

# **GEOLOGICAL AND GEOPHYSICAL DATA ANALYSIS USING IMAGE PROCESSING AND GIS TECHNIQUES TO IMPROVE THE INTERPRETATION OF CONGLOMERATIC WEDGES AT THE SALVADOR FORMATION, RECÔNCAVO BASIN, BRAZIL**

1BEISL, C.H., 2MAGNAVITA, L..P. and 3ALMEIDA FILHO, R. 1PETROBRAS Research and Development Center, Brazil; 2PETROBRAS Exploration and Production - Bahia, Brazil; 3INPE, São José dos Campos, Brazil;

The main border of the Recôncavo Basin, Brazil, is characterized by the Salvador Fault System and by the clastic wedges interpreted as alluvial fans and fan deltas composed of conglomerates and subordinate sandy deposits. These deposits occur as a 5-20 km wide band along the eastern margin of the basin. However, these clastic wedge deposits, known as Salvador Formation, were defined by seismic profiles and tens of wells, and are located near the border of the rift. Therefore, the contour values of the isolith map are inferred from this data set, which could not defined precisely the limits of this clastic wedge. In order to improve the interpretation of the extension and limits of these clastic wedges, image processing techniques were carried out with residual gravity data of the Recôncavo Basin. Enhanced techniques and IHS transformation identified circular features near Salvador Fault System. Therefore, Geographical Information Systems (GIS) facilities allowed the comparison with the isolith map of Salvador Formation, the seismic data, and the new circular features. The results of this integrated analysis indicated the existence of conglomerate fans over the embasament ramp. This ramp in which these conglomerates are deposited was probably used as pathways over the Patioba Platform and Pedra do Salgado Horst.