

TECTONO-STRATIGRAPHIC EVOLUTION OF THE REGÊNCIA CANYON (ESPÍRITO SANTO BASIN - BRAZIL) AND ARCHITECTURAL ELEMENTS ANALYSIS APPLIED TO CHANNELIZED TURBIDITE SYSTEMS.

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A stacked succession of Lower Eocene coarse grained channelized turbidites up to 400 m thick fills the depocentre of the Regência Canyon (Espírito Santo Basin, eastern Brazilian continental margin). The Regência Canyon was formed by a multistory evolution since the Middle Albian up to its complete filling during the Early Eocene. Through tectono-stratigraphic analysis the main mechanisms responsible for origin of this canyon and genesis of the depositional sequences and discontinuities were identified. The main sequence is the Early-Middle Eocene supersequence (a complete 2nd order sequence, bounded by two type-1 sequence boundaries, at 57.8 and 49.5 Ma), formed by interaction of different tectono-eustatic factors. The channelized turbidites are part of the lowstand wedge (or channel complex) of the Early-Middle Eocene supersequence that determined the final filling of the Regência Canyon. A hierarchical scheme of classification of the geometric elements and their bounding surfaces was implemented based on the architectural elements analysis applied to cores and log data. The channel-levee complex, classified as a 6th order element, was subdivided into 5 architectural elements orders. This method of analysis provided a better understanding on the evolution of growth stages of channelized complexes and, within a sequence stratigraphic framework, allowed the development of a more accurate geometric and depositional model of buried submarine channels.