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The new occurrence of Marinoan cap carbonate in Brazil: The expansion of Snowball Earth events to the southwesternmost Amazon Craton

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1 **THE NEW OCCURRENCE OF MARINOAN CAP CARBONATE IN BRAZIL: THE**
2 **EXPANSION OF SNOWBALL EARTH EVENTS TO THE SOUTHWESTERNMOST**
3 **AMAZON CRATON**

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20 **Abstract:** Carbonate deposits exposed in the border of the Pimenta Bueno and Colorado
21 grabens, western part of Parecis Basin, southwestern Amazon Craton, Brazil, have been
22 previously considered as Paleozoic record. These deposits lying unconformably on
23 Mesoproterozoic crystalline rocks, the basement of the grabens, and consist predominantly by
24 pinkish dolomite overlying glacial diamictites, with average negative values of $\delta^{13}\text{C}$ of –
25 3,10‰_{VPDB}. The contact between the dolostone and diamictites is sharp and deformed similarly
26 with others Neoproterozoic cap carbonates occurrences in the Amazon Craton, also related to the
27 Marinoan Glaciation (635 Ma). This new occurrence of Marinoan cap carbonate is composed by
28 two facies associations. Facies Association 1 consists of pinkish peloidal dolostone with even
29 parallel and quasi-planar laminations, wavy and megarripple bedding, macropeloid lenses
30 associated with low-angle truncations, interpreted as fairweather- and storm-influenced shallow
31 platform deposits. Facies association 2 consists in dolostone rhythmically interbedded with shale
32 underlaid by 5m-thick laminated siltstones, interpreted as moderately deep platform deposits.

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