

(Disconformity?)

Turtle Mountain Group..... Devonian and Carboniferous

This section is conformable throughout, with perhaps a slight disconformity at the base of the Dakota, indicated by a very persistent twenty-five foot bed of cherty conglomerate.

The beds of the Turtle Mountain group are light to dark grey, massive cherty limestones; the Fernie and the lower Kootenay are dark grey to black carbonaceous shales, and the upper Kootenay is composed of more arenaceous beds with several coal seams, which are extensively mined in the Crowsnest pass. The Dakota beds are mostly fine to medium quartzose sandstones of a striking green colour, alternating with more shaly beds. Near the top are several bands of soft, bright red ferruginous clay shales. The Benton measures are almost wholly fine-grained, dark grey fissile clay shales, and the Allison beds are typically soft, light grey, cross-bedded sandstones.

For further information in regard to the stratigraphy and structure of this region see the reports already referred to and also the Summary Report of the Geological Survey of Canada for 1912.¹

Relations to the Underlying Dakota.

The contact between the upper Dakota measures and the volcanic rocks is a gradational one. On approaching the horizon of the volcanics the Dakota beds as a rule become coarser, and distinctly tufaceous material becomes noticeable. The beds often pass gradually from greenish sandstones and shales into well stratified tufaceous rocks, and the exact contact can often not be placed at any given horizon.

The character of the sediments at the top of the Dakota indicates shallow fresh-water or terrestrial conditions. Layers of bright claret coloured ferruginous shales are common, and mudcracks and rather indistinct ripple-marks have been observed.

¹MacKenzie, J. D., Summary Rept. Geol. Survey, Canada, 1912, pp. 235-246.