

## **THE LATE NEOPROTEROZOIC- EARLY CAMBRIAN CAMAQUÃ GROUP IN THE BOM JARDIM SUB-BASIN, RIO GRANDE DO SUL STATE, BRAZIL**

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The Bom Jardim Sub-basin is located East of Caçapava do Sul town, Rio Grande do Sul state, southern Brazil, and is composed of two units of the Camaquã Group (Late Neoproterozoic-Early Cambrian): the Crespos and Santa Bárbara formations, both affected by strike-slip and normal faults which tilt the strata up to 80 degrees. The Crespos Formation is composed of a complex association of subaqueous siliciclastic rhythmites (locally injected by dikes and sills) and volcanoclastic deposits (epiclastic rhythmites, conglomerates and sandstones associated with volcanic breccias, tuffs and ignimbrites) interbedded with major andesitic bodies and minor rhyolites. The occurrence of rhyolitic volcanics interbedded with the andesites proves that there is a synchronicity (at least partial) of the acid and intermediate volcanisms. An subaqueous origin for part of the volcanoclastic deposits is inferred from the presence of hydrodynamic structures (climbing ripples and current ripples) in the finer grained epiclastic rocks. The Santa Bárbara Formation overlies the Crespos Formation and begins with inferior conglomerates with clasts from the basement and from the Crespos Formation, covered by subaqueous rhythmites and sandstones, and upper conglomerates with clasts mainly from the basement. No volcanic event is registered in this succession. The Bom Jardim Sub-basin registers a period of active extension of the Camaquã Basin, the Crespos Formation representing the greatest extension phase and the Santa Bárbara Formation representing the subsequent filling of the rift.