

## STRUCTURAL AND STRATIGRAPHIC INTERPRETATION OF THE PRE-SALT SECTION OF THE SEPIA FIELD IN THE SANTOS BASIN

*COIMBRA, I.S.<sup>1</sup>, PORTO JR, R.<sup>1</sup>*

<sup>1</sup> Federal Rural University of Rio de Janeiro;

**ABSTRACT:** Due to the great importance of Pre-Salt for Brazil's efficiency energy and the lack of studies carried out and published in the study area, the present work presents the results of the structural and stratigraphic configuration analysis of the Pre-Salt section of the Sépia field, in order to present an exploratory view of the area. The prolific Sépia field was discovered by Petrobras in 2012, after well 1-BRSA-976-RJS was drilled. Its commerciality was declared on September 3<sup>rd</sup> 2014 and is part of the Transfers of Rights area of the Santos Basin. Its located northeast of Lula field, 250Km off the coast of the state of Rio de Janeiro and has a water depth of 2,160 m. The area that has been studied has 91.39 km<sup>2</sup> and reaches the Pre-Salt reservoir at a depth of 4,961m. This study consisted in seismic and structural interpretation using Petrel software and the correlation of two public wells available in the area. The seismic analysis allowed the individualization and the three-dimensional interpretation of five horizons: top of the Marambaia Formation, top of the Ariri Formation, top of the Barra Velha Formation, top of the Itapema Formation, top of the Piçarras Formation and top of the Basement. The structural interpretation allowed the analysis of the normal faults that affected area studied during the rift and post-rift phases. After the seismic interpretation were generated structural contour and isopacs maps for the Pre-Salt horizons. These maps showed the location of the Sepia field reservoir and the average thickness of each unit interpreted. With the result of the seismic and structural analysis and the well logs data such as gamma ray, resistivity and porosity, the last stage of the project was carried out, which consisted on the calculation of the hydrocarbon volume in place in the area studied and also a calculation of its uncertainties, in which the variation of the porosity values, Net to Gross, water saturation, Formation Volume Factor and oil-water contact were used. The information from this study has provided a better understanding of the reservoir area, as well as a stratigraphic and structural understanding.

**KEYWORDS:** SANTOS BASIN, SEPIA FIELD, PRE-SALT.