

CHEMICAL DEPOSITIONS ASSOCIATED TO THE METAVOLCANO-SEDIMENTARY SEQUENCES AT THE CENTRAL BAND OF THE SÃO FRANCISCO CRATON IN THE STATE OF BAHIA, BRAZIL

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Metavolcanosedimentary rocks occur in the central portion of the São Francisco Craton. They were primarily volcanic flows and tuffs, clastic and chemical sediments. The latter are referred to the banded iron, iron-manganese and manganese formations, iron-poor magnesian-rich carbonate facies, and minor metacherts. The metamorphism and thermal effects pronounced by the Transamazonian migmatization and granitization are accountable for generation of metasomatic lithotypes.

The banded iron formations are depicted by the oxide, carbonate and silicate facies. They have geochemical signatures that define them as between the Archean Algoma type and the Paleoproterozoic Superior type.

Carbon and oxygen isotopic data from the carbonate facies of the iron formations yield values of $\delta^{13}\text{C}_{\text{PDB}}$ from -4 to +6 and $\delta^{18}\text{O}_{\text{PDB}}$ from -15 to +22. Smaller values of $\delta^{18}\text{O}$ are found in coarse grained carbonates. No relationship of these values with the carbonate composition was detected.

The (Eu/Sm)_{NC} and ETRP/ETRL ratios for the banded iron formations indicate ETR fractionation. It is suggested that CO_2 played an important role in the environmental control of the pH and the consequent precipitation of the chemical facies and the lanthanides sorption by the primary deposited gels.

The reported common features support the idea that these chemical sequences were generated from similar processes and throughout an extense crustal segment.