

## **A Comparison of Salt-Related Structures in the Espirito Santo Basin, Brazil and its Conjugate Margin in the Lower Congo Basin, Angola, Africa**

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### Abstract

Recent 3D pre-stack time migrated seismic data were used to examine the similarities and differences of salt-related structures in the Espirito Santo Basin, Brazil and the lower Congo Basin, Angola. The data cover approximately 10,600 square kilometers in the Espirito Santo Basin and approximately 4,400 square kilometers in the lower Congo Basin. Water depths in both surveys lie dominantly between 1500 to 2500 meters.

The basic salt tectonic evolution of both margins follows a similar style. Beginning with the deposition of middle to late Aptian age salt in a roughly symmetrical rift basin, both margins have experienced significant sediment progradation and subsequent salt deformation. Salt structures have evolved into a series of margin parallel fairways. Updip extensional salt rollers grade basinward into isolated diapirs, diapirs with allochthonous tongues, and then to coalesced salt canopies. Farthest basinward is a compressional fairway of massive, imbricately thrust salt sheets.

Original salt volumes along the two margins are thought to be similar. In the Espirito Santo Basin most of this salt has been evacuated into diapirs or salt tongues. However, in the lower Congo Basin large volumes of salt still reside in ridges attached to the original salt layer.

Both basins have undergone contraction due to down slope gravity gliding of sediment. In the lower Congo Basin contraction appears to be more highly developed. This is evidenced by the presence of many high relief fold structures near the sea floor and diapirs that have been completely squeezed off from their source.

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