

## **Petroleum System of Tanon Strait, Visayan Basin, Philippines**

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Tanon Strait is located Central Philippines and still in the frontier exploration stage. JAPEX has carried out satellite image analysis, fieldwork, sample analyses, sequence stratigraphic study, reprocessing geophysical data and 750km of new 2-D seismic data acquisition since 2002. The exploration effort resulted in the confirmation of hydrocarbon potential of the area as well as the delineation of numerous prospects and leads. The key components of the petroleum system are as follows. Source Rock: Coal & coaly shale layers are identified in Upper Oligocene to Lower Miocene deposits on the surface of Cebu Island. H.I. values exceed 200mgHC/gTOC in coal samples. The same layers are deemed to extend into the central Tanon Strait. Reservoirs: Multiple layers of sandstone are expected in Upper Oligocene to Upper Miocene deposits. Middle to Upper Miocene limestone reef build-ups are also expected from seismic sections. Trap: Anticlinal and reefal traps are expected. In addition, Several AVO anomalies suggest sandstone stratigraphic trap. Oil Seepage: Satellite image analysis confirmed numerous slicks on the sea; therefore, oil samples were taken and analyzed. It became clear that the origin of the oils were terrestrial organic matter. Hydrocarbon Migration: Seismic facies of Upper Oligocene to Lower Miocene in the central Tanon strait suggest distribution of thick coal measures. It is inferred that hydrocarbons were generated and expelled, and migrated into surrounding traps after Pliocene time. This paper proposes a new exploration model within the block which was recently devised based on the above components.