

THE NEOPROTEROZOIC AND EOPALEOZOIC SUCCESSIONS OF THE RIO GRANDE DO SUL STATE, SOUTHERN BRAZIL: SUPERPOSED BASINS OF THE END OF THE BRAZILIDES TECTONICS AND THE BIRTH OF THE INTRACRATONIC PARANÁ BASIN

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Neoproterozoic and Eopaleozoic successions occur along NNE-SSW faults in the central portion of Rio Grande do Sul state. They are composed of two superposed basins: (i) the Neo-proterozoic-Cambrian Camaquã basin, related to the final stage of the Brazilides Tectonics, and (ii) the Eopaleozoic initial stage of the Paraná basin. The early basin is filled by the Camaquã group, a coastal and marine 3 to 5 km in thickness, that evolved from a quasi-cratonic stage (Maricá formation) to a rift stage with early volcanic events (Crespos formation) succeeded by tectonically-induced siliciclastic sedimentation (Santa Bárbara formation). This rift, initially continuous, with more than 100 km in width, was subdivided in smaller graben basins during the latest phases. After the rift evolution these small grabens were deformed by post-sedimentary strike-slip faults. The Eo-paleozoic succession comprises two subhorizontal siliciclastic units limited by regional unconformity and mafic intrusions of ~ 470 Ma: (i) the pre-470 Ma Pedra Pintada formation composed of coastal eolian and alluvial sandstones and an upper microfossiliferous sandstones and (ii) the post-470 Ma Guaritas group, a transgressive megacycle constituted of alluvial-deltaic Guarda Velha formation and the amalgamated tempestite sandstones of the Varzinha formation. The Guaritas group is possibly correlated to Caacupé (Paraguay) and Rio Ivai (Brazil) groups of Paraná basin. The Pedra Pintada formation is here recognized as the oldest unit of this basin.