

GEOLOGICAL SURVEY OF CANADA.

REPORT OF PROGRESS FOR THE YEAR 1845-6.

MONTREAL, 1st May, 1846.

Sir,

I have the honor to transmit to you the accompanying Report of the Progress made in the Geological Survey of the Province, in the year 1845-6, and request you will do me the favor to place it before His Excellency the Governor General.

I have the honor to be,

Sir,

Your most obedient humble servant,

W. E. LOGAN,
Provincial Geologist.

To the Honorable D. Daly,
Provincial Secretary,
&c. &c.

To His Excellency Lieutenant General the Right Honorable CHARLES MURRAY, EARL CATHCART, of Cathcart, in the County of Renfrew, K. C. B., Governor General of British North America, and Captain General and Governor-in-Chief in and over the Provinces of Canada, Nova Scotia, New Brunswick, and the Island of Prince Edward, and Vice-Admiral of the same, &c. &c. &c.

MAY IT PLEASE YOUR EXCELLENCY,

In conformity with my duty as Director of the Geological Survey of the Province, I have the honor to place before Your Excellency, a Report of the Progress made in the investigation during the past summer.

In reporting to the Government on the Progress made in the year 1843, a short and very general sketch was given of some of the main geological features of a considerable part of the Province, as connected with the physical structure of the bordering States of the American Union, on the one hand, and the Sister British Colonies, on the other. In this description it was considered convenient to divide the subject into two parts; and drawing a line in continuation of the Hudson River, and Lake Champlain Valleys, to the vicinity of Quebec, to consider the area to the west of it separately from that on the south of the St. Lawrence to the east, in consequence of important differences in their geological conditions. Each area was represented as belonging to a great trough of fossiliferous strata resting on supposed primary rocks, and containing coal measures in the centre; but in neither case has it yet been found that the profitable portion of these measures comes within the limits of the Province.

The conditions in which these two areas differ, are the general quiescence and conformable sequence of the formations of the western division; and the violent contortions, and unconformable relations prevailing among those of the eastern, and as the Survey proceeds, the propriety and convenience of this division, for the purposes both of investigation and description, appear to me to be more fully confirmed.

The eastern area, comprising all that part of the Province which lies to the eastward of the divisional line assumed, and to the south of the St. Lawrence, including, however, the Island of Anticosti, covers a space of about 40,000 square miles; the western—extending to the limits of the Province, in an opposite direction, and bounded on the north by a line skirting the St. Lawrence, the Ottawa, the Mattawa, Lake Nipissing, and the French River to Lake Huron, and thence along the northern shore of this Lake to Sault Ste. Marie on Lake Superior—may spread over 50,000 square miles. These divisions, however, do not exhaust the Province. There still remains what may be termed Northern Canada, extending from the British limit on Lake Superior to Labrador, and lying between the northern boundary of the east and west divisions, and the height of land separating the Hudson Bay waters from those of the St. Lawrence. This portion, nearly three times as large as the other parts together, may comprehend 250,000 square miles.

In the geological examination of extensive areas nothing is more essential for the economy of time, in working out details, than to obtain, as early as possible in the investigation, some approximate view, however defective, of the prominent relations of their general features, to be subsequently perfected as circumstances may permit. But over a surface so widely spread out as that of Canada, so much of which is still covered by primeval forest, even the most partial reconnoissance must necessarily occupy much time. In the western division, the section examined across the country from Lake Huron to Lake Erie by Mr. Murray, in the year 1843, and reported on by him, gives the sequence of the formations, in their order of superposition, and in some detail their subordinate mineral masses, capable of economic application. His Report supplies a par-