CARBONATE AND ASSOCIATE BANDED IRON FORMATION GEOCHEMISTRY AND PETROLOGY OF THE SÃO JOSÉ DO BELMONTE PLUTONS, PERNAMBUCO, NE OF BRAZIL

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The Cachoeirinha Group was deposited in the central area of the Transversal Zone Domain of the Borborema Province (Cachoeirinha–SalgueiroTerrane), between the Patos and Pernambuco shear zones. The lithotypes of its basal unit, the Santana dos Garrotes Formation, are formed by Neoproterozoic metaturbiditic association with marble, banded iron formation (BIF) and metavolcanic intercalations, deposited in a back-arc basin. Elemental and isotope chemostratigraphy of selected sections was carried out aiming at precising the depositional conditions of carbonate and iron-bearing sediment formation and estimating their chronology. Calcitic marbles at the Pedreira and Oiti localities display average $\delta^{13}C$, respectively, of +4.9‰ and +4.1‰, besides negative Ce anomaly and positive Y anomaly, suggesting a middle to late Cryogenian depositional age in a slightly oxygenated environment. The PAAS normalized REE + Y patterns for BIFs at the Oiti locality favor a hydrogenetic precipitation with hydrothermal influence.

Abundant Cryogenian–Ediacaran granitic plutons have intruded the Santana dos Garrotes Formation. Bulk and mineral phase chemistry analyses of magmatic epidote-bearing granodioritic plutons to the north of the Carmo village allow identify them as calc-alkalic and high K calc-alkalic, of mixed origin. These granodiorites were likely intruded during final stages of a subduction regime, crystallizing under pressures of 6.6–9.3 kbar and temperatures in the 720–765°C range, at depths around 22 Km.

Keywords: BIF; Neproterozoic; Magmatic-Epidote Pluton