

CARBON AND OXIGEN ISOTOPE STRATIGRAPHY OF A SECTION OF THE SETE LAGOAS FORMATION (BAMBUÍ GROUP) IN SOUTHERN SÃO FRANCISCO CRATON, BRAZIL

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The Bambuí Group is a thick carbonate-siliciclastic unit that overlies glacial deposits on the São Francisco Craton (SFC). Isotope chemostratigraphic data of the carbonate rocks of the Sete Lagoas Formation (lowermost unit of Bambuí Group) in the southeastern part of SFC show evidence of large disturbances on the C and O isotope compositions linked to post-depositional dolomitization. To test such alteration, 29 samples of limestones and dolomites were collected from a section 35 meters thick close to the Funilândia town. These carbonates display flat parallel lamination and low-angle truncated lamination, with thin interbedded marls and tectonic features such as calcite veinlets, dolomite nodules, mineral recrystallization, dissolution and faulting. Carbon isotopic values (V-PDB) range from -3.52 up to 0.94 ‰. The dolomitic levels at the base and middle part of the section display the more negative values with a large variation among adjacent samples, suggesting post-depositional alteration. On the other hand, consistent values close to zero are related to the limestones to the top of the section and do not show much variation. Oxygen isotopic values (V-PDB) are all negative and show little variation between -9.46 and -7.93 ‰, with the more negative values associated to the dolomites. The consistent data obtained on the limestones and the sedimentary facies allow us to correlate this section with the Pedro Leopoldo Member at the base of the Sete Lagoas Formation. Similarly to previous works, the studied section displays disturbances in the C and O isotopic record related to dolomitization. It seems that such process occurred at a basinal scale on carbonate sections located near the Araçuaí Belt on the eastern border of the SFC. The dolomitization and the isotope record modification probably happened during the uplifting and thrusting of the belt over the craton, as shown by the association between dolomites and tectonic structures.