
Considering Key Geologic Risk Factors in Basin Margin Turbidite Plays Utilizing Analogs from the African Margin

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ABSTRACT

This talk utilizes seismic data sets from the African Margin to address key geologic risk factors observed for the rift margin/abrupt/basin margin turbidite play that began with the discovery of the giant Jubilee and TEN discoveries offshore Ghana. Beginning in the deep water Tano Basin, offshore Ghana where the Jubilee and TEN complexes were discovered, the talk uses multichannel and other seismic data to conduct a quick review of the turbidite fan characteristics in the deep water environments of Morocco, Senegal, Angola, Namibia, and Mozambique. Throughout the talk, the seismic data is used to identify key geologic risks and challenges that remain to be resolved regarding continued exploration of this important play that is attracting a lot of exploration interest and investment on both sides of the Atlantic Basin, particularly in the northern and southern Gulf of Mexico, and the Equatorial margin of South America. Key petroleum systems and geologic risk issues are discussed including sufficient overburden and adequate seal, fan volume continuity and connectivity, stratigraphic trapping, migration through turbidite muds, faults and stratigraphic compartmentalization, importance of adequate sediment influx, and application of seismic amplitude anomalies for prospect risking.