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Distribution of zone A and B reservoir in Oligo-Miocene formation, Soka field, North-West Indonesian basin

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This research took place at an off-shore oil field in Soka Field, North-west Indonesia Basin, Riau Islands Province approximately 300 km west of Natuna Island which covers the area of 1.320 km². It aims to determine lithology facies and sedimentation environment which lead to distribution, thickness, and the geometry of prospect reservoir. Well log, core, and seismic 2D, as main data of this research, are combined and integrated. Additional data like thin-section and drill stem test (DST) data are also used as well. There are 2 prospect Oligo-Miocene reservoirs found in this area of study which potentially become drilling target. Specifically, those reservoirs are Late Oligocene Reservoir Zone A (A1, A2, A3) and Early Miocene Reservoir Zone B. Reservoirs Zone A and B are parts of mixed flats and tidal sand bar facies in tidal flats sedimentation environment. It is concluded by the presence of typical tidal activity sediment structures, such as lenticular, wavy, and flaser bedding. Ichnofacies Glossifungites and mineral glauconite also appear. Both reservoir zones also have a typical elongate geometry with NW-SE orientation, following development of strike-slip fault in research area. Reservoir Zone B is thicker than Reservoir Zone A, but both reservoir zones show the same pattern of thicker Northeast-ward.

Biography

Jarot Setyowiyoto is a Lecturer for Undergraduate and Postgraduate courses in the Department of Geological Engineering, Gadjah Mada University, Yogyakarta, Indonesia. His teaching experience is in the areas of Petroleum Geology, Subsurface Geology, Petroleum Geochemistry, Well Log Analysis/Formation Evaluation, Reservoir Engineering, Organic Petrology, and Unconventional Resources (Coal Bed Methane, Shale Gas, Tight Sand Gas). He is also an Oil and Gas Researcher in Department of Geological Engineering, Gadjah Mada University, Yogyakarta, Indonesia.

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