

What's Cooking? Source Rock Descriptions and Hydrocarbon Potential of the Western Central Atlantic Margin

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Recompiling public domain information, using modern tools, in order to assess the hydrocarbon potential of the western Central Atlantic margin (WCAM) was an on-going project ("CARUMBA") for the authors. Our initial focus on bathymetry and potential field data provided improved structural controls on the basins and their evolution. Recently, we aggregated published source rock data from primarily Mesozoic intervals of DSDP-ODP wells and information from industry wells. Initial dismay over the vast range of described properties, e.g., TOC, prodded a more thorough review, which is presented in our poster in tabular and map views.

Previous researchers analyzed different samples within the same gross interval, typically with different results. This caused us to question accepted models of source rock distribution and hydrocarbon generation in WCAM. Although generally lean and thin at typically distal DSDP-ODP locations, the intervals may have better source potential than was originally thought. Various indicators, including natural gas shows up to hexane, that forced abandonment of one well, reinforce the concept. Structural indicators based on high-resolution gravity imagery offer a visual correlation to adjacent basins including the productive West African conjugates.

Some source-related material was published in 2001; however, most of this work dates to the early adoption of geochemical analyses. We suggest areas of further investigation, including a uniform re-description of all DSDP-ODP samples and a compilation of source extracts, as the basis for a modern evaluation of the hydrocarbon potential of source rocks in WCAM.