

about thirty-five miles, is a marked depression in the floor of the bay of from three to four miles in width, flanked on both sides by more or less abrupt, continuous cliffs of probably Potsdam age. From a depth varying on the top of the cliffs from 30 to 150 feet, the descent is quickly made to depths reaching a maximum of 612 feet, and averaging from 350 feet to 400 feet. Whilst the summits of these subaqueous cliffs form, on either side of the depression, a relatively level surface of about two to four miles in width for the whole thirty-five miles, beyond that width the lake bottom once more, but more gradually, slopes in the one case to the eastward, in the other to the westward, so as to form two other depressions parallel to that above described, but of much less depth. Beyond Pancake Point the middle depression leads to the general depths of the lake bottom outside of the bay, but with a somewhat decreased depth at the immediate outlet. In White Fish Bay the lake bottom is, like the coast near at hand on the southern side, composed chiefly of beds of sand, and it is clear that these depressions are now partially filled up with this material and with clay.

These subaqueous cliffs and depressions lie in a general direction parallel to the eastern coast line of the lake, and have probably their origin in the same cause, though subsequently more defined by river action. The conspicuous subaqueous ridge between Michipicoten Island and the higher division of rocks of Caribou Island has apparently also the same direction.

The forces which contributed to the formation of Lake Superior appear to have taken three principal directions: the first in a line from Michipicoten Island eastward and westward, parallel with the extreme northern and general line of the southern shores of the lake, and with the northern coast of Keweenaw Point, where profound depths almost skirt the shores; the second, already referred to, operating in the line of the western coasts, of the subaqueous depression near these coasts, and of the axes of Isle Royale and Keweenaw Point, and of the Keweenaw Bay depression; and the