



## ORAL PRESENTATION

---

### The Next Big Discovery in West Natuna, Indonesia

Amir Mahmud<sup>1</sup>, Miltos Xynogalas<sup>1</sup>

<sup>1</sup>Conrad Petroleum Ltd, Indonesia

*amir@conradpetro.com*

---

The West Natuna Basin is located between the basement highs of the Sunda Shelf to the south, the Natuna Arch to the east and the Khorat Swell to the north, in the West Natuna Sea, Indonesia. The basin has had a complex structural history comprising microplate collision, intrusion, extension, inversion and wrenching. The basin can be viewed as the south-eastern extension of the Malay Graben and was initially formed as a series of separate half grabens, that with increasing post-rift subsidence eventually formed the overall basin.

Until recently, shallow biogenic gas in the West Natuna Basin was deemed to be a shallow drilling hazard. With a strong demand for natural gas, the shallow accumulations have been reconsidered as exploration targets. West Natuna Exploration limited (WNEL) the operator of Duyung PSC, recently proved the presence of a large resource of biogenic gas within the sands of the Muda Formation in the eastern portion of the PSC. The structure is a flat-topped anticline, with an extent of approximately 490 km<sup>2</sup>, located above the inverted Anambus Graben in the centre of the West Natuna Basin. This play has given a new life to the declining activity in the region. Further to that, recently reprocessed seismic has revealed large prospects just below the Muda unconformity. These are large NE-SW trending syn-inversion structures with potentially Lower Gabus sequences providing good quality reservoirs.

Inversion in the West Natuna Basin is considered as diachronous, ranging from 27 Ma to 18 Ma, with peak inversion ranging from 21 to 15 Ma. It is thought to be associated with a change in the rate of opening of the South China Sea.

This paper will present updates on the shallow Mako Gas field development and discuss the results of newly reprocessed seismic with the syn-inversion structures identified just below the Muda Unconformity.