

the microscope, and be reported on. They seem to be very similar in character, and probably do not differ much in age.

North side of
the Lower
Restigouche.

On the north side of the Restigouche, in the province of Quebec, the western limit of the trappean ridges has been fixed. It is directly opposite the limit of the trap, on the south side of the river, but the northern limits and its extension eastward have not yet been determined. It is, however, evident that the valley of the Restigouche was clearly defined at this period, as the Devonian beds now occupy its basin, and the doleritic rocks probably extended then as now in two lofty and tolerably regular ridges along its two sides. Evidently no disturbance of any importance has occurred in this vicinity since the deposition of the Devonian fish-bearing beds, as in nearly every case they lie nearly in a horizontal attitude or inclined at low angles, forming a shallow, synclinal trough between the two ranges of hills, and occupying the beds of the river and harbor between Campbellton and Dalhousie.

SURFACE GEOLOGY.

In the report of Dr. Gesner to the New Brunswick Government (1843) the surface deposits of the coast between Bathurst and the Restigouche are well described. They are there divided into the "Upper and Lower Tertiary." In the former he includes the white marls, and in the latter the grey, blue and brown clays containing marine shells.

Shell marl.

Of the former, or white marls, several deposits of considerable value exist. One of these is near Belledune Point, the thickness of which is about two feet, overlaid by some five feet of peaty soil. It is nearly a pure carbonate of lime, with several species of fresh water shells. A second deposit occurs in a road leading back from the shore about two miles north of Charlo station, where it is seen occupying the bed of a small lake or overflow of a brook, the character being similar to that just described. These marls are used locally to a slight extent, but the abundance of lime in the soil from the decomposition of the Silurian calcareous slates and limestones obviates the necessity for its application in any considerable quantity.

Marine clays.

Along the line of railway north of Bathurst frequent cuttings are observed in the grey and bluish-grey Post Tertiary marine clays. The first of these is seen a few rods north of Bathurst station, where dark brown-red clays, overlaid by several feet of gravel, contain abundance of shells of *Mya arenaria* and *truncata*, *Tellina Grœnlandica*, *Astarte Laurentina*, *Saxicava rugosa*, a *Natica* and a *Venus* (*Mercenaria*). A larger cutting is seen just above the Tête à Gauche bridge. Here the overlying gravel, generally fine, has a thickness of about fifteen feet,