

Hydrocarbon Discovery in the Frontier Area at Eastern Indonesia: Lessons for Future Discoveries

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The most significant discovery from the last two decades in Eastern Indonesia is the Jurassic-Permian Play System in Eastern Indonesia (Tangguh, Oseil and Abadi). These discoveries are found dominantly in Tertiary producing basin which has been explored since early 19th century, only one that found in non producing basin. Jurassic play system was found in producing Seram Basin, producing Bintuni basin and non producing south eastern edge of Palung Aru basin. Bintuni Basin has been produced oil from 1956 (Mogoi and Wasian discovery in 1938) but the oil was produced from tertiary sediments (Miocene Kais Limestone, only around 7 MMBLS oil was produced from 1956-1961), meanwhile production in Seram basin started in 1913 (Bula Field discovery in 1897) from Pliocene Fufa Formation and until now still producing around 45 BOPD.

The first discovery of Jurassic Play System at Eastern Indonesia is in 1988 when East-Nief-1 well in Seram basin tested Jurassic Manusela carbonate and recovered 1300 bbls of oil and 1.23 MMSCFD, since then the Jurassic Play System are being tested in others area. The effort are pay off by the discoveries of several fields, which is Tangguh Complex Giant Gas Field from 1990 to 1998 exploration campaign which tested Jurassic Sandstone Reservoir which known as Roabiba-Aalenian at Bintuni Area, Oseil Field was found by Oseil-1 well and tested 3800 BOPD oil from Manusela Carbonate at Seram basin, and Abadi Giant gas field which found by Abadi-1 well in 2000 and tested 25 MMSCFPD, 260 BOPD (52.5 API) & 178 BOPD from Jurassic Plover sandstone in SE edge of Palung Aru near Timor Gap. Jurassic plays system has found more than 4 BBOE reserve with success ratio for finding the play system around 56% in Bintuni Area, 66 % in Palung Aru and 66 % in Seram Basin.