

**Poster 24**

**TRACE FOSSIL OR SOFT SEDIMENT DEFORMATION? AN ENIGMATIC  
STRUCTURE FROM THE BALINGIAN CYCLE II SEQUENCE, OFFSHORE  
SARAWAK**

DAVID INCE

PETRONAS Carigali Sdn. Bhd., Level 16, Tower 2, PETRONAS Twin Towers, 50088 Kuala Lumpur, Malaysia

The Early Miocene Cycle II interval in the D35 field contains the principal hydrocarbon bearing reservoirs. The majority of the Cycle II section however comprises a variety of mudstone facies and minor coal horizons. Recent analysis of the sedimentology and ichnology of these rocks has revealed a variety of distinctive trace fossil assemblages that reflect variations in salinity of the water column. As detailed in a parallel poster presentation the predominant facies is interpreted as having been deposited under brackish water conditions with somewhat restricted ichnofaunas reflecting this environmental stress. As well as the readily identified trace fossils that can be assigned to known Ichnogenera, there are structures of unknown origin that, to date, have not been recognized as trace fossils but are not satisfactorily explained by physical processes. The presentation describes these structures and presents the suggestions that have so far been advanced to explain their origin. A physical process involving loading of starved ripples has been put forward, however the viability of this process is unclear. An alternative interpretation is that the structure represents an organic trace reflecting an aspect of animal behaviour previously unrecognised in these sections. Evidence is presented and the reader is encouraged to weigh and debate the options for interpretation.