

GEOLOGICAL AND NATURAL HISTORY SURVEY.

MUSEUM AND OFFICE, OTTAWA, 31st December, 1882.

SIR,—During the past year the explorations, surveys, and scientific investigations made by the staff of the Geological and Natural History Survey branch of the Department of the Interior have, as in former years, included portions of nearly all the Provinces and Territories of the Dominion, from British Columbia to Nova Scotia. Interesting and valuable additions have been made to our knowledge of the geography, geology, and natural history of the districts explored; and the general work of the survey in the field, having in view the construction of complete mineralogical and geological maps of the Dominion, has made satisfactory progress. The details will be given in the usual Annual Report of the survey, which will be prepared when the collections and observations have been studied and arranged, and the measurements plotted, which, with the ordinary duties connected with the museum, will fully occupy the time and attention of the staff during the winter. In the meantime the investigations above alluded to may be briefly summarized as follows:—

BRITISH COLUMBIA.

In British Columbia, Mr. Amos Bowman, who ably assisted Dr. G. M. Dawson in the western part of that Province in 1876, has been engaged during the summer in working out details of the topography and geology of the southern interior east of the Fraser River. On the map of this region, published in connection with the report of progress for 1877-78, the main points of its geological structure were shown for the first time, and the geography of the region laid down more completely than had before been possible. This map, however, left much to be desired, as this district, on account of its accessibility and comparative freedom from dense forest, is peculiarly suited to become a typical one, geologically, for the Province. It is, besides, that to be traversed by the Canadian Pacific Railway, and is known to contain coal and other economic minerals. The investigations of Mr. Bowman during the past season have added much to our knowledge of it; and the future prosecution of them will probably render desirable the preparation of a second edition of the map at an early date. The expenditure on this exploration has been \$1,800.00.

NORTH-WEST TERRITORIES AND MANITOBA.

In the Report of last year it was stated that Mr. McConnell would remain at Calgary during the winter, to be in a position to resume as early as possible in the spring the surveys and explorations which were commenced in 1881, by Dr. G. M. Dawson, of the important coal fields of the North-West, situate in the Bow and Belly River districts, of which a preliminary report was prepared by Dr. Dawson and published in May, 1882.

During the past summer the examination of the country extending from the base of the Rocky Mountains eastward to the 111th meridian, and from the international boundary northward to the 51st parallel, has been completed by Mr. McConneil.

After finishing the work on the plains, the remainder of the season, from the 1st August, was spent in the foot hills and outer ranges of the mountains, where the line of junction of the newer coal-bearing rocks of the plains with the older rocks of the mountains was examined and defined. The principal topographical features of the foot hills and outer ranges were sketched in as carefully as time permitted, the measurements being made either by odometer or pacing, or by rough triangulation. The disturbed formations adjacent to the mountains were also traced out and examined, and two barometric sections were made across the Porcupine Hills, north-west of