

## CARBON- ISOTOPE STRATIGRAPHY OF TWO NEOPROTEROZOIC CAP CARBONATES IN BAHIA: RIO PARDO BASIN AND RIO PRETO BELT, BRAZIL

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**RESUMO:** The Rio Pardo Basin, southeastern border of the São Francisco craton, Bahia, has been partially involved in the folding of the Araçuaí Belt and metamorphosed in the greenschist facies. Dolomitic limestones (~100m thick) in a proximal section of the Serra do Paraíso Fm. with planar stromatolites are in contact with the gneissic/granulitic basement, at Serra do Paraíso Farm, and replaced up section by gray/dark limestones (~40m) that crop out along the BA-120 road. Next to Santa Maria Eterna village, in a distal section, gray limestones show Conophyton bioherms and breccias. Carbonates of the Serra do Paraíso Formation overlie immature arkoses, but they have never been observed in straight contact with diamictites of the Panelinha Formation. The Rio Preto Belt, northwestern border of the São Francisco craton, is subdivided into: (a) cratonic domain (São Desidério Formation); (b) internal domain, limestones overlain by clastic rocks, marls and limestones (Serra da Mamona Formation); (c) north of Barreiras village, limestones are overlain by arkoses, feldspathic quartzites, graywackes and rare carbonate intercalations (Riachão das Neves Formation). In the central portion of the belt, the Canabrinha diamictites, probably deposited in glacial marine environment. The above formations are respectively equivalent to the Sete Lagoas, Serra de Santa Helena, Três Marias and Jequitáí formations (Bambuí Group). C and O isotopes were analyzed in 278 carbonate samples from the Serra do Paraíso and São Desidério Formations aiming at a high-resolution isotope stratigraphy.  $\delta^{13}\text{C}$  values for carbonates with planar stromatolites at Serra do Paraíso Farm are ~ -5‰ and jump upsection to + 8 to +9‰. At the eastern portion of the Agua Branca Range, a section of dolostones displays  $\delta^{13}\text{C}$  values ~ -2‰. Near Santa Maria Eterna, limestones with conophytions display values ~ 0‰. At Toca da Onça quarry, dolostones display values from + 1 to + 3‰ and at the western side of the Agua Branca Range, gray limestones from a sequence of rhythmites exhibit values from +3.5 to +6‰. Finally, a section to the north of Pau Brasil shows values from +7 to +9 ‰. In the Rio Preto Belt, representative sections of São Desidério Formation have the following values: at Derocal, reddish dolomitic argillites display  $\delta^{13}\text{C}$  values from +2.5 to +5‰, where at Mineração do Oeste quarry limestones show  $\delta^{13}\text{C}$  values from +1.2 to + 2.2‰ in the first 16m changing abruptly upsection to values between +10 and +12‰ in organic matter-rich limestones. At Sítio Rio Grande, limestones show  $\delta^{13}\text{C}$  values from +13.5 to +15‰ in the first 30m and from +14 to +16‰ in the upper 15 m, organic matter-rich limestones. The composite  $\delta^{13}\text{C}$  pathways for the Serra do Paraíso and São Desidério formations are typical of cap carbonates and the latter approaches that of the Sete Lagoas and Lagoa do Jacaré formations described elsewhere.

**PALAVRAS-CHAVE:** ISOTOPE STRATIGRAPHY; CAP CARBONATE; CARBON ISOTOPES.