Lower Mokau in order to report on limestone-deposits. At the request of the Chief Electrical Engineer, Public Works Department, he examined the Waikato Valley in the neighbourhood of Maungatautari. In the South Island Dr. Henderson visited Deep Creek (Marlborough), Bainham, Murchison, Inangahua Junction, Greymouth, Ross, Kaikoura, Cheviot, and other localities. His investigations were principally concerned with limestone-deposits. Mr. W. Gibson, Assistant Geologist, reported on boring operations undertaken near Kaitoke in order to locate a supposed seam of coal. Mr. Ongley, Assistant Geologist, besides making a moderately detailed survey of a considerable area in south-west Taranaki, visited many localities in the North Auckland Peninsula, principally in order to examine limestone-deposits, and with the same object visited Mabel, Limchills, and Dipton, in Southland. He also made a brief inspection of the Wairio Coalfield, near Nightcaps, and visited Wangaloa, near Kaitangata, in order to collect early Tertiary fossils.

EGMONT SUBDIVISION.

In last year's report the survey of the Egmont Subdivision was announced as finished, but it was decided to continue the survey so as to include the whole of Mount Egmont and the surrounding country. Mr. Ongley was therefore instructed to examine in moderate detail the survey districts of Opunake, Kaupokonui, Ngaire, Oeo, and Waimate, and, owing to the simplicity of the geology, was able to cover the ground in about seven weeks during the months of February, March, and April last.

LIMESTONE-DEPOSITS.

Early last year it was decided that a detailed report on the limestone-deposits of New Zealand should be prepared by the Geological Survey. The report, as planned, is to contain, in the first place, general information concerning limestone, its chemical composition, and uses in agriculture. Descriptions, brief or moderately detailed according to the amount of information available, of all limestone-deposits examined by members of the Geological Survey staff or mentioned in New Zealand geological literature are to follow. The report will include all analyses of any value, and all available data concerning quality, quantity, and accessibility. It is proposed also to add a chapter on phosphate-deposits, and another on limestone-crushing machinery. Such a report, it is felt, will be of assistance not only to farmers, but also to all who desire information concerning limestone for other than agricultural purposes.

During the past twelve months numerous localities, as mentioned above, have been visited by members of the staff in order to collect information, and data for a lengthy report on New Zealand limestone have now been obtained. Owing, however, to the Director, who was to undertake a considerable portion of the field-work, having been fully employed in the office-work of the Geological Survey and by his duties as Under-Secretary of Mines, and owing to the small staff available, the compilation of the report in a form suitable for publication will necessarily take a considerable time. Some delay in the carrying-out of the general plan has been caused by demands from local bodies and farming associations for special examinations and reports upon limestone-deposits in which they were directly interested. Some of the requests were granted, but the time occupied in the visits made was largely lost so far as the interests of the public as a whole were concerned, for it is believed that at the present time the good of the community can be better served by a report of general interest than by brief and hastily written notes of local value only.