

## **Unraveling a Giant - The Bonga Success Story**

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The Bonga discovery in 1995, subsequent appraisal and development has remained one of the great success stories in Deepwater Nigeria. The Bonga reservoirs are world class Miocene turbidite reservoirs that were deposited along the upper and middle slope of the Niger Delta deep offshore. Draped over compressional anticlines as channels or fan lobe features, these reservoirs generally have a significant stratigraphic trapping component that helped to accumulate the Oligocene and Early Miocene hydrocarbon charge. Unravelling the structural pattern and complexity (thrust faults, folds etc), identifying/mapping/modeling the complex of channel-like features (turbidites, levees etc), fluid identification/differentiation etc were largely enabled by good quality 3D seismic data over the OPL 212 block. This data was acquired in 1993. Using the Gulf of Mexico as analogue, resultant amplitude maps showed the complexity of the mappable events and in some cases could image the channelised nature of these reservoirs. In addition, these typically had strong AVO support.

The Bonga discovery provided the methodology for the play assessment of the remainder of the block. This enabled the successful discovery of Bonga Southwest in 2001 and Bonga North in 2004. In addition, it unravelled the huge hydrocarbon potential of the deep offshore Niger Delta and was immediately followed by a whole series of multi-hundred million-barrel oil discoveries such as Agbami, Akpo and Erha. As well as several giant-sized gas discoveries with multi-tcf reserves - Bosi, Nnwa Doro etc. Some of these discoveries have been put into production (Bonga, Erha, Agbami, Akpo) contributing in total over 600,000 bopd to Nigeria's oil production whilst several are in various stages of development planning. These together with several other medium-sized discoveries confirm the deep offshore Niger Delta as a key deepwater region alongside offshore Brazil and the Gulf of Mexico.