

## CHEMOSTRATIGRAPHY AND GEOCHRONOLOGY OF AN UPPER SECTION OF SETE LAGOAS FORMATION, BAMBUÍ GROUP, IN THE SOUTHEASTERN SÃO FRANCISCO CRATON

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The Sete Lagoas Formation (SLF), the lowermost unit of the Bambuí Group, is composed of limestones with pelitic intercalations, deposited on top of the glacial deposits of the Jequitai Formation, in the São Francisco Craton (SFC). Two shallowing-upward cycles divide SLF into lower and upper sequences. Recent studies presented contrasting ages between these two sequences, possibly associated with a hiatus. An isotope and elementary chemostratigraphic, as well as a geochronological (U-Pb on detrital zircon grains) study was carried out in a section of SLF, in the southeastern portion of the SFC. It is composed of finely laminated, dark bluish gray organic matter rich limestones, with a marl intercalation on the top, which provided detrital zircon grains. The  $\delta^{13}\text{C}$  carbonate values range from +1.18 to +10.24 ‰ (PDB), in which the lowest values (+1.18 to +5.98 ‰) were considered post-depositional alterations. The  $\delta^{18}\text{O}$  values range from -9.65 to -6.79 ‰ (PDB).  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios are between 0.7075 and 0.7077. Most representative U-Pb ages of detrital zircon grains are between 650 to 550 Ma, with the youngest population close to 560 Ma. Shale-normalized Rare Earth Elements (REE/PAAS) show predominantly flat patterns, depleted in light REE. Most of the Y/Ho ratios are between 27 and 30, close to average upper continental crustal values. The  $\delta^{13}\text{C}$  values (+5 to +10 ‰) allow positioning the study section at the upper sequence of the SLF, above the  $\delta^{13}\text{C}$  abrupt shift found at regional scale. The youngest population of detrital zircon grains (560 Ma) suggests a maximum depositional age for the upper part of SLF close to the Precambrian/Cambrian boundary, at least in the southeastern portion of the SFC. The  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios are lower than the expected ones for contemporaneous carbonates around the world (>0.7085), suggesting depositional setting in a restricted basin, influenced by continental waters, according to the REE patterns found in these rocks.