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**Keywords:** chemostratigraphy, Gaskier, Ediacaran, Serra Azul Formation

Some successions deposited around the world during the Ediacaran Period have evidenced enigmatic isotope values. The isotope variations reflect the chemical composition of seawater, but large-amplitude variations are abnormal in the geological record and can be associated with changes in climate, atmosphere and life in a remote past.

In this context, this work presents an isotopic (C, O, and Sr) chemostratigraphic study of the Ediacaran carbonate lens near the top of the Serra Azul Formation, northern Paraguay Belt, Mato Grosso State, Brazil. This formation overlies a post-Marinoan carbonate succession, the Araras Group, and is composed upwards by: (i) glacial diamictites, with red clayey-sandy-silty matrix and striated clasts of sandstones, carbonates, cherts, metamorphic rocks, igneous and volcanic rocks; (ii) red laminated clayey-siltstone, with thin layers of interbedded hummocky sandstones; (iii) the limestone lens (12 m thick), showing syn-sedimentary folds, deformed laminae, breccias, and nodular structure; (iv) claystone and fine sandstone rhythmite; and (v) heterolithic successions interbedded with cross-stratification sandstones at the top.

The limestones of the Serra Azul Formation yielded  $\delta^{13}\text{C}$  values between - 7.5 and + 0.8 ‰, and  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios between 0.7086 and 0.7089 (carried out in samples with Rb/Sr ratios less than 0.005). These carbon values are correlated to post-Gaskiers extreme negative anomaly. The strontium ratios also are very similar to ratios of the Wonoka and Shuram formations (Australia and Oman; Calver, 2000; Burns et al., 1994), and they confirm a post-Gaskiers age deposition of the Serra Azul Formation. This occurrence in South America demonstrates that the Gaskiers Glaciation is more widespread than previously thought. Thus, the Paraguay Belt (western Gondwana) encloses at least two of the Neoproterozoic glaciations.

**References**

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