

Margin Evolution and Reservoir Distribution - Examples from Cenozoic of the Central Atlantic Margin

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A significant issue in recent hydrocarbon exploration activities in deep water on the Scotian margin is the detection of reservoir rock. Existing models of deep water sedimentation have greatly underestimated the linkages between shelf and slope sedimentation, the role of canyon development during lowstand system tracts resulting in slope bypass of shelf to basin sediment transport. In addition, the roles of mass failure and along-slope sediment transport processes in development of passive continental margins have not been sufficiently recognized. The consequence of these sedimentary processes is movement of potential reservoir rock to greater depths than previously anticipated. The objectives of this study are to understand the complexities of shelf to slope sedimentation patterns using Neogene to Recent analogues offshore Nova Scotia and Suriname, South America. Suriname is the youngest post-rift margin in the Atlantic. In these younger sections, spatial and temporal resolution is not at issue and geologic events are better age-constrained. Deciphering forcing functions, sediment pathways and depositional processes are expected to provide insights into exploration models for passive clastic margins. Validation of these hypotheses would indicate that exploration must move to deeper water where shelf-equivalent rocks are transported and deposited