

MORPHOSTRUCTURE OF THE PERNAMBUCO SEACHANNEL IN THE REGION OF THE BAHIA SEAMOUNTS, NORTHERN BRAZIL BASIN

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MULTIBEAM BATHYMETRY AND SINGLE CHANNEL SEISMIC REFLECTION PROFILING IN THE BRAZIL BASIN DURING THE CENTRALANT PROJECT REVEALED THE EXISTENCE OF A FULLY INCISED, BOTTOM-MEANDERING, EROSIONAL-DEPOSITIONAL CHANNEL IN THE SEAFLOOR FROM THE AREA EAST OF CENTRAL BRAZIL, THROUGH THE BAHIA SEAMOUNTS GROUP AND INTO THE NORTHERN PART OF THE BRAZIL BASIN. WITHIN THE BAHIA SEAMOUNTS GROUP AREA, THE COURSE OF THE SEACHANNEL IS PARTLY CONTROLLED BY THE LOCATION OF INDIVIDUAL SEAMOUNTS. YOUNGER CHANNELS, SIMILAR TO THE BEHAVIOR OF TERRESTRIAL RIVERS, SUPERCEDE OLDER CHANNEL COURSES. SEISMIC REFLECTION DATA SHOWS THIS CHANNEL BIFURCATES AS WELL AS MEANDERS AND IS JOINED FROM THE WEST BY SUBMARINE CANYON-LIKE FEATURES.

THIS IS THE FIRST COMPREHENSIVE MORPHOSTRUCTURAL STUDY OF THE PERNAMBUCO SEACHANNEL. WE BELIEVE IT HAS ORIGINATED FROM EROSIONAL ACTION BY NORTHWARD-FLOWING ANTARCTIC BOTTOM WATER AS IT TRAVERSES THE ARGENTINE AND BRAZIL BASINS BETWEEN DEPTHS OF 4500 AND 5200 METERS AND FUNNELS THROUGH EXISTING TOPOGRAPHIC GAPS IN THE BAHIA SEAMOUNT GROUP.