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PS The Subsalt Play in the Lower Congo and Kwanza Basins, Angola: A Seismic Study*

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Abstract

The recent discovery of several multi-billion barrel fields such as Jupiter, Tupi and Carioca-Sugar Loaf in the subsalt section of the Santos Basin, Brazil raises the question of whether similar riches await discovery in the subsalt section on the conjugate margin, offshore Angola. This area is virtually unexplored, with no wells penetrating the pre-salt in the deep offshore area. However, sandstone and carbonate reservoirs and rich source rocks below the salt are known from inshore wells in Cabinda and the Kwanza Basin, Central Angola.

A horizon close below the base of the salt has been mapped over a continuous merged 3D seismic data volume covering 18,000 km^2 in the Lower Congo and Kwanza basins. This covers most of Angolan blocks 17, 18, 34, and 5. Another horizon mapped where visible on the seismic is the unconformity between the Cretaceous sag phase and the metamorphic basement which can be correlated with the onshore outcrop. Isolated patches of Syn-Rift sediments have also been mapped.

This mapping illustrates the structural setting within which fluvial, lacustrine, and marginal marine reservoir sands and carbonates were deposited prior to being sealed by the salt. It also shows potential structural traps below the salt seal.