surrounded by gnessiod rocks. Furthermore, the lower members of the Mamainse series are intersected by numerous dykes, consisting of compact melaphyre. In some of them, the constituents of that rock are distinguishable, but most of them are almost impalpable, vary from a reddish-brown to a dark green colour, and frequently exhibit at their sides bands of slightly different colours, which run parallel with the side-walls of the dyke.

The average strike of the Upper Copper-bearing rocks of Michipicoten Island is N. 68° E., and the dip 25° south-eastward. An approximative estimate of their thickness is as follows:—

Granular, delessitic and compact melaphyres, and conglomerates.....	10,000 feet.
Compact melaphyres with agate amygdules.	4,500 "
Resinous traps, porphyrites and breccias...	4,000 "
	18,500 feet.

If we compare the rocks of Michipicoten Island with those of Mamainse, it would appear that the inferior rocks of the latter group do not come to the surface at Michipicoten Island, and that the higher rocks of the Michipicoten group have not been developed at Mamainse, or lie beneath the waters of the lake to the south-west of the promontory. It would therefore appear just, in estimating the thickness of the Upper Copper-bearing rocks of the eastern part of Lake Superior, to add to the Mamainse series the above mentioned 4000 feet of resinous traps or porphyrites, which would make the whole thickness at least 20,000 feet. The rocks of the west and south shores of Michipicoten Island present the most regular appearance, and it might be expected that those of the south shore would, from their strike and dip, repeat themselves on the east side. But, as in the case of Mamainse, such an expectation is disappointed. On examining the rocks of the east shore, the upper beds, consisting of the porphyrites above mentioned, seem regular enough, but beneath these come brecciated melaphyre, delessitic melaphyre cut by a porphyritic rock, and others in which the evidences of bedding are very indistinct. Among these rocks the two following may be particularised as occuring in large masses. The first has an impalpable flesh-red or reddish-grey matrix, wherein occur numerous grains of dark grey quartz, and also light-coloured soft particles, which seem liable to removal by atmospheric agencies, giving the rock where this has taken place a porous appearance.