SOURCE ROCKS AND PETROLEUM SYSTEMS IN DEEP AND ULTRA-DEEP WATERS, BRAZILIAN EQUATORIAL MARGIN BASINS.

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ABSTRACT: This research aims to study the source rocks and petroleum systems of the Brazilian Equatorial Margin basins (Foz do Amazonas, Pará-Maranhão, Barreirinhas, Ceará and Potiguar). A detailed review of the main source rocks of these basins will be performed focusing on geochemical logs through TOC (Total Organic Carbon) values, pyrolysis data (S1, S2, IH and Tmax), lithology and geochronology to identify the main source rocks and their depths of occurrence within each basin, as well as to have an overview of the main petroleum systems that make up each basin and relate them to the systems and reservoir rocks being found in the Guyana-Suriname basins, mainly from the Liza field in the Stabroek block. Seismostratigraphic interpretation will be aided by post-stack 2D seismic line and 3D seismic volume surveys and the tying of exploratory wells to aid in the interpretation of seismic horizons for each chronostratigraphic unit. The exploratory potential of the Brazilian Equatorial Margin basins has been increasingly noticed due to the great discoveries made in the Guiana-Suriname basins. Many authors believe it is the new exploratory frontier for the country, comparable to the Pre-salt. Studies carried out in the Potiguar, Pará-Maranhão, Barreirinhas and Foz do Amazonas basins show a real potential for the Aptian-Albian and Cenomanian-Turonian rocks, which are related to two major global anoxic events (OAE-1b and OAE-2). The probable occurrences of reservoir rocks in Neocampanian-Recent turbiditic sandstones are the main targets of investigation of this work, since there are correlated occurrences of turbiditic reservoirs in the Gulf of Guinea basins (West Africa) and also in deep-water turbiditic reservoirs of the Guyana-Suriname Basin. Preliminary interpretations of probable source rocks and petroleum systems in deep and ultra-deep water in the Brazilian Equatorial Margin Basins indicate great exploratory potential for this region.

KEYWORDS: EQUATORIAL MARGIN BASINS, PETROLEUM SYSTEMS, DEEP/ULTRADEEP WATERS.

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