MULTIDISCIPLINARY STRATIGRAPHIC ANALYSIS OF THE APTIAN MEGASEQUENCE IN CAMPOS AND ESPIRITO SANTO BASINS, BRAZIL

DIAS, J. L. Petrobras, Rio de Janeiro, Brazil

The Aptian sedimentary package in Campos and Espirito Santo basins may reach 400 meters in thickness and is characterized by a poor resolution of biostratigraphic and seismic methods. Data from 7 wells drilled by Petrobras made possible to carry out an integrated study using several stratigraphic tools.Aptian sediments in these two basins were deposited under relative tectonic quiescence. Siliciclastic alluvial sediments prevail in the proximal areas, where it is very difficult to make a consistent stratigraphic analysis. A more detailed stratigraphic analysis is possible only in more distal areas where shallow marine environments were interpreted. In the studied area of Espirito Santo Basin the shallow marine sediments are essentially siliciclastic, deposited in an estuarine environment. Four facies associations and four third order sequences were identified based on detailed petrographic and ichnofacies analysis of siliciclastic rocks and strontium isotopic analysis of thin intercalated anhydrate beds. In Campos Basin the shallow marine facies comprise essentially calcareous rocks (microbiolites and other calcareous sediments deposited from supra to subtidal zone). Four association facies were identified using sparse cores from 5 wells. In the most distal CP-5 well four sequences were also identified based on a more detailed analysis of GR log, petrographic description of cuttings, organic (TOC and HI) and inorganic (d13C and d18O) geochemistry analysis, and organic petrography. The results show that in areas with inadequate biostratigraphic and seismic resolutions a reasonable stratigraphic framework can be obtnained integrating conventional with no conventional (specially chemostratigraphy) stratigraphic tools.