AN EXAMPLE OF A GLACIAL INCISED VALLEY FILL: THE LAPA SANDSTONE, PARANA BASIN, BRAZIL.

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The Lapa Sandstone, an informal stratigraphic unit of the Itararé Group is dated as westphalian/stephanian in age, and is a sinuous N-S-oriented channelized body, measuring more than 50km in length, 200m in thickness and 800m in width. The surrounding rocks are westphalian glaciomarine (turbidites + rain-out) deposits.The valley fill consists of seven facies associations (gravity flows, tidal, storm and beach deposits, as well as fluvial sheet, channelized and flood deposits) grouped in three depositional systems: shelfal marine with gravity flows (valley's base), fluvial and coastal systems. The incised valley was probably filled during a transgression following the ice retreat and the subsequent rise of the relative sea level caused by rising temperatures after a glacial maximum. The Lapa sandstone constitutes part of the Transgressive Systems Tract of a second order depositional sequence (ca. 5 Ma duration). The deposition of the Lapa sandstone is estimated to have ocurred during aproximatelly 1,25 Ma. This sandstone is composed by at least five fourth order depositional sequences, each one deposited during ca. 250 ka. The conceptual sequence-stratigraphic model proposed for this glaciated region differs from those generally used in passive margin basins, the main difference being the higher sedimentary supply and progradation that are interpreted to have occured during the transgression in this region, in contrast to the mainly retrogressive and fine-grained sedimentation in basins located far from the ice center.Similar glacial incised valley fill deposits were recognized in the surrounding outcrops, well logs and seismic lines in the Parana Basin.