

# **Structural and Stratigraphic Evolution of the Vera-Zaitun Basin, Offshore Northwest Java; a Petroleum Systems Perspective**

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## **ABSTRACT**

The Vera-Zaitun Basin, spanning 600km<sup>2</sup> is located in Offshore Northwest Java and forms part of a group of isolated Tertiary basins on the southeastern margin of the Sunda Craton that initiated during a major Eocene-Oligocene period of extension and later sag phase in the Miocene. The basin is oriented east-northeast – west-southwest and contains a thick succession of Cretaceous-recent sediments. The tectonostratigraphic history and development of the Vera-Zaitun Basin is relatively unknown. The following research aims to increase understanding of the structural and stratigraphic evolution of the Vera-Zaitun Basin region and to determine its significance as a potential petroleum exploration area. The research draws upon newly-acquired 2D seismic data, well data, structural restorations, well-log analysis and burial history modelling to determine the basin's structural and stratigraphic history and determine the presence of hydrocarbon system elements. The current understanding of the region is that the isolated sub-basins present at the Southeastern boundary of the Sunda Craton opened during the Eocene. However, the Vera-Zaitun Basin may contain older sediments of Late Cretaceous age. Due to the orientation of faults within the basin, it may be possible that the Vera-Zaitun Basin opened earlier than the surrounding basins, such as the Biliton Basin. Hence, understanding what sediments are within the basin, analysing the structure of the basin and determining how it opened may provide insight into how this portion of the southeastern margin of the Sunda Craton evolved and may highlight the Vera-Zaitun Basin as a potential new area of petroleum exploration.