

## REPORT.

### LETTER OF TRANSMITTAL.

SIR,— Mines Department, Geological Survey Branch, Wellington, 16th July, 1912.

I have the honour to forward herewith the annual report of the Geological Survey Branch of the Mines Department for the twelve months ending 31st May, 1912.

I have, &c.,

P. G. MORGAN,

Director, Geological Survey.

The Hon. W. Fraser, Minister of Mines, Wellington.

### INTRODUCTION.

THE present annual report, the sixth since the reorganization of the Geological Survey in 1905, deals with the twelve months from 1st June, 1911, to 31st May, 1912. During this period the work of the Survey has been in general conducted on the same lines as in former years.

### STAFF.

In August, 1911, the staff was increased by the appointment of Mr. J. A. Bartrum, M.Sc., as Assistant Geologist. In May of this year Mr. J. C. M. Nutt, Geological cadet, was, at his own request, transferred to the Education Department. The *personnel* of the staff is therefore now as follows: Percy Gates Morgan, M.A., Director; John Henderson, M.A., D.Sc., Mining Geologist; James Allan Thomson, M.A., D.Sc., Palæontologist; John Arthur Bartrum, M.Sc., Assistant Geologist; George Edward Harris, Draughtsman; Henry Saxon Whitehorn, Assistant Topographer.

### SUMMARY OF OPERATIONS.

During the twelve months ending 31st May, 1912, detailed field-work was under way in the Buller-Mokihinui and Aroha Subdivisions.

In the Buller-Mokihinui Subdivision field-work was conducted by the Director, with the assistance of Mr. H. S. Whitehorn as topographer. Owing to various reasons, such as the Director's frequent employment in other work, the difficulty of gaining access to the Mackley and Blackburn Valleys, and exceptionally bad weather, the survey of the subdivision could not be completed. It has been found necessary, for the sake of completeness, to add considerably to the area originally intended to be surveyed, and therefore the completion of the survey will occupy the greater part of another field season.

The survey of the Aroha Subdivision was intrusted to Dr. Henderson, with Mr. J. A. Bartrum as Assistant Geologist. Notwithstanding much bad weather, and the loss of a camp and effects by fire, the survey of the whole subdivision, together with an additional area to the south, was completed.

Dr. Allan Thomson, Palæontologist, immediately after joining the Survey, commenced work on the fossils collected by the old Geological Survey under Sir James Hector. Dr. Thomson has devoted himself mainly to those portions of the collections which come from late Cretaceous and Tertiary strata. Selections from the Palæozoic and Mesozoic fossils have been forwarded to various specialists who have kindly volunteered assistance in the work of description.

In order to furnish reports needed by the Mines Department, a number of short visits were made by the Director and other members of the staff to mining districts in various parts of New Zealand.

### PUBLICATIONS.

During the past year two bulletins, Nos. 12 and 13 (New Series), and the fifth annual report have been issued.

Bulletin No. 12, entitled "The Geology of the Dun Mountain Subdivision, Nelson," was written by Dr. J. M. Bell, Mr. E. de C. Clarke, and Professor Marshall. After giving a general account of the geology of the district, the bulletin deals exhaustively with the copper, chromite, and other mineral resources. Another feature of the bulletin is the description of the ultra-basic igneous rocks of the area, one of which, named "rodingite" by the authors, is new to science.

Bulletin No. 13, "The Geology of the Greymouth Subdivision, North Westland," written by myself, describes an important mineral district, containing large deposits of coal and of alluvial gold. In addition, the area described includes the Kotuku Oilfield, concerning which all information available at the time of writing is given.

A bulletin (No. 14) by Mr. E. de C. Clarke, entitled "The Geology of the New Plymouth Subdivision, Taranaki," is now ready for distribution. It describes the New Plymouth Oilfield, and contains an account of the well-known Taranaki ironsand. Bulletin No. 15, "The Geology of the Waihi-Tairua Subdivision, Hauraki," written by Dr. J. M. Bell and Mr. C. Fraser, is in the press, and will shortly be published.