

The Sequence Stratigraphy Concepts Applied to Sedimentary Stacking Evolution in the Upper Cretaceous Deep-Water Sandstones of the Campos Basin

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The Upper Cretaceous deep-water turbidites in Campos Basin are characterized by sandy retrogradational depositional systems, filling structural lows formed by halocinesis. According to foraminifera content the depositional environment was in medium bathyal depths. Tectonism, eustasy and sediment supply have influenced, in several scales, the facilogic features (textures), and geometry of the deep-water sandy reservoirs.

The evolutive stratigraphy of the depositional sequence is made up of the following architectural elements, from base to top: 1) basal conglomerate systems; 2) coarse grained turbidite lobes (confined); 3) channel-overbank association; 4) interlobe / interchannel (fringe facies); 5) fine grained turbidite lobes (unconfined) and, 6) medium grained turbidite lobes (unconfined), herein named as depositional domains D1 to D6 respectively.

The comprising rocks of the D1 to D6 domains were deposited during 6.7 My. They could be divided into two third-order depositional sequences and four superimposed fourth-order depositional sequences. The depositional sequences, and comprised systems tracts, have been individualized based mostly on biostratigraphy and paleobathymetric analyses, along with stratigraphic and sedimentological criteria, and well log patterns. The sequence stratigraphy concepts were useful to assemble the architectural elements, to define facies association into proper systems tracts, and to establish the sedimentary evolution in high frequency fourth-order depositional sequences.