

Paper Number: 5524

The outstanding exploration successes of Rovuma Basin after 60 Years of disappointing results in East African Coastal Basin.

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The East African coastal basins have recently recorded outstanding hydrocarbon exploration success after being long neglect by the industry. Eni is among the major players having discovered, from 2011 to 2014, Mamba, Coral and Agulha fields with total gas in place estimated in 85 tcf. Exploration in East Africa started during the 50s, why the big discoveries came 60 years later?

The onshore and shallow water exploration carried out from the 50s to the 80s brought only few gas discoveries, which were not commercial at that time. The lack of oil discoveries discouraged further investment and the offshore basins remained virtually unexplored for more than 20 years, until the beginning of the 21st century. New geological ideas and the opportunity given by LNG technology to export gas to the growing Pacific markets produced a new surge of interest in the East African coastal basins.

With the award of license Area 4 in Mozambique in 2006, Eni became one of the first E&P players to enter the virtually unexplored Rovuma Deep Water Basin. It was not the first time for Eni in the Rovuma. In 1982, Agip (now Eni) had discovered the Mnazi Bay Gas Field in the Tanzanian onshore, the only discovery in the basin until 2010. The experience gained from the exploration in Tanzania during the 70s and the 80s and the limited data acquired by other operators in Mozambique, convinced Eni that Area 4 was located in the sweet spot of the basin. The huge potential of the Tertiary gas play became evident after the acquisition of the first reconnaissance 2D seismic data in 2008. A high quality 3D seismic survey, recorded over the main Mamba prospect in 2010, provided clearer definition of the geological model and of the prospect.

Mamba South 1, the first well drilled in 2011 by Eni and its partners Galp, Kogas and ENH, encountered approximately 300 m of gas pay in Eocene and Oligocene reservoirs with outstanding quality and thickness thus confirming the validity of the pre drill geological model and the huge potential of the discovery. Following the success of Mamba South 1, an aggressive drilling campaign was carried out from 2011 to 2014, the 15 wells drilled let to discover and appraise Mamba, Coral and Agulha gas fields with estimated gas in place of 85 tcf.

The outstanding exploration successes of Rovuma Basin represent an excellent example of how new ideas, new technologies and changed economic environment can lead to extraordinary exploration successes in basins long neglected by the industry.

