

and to ascend the mountain from Welch's farm where its upper surface in the sketch appears to be flat and level as seen from Ottawa City. My object in doing so was to ascertain first whether the sand hills constitute a true terrace; and further to ascertain whether the summit of the mountain was itself flat topped, by reason of the levelling influence of water.

The sand hills are composed of a clean yellow sand, very little intermixed with boulders. They are entirely of detrital origin of later age than the leda clays; and are simply higher members of the saxicava sands. The bench level above Welch's farm was found to be 680 feet above the sea, and on a general level with the sand hills nearest to Kingsmere.

That the Welch terrace is of marine origin, and a shore line of the pleistocene flood period, will be made clear to you by a little reflection. No marine fossils can be produced by me at this time, in support of the proposition, yet I can make it without reserve; because the mountain faces openly the wide expanse of plains which were at that comparatively recent date the enlarged gulf or inland sea of the St. Lawrence.

If further evidence be required I will refer you to Sir Wm. Logan's Geology of Canada, 1863, citing the elevations of marine clays along the shores of this inland sea, at Ha Ha Bay 600 feet above the sea, at Grenville 500 feet, and of similar clays skirting the hills all along its northern shore between Ha Ha Bay and the valley of the Ottawa. He cites saxicava sands at the falls of Bell River at 400 feet, at Beauport 350 feet, and on Montreal mountain 470 feet above the sea.

As the formation of clays on the one hand, and sands on the other, is dependant, however, upon local conditions, and is not a feature of succession in time, it is well to remember that the leda and saxicava shells can only be made use of as names for local, and limited portions of the section we are constructing. Clays, sands and gravels may alternate, and occur again and again throughout the series, according to drainage and lowest water level of the locality and time.

Next ascending from Welch's terrace to the summit of the flat topped mountain (seen NE of us from the summit of King's mountain) I found the elevation to be 910 feet above the sea;