

SEQUENCE ARCHITECTURE AND CYCLICITY OF THE CONTINENTAL DEPOSITS OF THE SÃO SEBASTIÃO FM., BARREMIAN OF THE RECÔNCAVO BASIN, NE BRAZIL

SANTOS, CLOVIS FRANCISCO. Petrobras S. A., Rio de Janeiro, Brazil.

The last fill of the Recôncavo half-graben, a compartment of the Recôncavo-Tucano-Jatobá rift (northeastern Brazil), is partially constituted by the continental deposits of the Buracica Stage (Barremian). This interval is characterized by the cyclic succession of fluvial, deltaic and lacustrine sediments of the São Sebastião Formation. Surface (outcrops) and subsurface studies (logs and cores) supported the subdivision of the stratigraphic succession in six 3rd order sequences and twenty 4th order sequences, which can be correlated throughout the basin. These sequences are composed of lowstand, transgressive, highstand and forced regressions systems tracts, controlled by lake-level fluctuations. The sequence boundaries are not characterized by deep incisions and most of the time are recognized by abrupt facies changes (sharp based sandstones overlying lacustrine shales). Changes of lake-level and sediment supply are directly related to climatic variations. The architecture of the sequences has the climate as the main driving mechanism, which is demonstrated by the construction of curves of lake-level changes, based on data of stable isotopes of oxygen. The accommodation space and the preservation of these sequences are credited to the subsidence, which is controlled by the rift border fault. The study of the cyclic stratigraphic succession based on the orbital cycles of the Milankovitch band, suggests that the 3rd order sequences were deposited in a time span of 413 ka, equivalent to the period of the long eccentricity. The 4th order sequences are correlated with the obliquity cycles, with a time span of 38 ka and 49 ka.