

The Kitan Oil Discovery, Timor Sea, Joint Petroleum Development Area, Timor Leste and Australia

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The Kitan oil discovery is located in the northern Bonaparte Basin within the Timor Sea, in 310 meters water depth. It is approximately 170 kilometers from the south coast of Timor Leste (East Timor) and 500 kilometers from the northern coast of Australia. It is the first new oil discovery to be made in the Joint Petroleum Development Area (JPDA), an area jointly administered by Timor Leste and Australia since the establishment of Timor Leste as a sovereign nation in 2002.

The Kitan structure is a Jurassic east-west trending tilted fault block. The reservoir comprises Early to Middle Jurassic Plover Formation fluvio-deltaic sandstones and the overlying Laminaria Formation shallow marine sandstones which are sealed by the Late Jurassic to Early Cretaceous Frigate, Flamingo and Echuca Shoals Formation marine shales. Despite being covered by modern pre-stack time migrated 3D seismic data, the image quality of the reservoir is relatively poor due to complicated overlying geology and interference from nearby large seafloor mounts. Additional pre-stack depth migration seismic processing was implemented to improve imaging and depth conversion of the seismic and better define the structure for exploration drilling.

The Kitan 1 exploration well was drilled in January 2008 and intersected an oil column in the Laminaria Formation. The well was successfully drill stem tested and flowed 59° API oil at a rate of 6100 barrels a day, which was constrained by topside equipment. Kitan 2 was drilled immediately after the completion of Kitan 1 and is located 1.6 kilometres to the northeast of Kitan 1. It was designed to test the seismic interpretation in an area of poorer seismic data, closer to the main bounding fault. Kitan 2 intersected the reservoir up dip from Kitan 1, 8 metres higher than prognosed, and confirmed the extension of the oil accumulation into this area.

Kitan was declared a commercial discovery in April 2008, a Field Development Plan was submitted in May 2009 and development drilling is planned for 2010. The result of Kitan is encouraging for future exploration drilling within the JPDA.