

## Facies Classification using Stochastic Inversion Method For carbonate Oligo-Miocene in Pangkah, North East Java Basin

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The offshore Northeast Java Basin is one of the largest basins in Indonesia and one that contains complete hydrocarbon systems from Middle Miocene Tuban formations to Pre Tertiary basement formations. The offshore East Java Basin is located on the southeast margin of Sundaland and is dominated by a series of northeast trending basement highs and intervening half – grabens that formed during late cretaceous to tertiary times along the southeast margin of the Sunda Plate (Manur and Barraclough, 1994).

In Pangkah Field, Carbonate Oligo-Miocene has a diversity property of reservoir. Challenges to identified characteristic reservoir using stochastic inversion method. Within this method enhance our detail in classification distribution of carbonate facies. East Java projects using deterministic seismic inversion has been successfully executed but need additional data and analysis for better visualization of reservoir, caused by heterogeneous reservoir due to various property and thickness. Some of the benefits of these methods are inverted impedances rock properties calibrates with well data, seismic inversion process reduces the wavelet and tuning effects estimating the thickness of a thin bed to improving the understanding of the reservoir geology for exploration strategy and development. We used a stochastic inversion methodology, which simulates many possible realizations, to better discriminate the thickness and real extent of the carbonate/shale layers, and estimate the uncertainties of carbonate volumes (P10, P50 and P90) in the Kujung I play and CD Carbonate Play of the Pangkah PSC.

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