SEQUENCE STRATIGRAPHY OF THE RIO DO SUL FORMATION, ITARARÉ SUBGROUP (LATE PALEOZOIC), PARANÁ BASIN, CENTRAL-EASTERN SANTA CATARINA, BRAZIL

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The Rio do Sul Formation in central-eastern Santa Catarina (Rio do Sul sub-basin) corresponds to a package of up to 400 m of marine dark shales, with ocasional dropstones, interbedded with sandstones, conglomerates and diamictites accumulated by mass-gravity-flow as submarine fans, during the Gondwana glaciation.

Along the local succession, the mass gravity-flow deposits form three more prominent levels correspondent to intervals of stronger relative drop (lowstand) of sea-level, that alternate with highstand phases, documented by the shales, both controled glacio eustatic and isostatically (Canuto, 1993).

The section at Barra do Dollmann exposes the more complete and better preserved submarine fan facies associations and will serve as a basis for the present discussion. From base to top the section is formed by tabular, fine sandstone beds, 2-3 m thick, with abundant water escape structures indicative of deposition by grain flow. The sandstone beds thin out distally to decimetric and centimetric, basinward, towards Ibirama, passing laterally to outer fan turbidites. General sense of paleocurrents is towards south. Channelised diamictites and sandstones, and disorganized, normally or reversely graded conglomerates represent debris flows of more proximal facies of the submarine fans.

The tabular non-confined sandstones correspond to a lowstand systems tract, developed on a basin-floor fan (Van Wagoner *et al.*, 1988; Vail *et al.*, 1991) and the channelised diamictites and disorganized conglomerates, a lowstand systems tract, formed on a slope fan (Van Wagoner *et al.*, 1988).

The system tracts recognized make up a succession of three sedimentary cycles, 80-100 m thick each, equivalent to 3rd order sequences of type 1 (Posamentier et al., 1988; Haq, 1991; Vail *et al.*, 1991). Additionally, two other sequences representing lowstand system tracts may be recognized at the base and top of the Rio do Sul Formation. The first includes facies related to the initial advance and retreat of ice into the basin. The second is documented only by subaquatic proglacial facies formed during retreat of a glacier margin, subsequently to the last glacial event in the area.

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Simpósio sobre Cronoestratigrafia da Bacia do Paraná, Barra do Garça, Abstracts (1997)