



Day: Wednesday 26 April
Time: 4:35pm

Session: 4

Re-evaluating Triassic Outcrop Stratigraphy in Timor-Leste: Initial Insights into Source, Reservoir and Seal

Eujay McCourtain

Adjunct Research Fellow, The University of Western Australia

The geology of Timor-Leste has captured the imagination of petroleum geologists for over 100 years. However, limited modern stratigraphic studies means there is still much to learn about the stratigraphic successions exposed on the island.

The Triassic succession exposed in Timor-Leste is of particular interest. It includes a carbonate-dominated facies, deposited under dysaerobic conditions, that is thought to be the source of oil seeping across the country. The succession also comprises potential reservoir and seal units and may also be a source of gas.

As yet no commercial onshore hydrocarbon accumulations have been discovered in Timor-Leste; however, the last time industry actively explored onshore was in the 1970s. With the recent reestablishment of onshore exploration, a robust understanding of the Triassic stratigraphic succession is critical.

Here new insights into the Triassic succession with relevance to petroleum exploration will be presented.

These insights are distilled from over 10 years of field-based investigation and include:

1. Lower Triassic successions with key similarities and differences to coeval successions along the West Australian margin
2. Middle to early Late Triassic siliciclastic strata deposited as part of ‘deepwater’ gravity current depositional systems forming potential reservoirs, seals and gas sources
3. Middle to Late Triassic shallow-water carbonate strata, with evidence of dolomitisation, representing potential reservoir
4. Late Triassic deep-water carbonate strata, with oil documented in limestone fractures, representing a key oil source and potential reservoir

Speaker Biography

Eujay McCourtain has spent over ten years undertaking fieldwork in Timor-Leste through various roles at the University of Western Australia. This work has focused on unravelling the stratigraphy with a particular focus on the Triassic succession. For the last 7 years he has worked within industry, whilst remaining active in Timor-Leste research. In industry Eujay has worked on various projects around the globe including Australia, East Africa, Ireland, South Korea, Mexico, Myanmar and New Zealand.