

ONTARIO AND MANITOBA.

The Geological Survey work during the past season in Ontario consisted in examinations made, by the writer, of several of the principal mines on Lake Superior, and of the whole of the north shore of the lake from Kaministiquia River to Echo Lake, east of Sault Ste. Mary, including the whole of Thunder Bay, portions of Black Bay and Nipigon Bay and Straits, Michipicoten Island, Bachewanung Bay, and Goulais Bay. The entire distance—probably about 800 miles—was traversed in a small Mackinaw boat, and the shore line was pretty closely followed. Current River, Thunder Bay, was left on the 13th July, and Sault Ste. Mary reached on the 20th August. Remarkably fine weather was experienced, and but little detention from adverse winds. The average temperature for July between 6 and 8.30 a.m. was 60.95° and for August between the same hours 61.52°. Many days it was so calm that sailing was impossible.

In the whole distance only seven mines and one stone quarry were found at which work was being prosecuted. These were, from Thunder Bay eastward,—

1. Pie Island.
2. Silver Islet.
3. Freestone Quarry, Isle Verte, Nipigon Bay.
4. Michipicoten Island.
5. Mamainse.
6. Do.
7. Echo Lake.
8. Garden River (east of Sault Ste. Marie).

The Silver Islet Mine is the only one which has as yet yielded any profit on the working.

At Michipicoten Island, and at one of the Mamainse mines, very large sums of money are being expended; but the surface works, as has been so often the case in the past history of Lake Superior mining enterprise, are altogether too far ahead of the underground explorations, which in August last could not be said to have afforded more than a reasonable prospect of a profitable mine, more especially when considered in connection with the unsuccessful result of the previous somewhat extensive exploration of the same mining areas.

At No. 7, the Echo Lake mine, work has been suspended since the date of my visit in July.

The origin, geological structure, and age of the formations around the shores of Lake Superior are points upon which much discussion has arisen and various opinions have been expressed. To study these questions was one of the main objects of the present exploration, and also to ascertain whether any sound reasons existed for adopting the new names by which it has been proposed to designate the interesting groups of strata which there constitute the so called upper and lower copper bearing rocks. The result of the observations made will be given in the annual report, when the facts have been further considered. At present the impression formed is that the names referred to are not required, and that generally the views expressed by the earlier explorers are more nearly correct than those subsequently advanced, the latter being for the most part based apparently more on theoretical considerations than, like the former, on personal examination of the region. During the present exploration a number of rock specimens were collected, and about forty photographs of scenery and of interesting geological sections were taken.

In July, August, and September Mr. Weston made an examination of the formations from Sault Ste. Mary eastward along the northern shores of Lake Huron. The Huronian strata were carefully, but unsuccessfully, searched for fossils, a good suite of rock specimens was, however, secured, and a number of fossils was obtained from the Cambro-Silurian formations, chiefly of St. Joseph and La Cloche Islands, where we find the eastern limit of the Sault Ste. Marie or St. Peter sandstones. Expenses—\$272.42.