



POSTER PRESENTATION

A Reconnaissance of the Cycle I of Offshore Sarawak NW Borneo

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Offshore Sarawak has been one of the main petroleum exploration areas in Malaysia. The shallow and deep-water regions of the Sarawak Basin comprise eight tectono-stratigraphic provinces filled with thick Cenozoic sediments. The Sarawak "Cycles" were introduced to correlate sequences in the Sarawak Basin in the late 1970's and are still in use today. Unlike age equivalent onshore formations defined by lithology and facies, the time-stratigraphic cycles are defined by an initial transgression changing gradually to a regression, and correlatable transgressive events were tied to planktonic foraminifera zones and nannofossils.

The palaeogeography and sediment sources of Palaeogene Cycle I (equivalent to Nyalau Formation onshore) are still uncertain. This reflects limited biostratigraphic sampling, few pre-Miocene well penetrations and challenging seismic coverage. This study is concerned with provenance of Cycle I offshore based on light and heavy minerals and geochronology of detrital zircons, using well samples (conventional core, sidewall core and ditch cuttings). Three exploration wells, L1, S1 and D1, were selected based on their oldest penetrated stratigraphic units, sand intervals and location. The Cycle I sands in these wells are texturally and compositionally immature with grains that are generally very angular. Heavy mineral assemblages include abundant detrital zircons of various sizes and shapes that represent different ages and source regions.