

tract. Lying so near the more populous parts of the Province, and containing such mineral resources, in addition to prosperous farms in certain localities, and possessing attractions for the fisherman, the hunter and the summer tourist, the district will receive more attention in the future than it has in the past. It is, therefore, believed that the maps and the report will be of service and will tend to make the resources and the attractions of the district better known.

While we believe that the descriptions, on following pages, of the relations of the rocks give a fairly complete geological history of the region, in so far as it can be determined from the exposures, we have not been able to decide on the age of rocks in certain outcrops. Difficulties are due chiefly to the severe dynamic metamorphism to which the region has been subjected and to the fact that much of the surface is covered with glacial and recent deposits. Further reference will be made in the descriptions of the various areas to the doubtful interpretation of certain evidence.

Of the maps published with this report, we may be permitted to say, in the words of Van Hise and Leith " A geologic map represents an approximation to the



Fig. 2—Eozoon Canadense.

Weathered surface of specimen, natural size, (Geology of Canada, 1868, page 49). The layers are composed of pyroxene, while the interstices are filled with calcite. The material is not now considered to be of organic origin. The eozoon-like structures found in some of the areas described on following pages consist of quartz, in place of pyroxene, and calcite or dolomite.

truth, limited in its accuracy and adequacy by the general stage of advancement of the science, and perhaps falling short of this limit if the map maker does not fairly represent that advance. The maps published with this monograph are closer approximations to the truth than the maps previously published. These maps in turn will be superseded by better approximations as facts accumulate and geologic knowledge advances. It is hoped that the user of these maps will measure them by their advance over pre-existing maps rather than by the distance they fall short of the ideally perfect map.*

We desire to express thanks and high appreciation to Mr. W. R. Rogers, topographer of the Bureau of Mines, for the kindly interest he has taken and the valuable work he has done in connection with the preparation of the maps. He has also written a general description of the topography of the region.

To Messrs. A. G. Burrows, N. L. Turner and W. K. McNeill, we are under obligation for most of the analyses of rocks that are to be found in the report.

We are also indebted to Mr. P. E. Hopkins who spent a few weeks in the area during the autumns of 1911 and 1912. His paper on the pyrite mines near Queensboro accompanies this report.

* U. S. Geol. Surv. Monograph LII, The Geology of the Lake Superior Region.