

DEPOSITIONAL ENVIRONMENTS OF THE SANTA BÁRBARA FORMATION, CAMAQUÃ GROUP (LATE NEOPROTEROZOIC TO EARLY CAMBRIAN) IN THE SANTA BÁRBARA SUB-BASIN, SOUTHERN BRAZIL

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The Santa Bárbara Sub-Basin contains a succession of siliciclastic rocks of the Santa Bárbara Formation, mainly sand-stones, sandy rhythmities and conglomerates deposited in a tectonically active extensional context as the uppermost, unit of the Camaquã Group. This succession was divided into lithostratigraphic units and depositional systems. The first unit is composed of conglomerates and coarse to medium arkosic sandstones with planar stratification and tabular to trough cross-stratification, representing alluvial fan and fan delta deposits. The second unit is constituted of lower pro-delta and shoreface rhythmities that mark an important transgressive event, and upper tidal flat rhythmities and sand bars. The third unit contains delta front sigmoidal sandstones and progradational alluvial facies, closely related to the tidal deposits of the second lithostratigraphic unit. The fourth unit is composed of fine grained rhythmities interpreted as trans-gressive lagoonal facies, covered by fore-shore and shoreface sand deposits. The fifth unit is composed of alluvial fan conglomerates. Three stratigraphic sequences can be delimited, with boundaries marked by erosional surfaces at the base of the subaerial facies of the first, third and fifth lithostratigraphic units. The first sequence reveals a trans-gressive event and a tidal influenced delta progradation. The second sequence shows another transgression, from which only the first deposits are preserved. The third sequence is related to the rising of the Caçapava do Sul high and to the basin inversion.