

STRATIGRAPHIC ARCHITECTURE OF A LATE CRETACEOUS FLUVIAL DISTRIBUTARY SYSTEM (BAURU GROUP, SOUTHEAST BRAZIL)

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RESUMO: Fluvial distributary systems are a distinctive style of continental sedimentation that occur mainly in basins of endorheic drainage in which they register a regional facies trend variation from proximal incised channelized coarse-grained deposits through medial distributary channel facies to distal unconfined fine-grained deposits. In this work 15 stratigraphic sections were measured for a total thickness of 161 m near the municipality of Marília in the São Paulo State and one composite stratigraphic section, ca. 245 m, in the serra de Echaporã between the Marília and Echaporã municipalities. In this work the stratigraphic record of the Bauru Group is divided in three informal genetic units: lower, intermediate, and upper units which reflect changes in sedimentation styles, stratigraphic architecture and paleosol profiles recognized. The lower unit is ca. 25 m thick and is constituted of muddy sandstone salt flat deposits and sandstone sheet deltas deposits and is interpreted as a basinal part of a fluvial distributary system. The intermediate unit is ca. 70 m thick and is formed of sand-filled ribbon channel and sandy sheet-shaped beds, suggesting a distal or medial portion of a fluvial distributary system. The upper unit is almost completely constituted of compound paleosol profiles stacked for ca. 150 m of thickness and does not match with the present models of the fluvial distributary systems. The three units constitute a continuous sedimentary succession that may be interpreted as a depositional product of a fluvial distributary system. The lower and intermediate units are interpreted as basinal and distal or medial portions of an endorheic fluvial distributary system. The upper unit, which is mostly constituted of paleosols, does not match the proposed models of fluvial distributary system. Paleosols of the upper unit represent a poor and occasional input of sediment into the depositional system, probably due to a general drying up of the climate, which reduced the river discharge and consequently the generation of sediment into the basin. These features and the absence of channelized bodies allow interpreting this unit as a more distal portion of a fluvial distributary system where occasional unconfined flows deposited sheet sandstone. During the pauses of sedimentation moderately developed paleosols (Inceptisols) formed above the deposits for a time in the order of 10^4 y. The combined use of facies and paleopedologic analyses seeds some light to reveal the very complex stratigraphic architecture of the lithologic homogenous and featureless rocks of the Bauru Group in the studied area and permitted to insert the paleosols into fluvial distributary system depositional model.

PALAVRAS-CHAVE: FLUVIAL DISTRIBUTARY SYSTEM, STRATIGRAPHIC ARCHITECTURE, BAURU GROUP.