Variations in the carbon isotopic composition of marine carbonates and organic material, recently reported from sections spanning the Triassic-Jurassic boundary, have been linked to transient perturbations in the carbon cycle and related to mass extinction events.

In order to obtain a more complete picture of the carbon isotope variations during the Late Triassic and Early Jurassic we have examined five sections from the Pardonet and Fernie formations. Four of them, Ne Parle Pas Point, Black Bear Ridge, Crying Girl Prairie Creek and Pine Pass include the Triassic-Jurassic transition. Over 300 samples were collected along stratigraphic profiles and carbon isotope measurements were performed on the organic matter. Although the total range of variation of the $\delta^{13}C$ values is between $-25\%_o$ to $-32\%_o$, the majority of the samples have $\delta^{13}C$ values between $-29\%_o$ and $-31\%_o$. Despite this narrow range of variation, there are some laterally reproducible stratigraphic trends, mostly in the upper part of the Pardonet Formation. In all the sections, the beds containing the Triassic-Jurassic transition are relatively thin and they overlie the lithologically distinct “Monotis beds” with a phosphatic layer at the contact. The Black Bear Ridge and Crying Girl Prairie Creek profiles display similar trends with a small (1‰ at Crying Girl Prairie Creek and 2‰ at Black Bear Ridge) but well marked positive shift in $\delta^{13}C$ values just above the top of the Monotis beds, followed by an immediate return to background values. The Triassic-Jurassic boundary is located near the contact between the Pardonet and Fernie formations, however, at Ne Parle Pas Point section it cannot be precisely determined on the basis of the existing biostratigraphic data. Here, the carbon isotope profile shows a positive shift in $\delta^{13}C$ values about 20 meters above the “Monotis unit”, in beds from which Triassic ammonites have been reported. We failed to find the negative excursion reported at or near the Triassic-Jurassic boundary elsewhere despite our high density sampling. Possibly, the rock record in the NE British Columbia is incomplete or, alternatively, the carbon isotope pattern might be more complex that it is currently believed.