

Geological Society of Malaysia — Petroleum Geology Seminar 1990

CHRONOSTRATIGRAPHY OF EPMI'S BLOCKS PM-5 AND PM-8

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The presentation will address the progressive development and the understanding of chronostratigraphy in EPMI's PM-5 and PM-8 acreage blocks in particular and the Malay Basin in general. This talk had previously been presented on 30 June 1990 at the GSM Workshop on "*Stratigraphic Framework of Offshore Basins in Malaysia : Basis, Applications and Problems*".

Based on available sedimentary data of the basin derived mainly from wells drilled and seismic data acquired during the search for hydrocarbons, it is found that the stratigraphy of the Tertiary aged Malay Basin sediments to various extents have been influenced by 5 factors. They are namely :

1. Tectonics (uplift versus subsidence rates)
2. Eustatic sea-level changes
3. Sedimentation rates/types
4. Basin configuration and communication with ancestral South China Sea
5. Climate.

These factors affect the stratigraphy of the basin sediments and they will be discussed.

Regionally, chronostratigraphy in EPMI contract areas is achieved through the analysis and integration of sequence stratigraphy, seismic stratigraphy, global eustatic sea-level chart correlations as well as paleontological and palynological age datings. Conventional biostratigraphic age dating within EPMI's Malay Basin contract areas has been problematic largely due to the rare to total absence of age diagnostic planktonic foraminifera and nannoplanktons as well as the long ranging nature of palynological assemblages that lack the age resolution desired. As such, sequence stratigraphy, seismic stratigraphy and correlations with global eustatic sea-level charts are extensively used in conjunction with the limited good quality biostratigraphic age datings to establish a high resolution chronostratigraphic understanding of the Malay Basin sediments. This process will be discussed and examples of the sequence stratigraphy for the Groups K, I and E will be presented together with schematic chronostratigraphic sections of PM-5 and PM-8.

Further, the implications of using sequence chronostratigraphy versus that of previously used conventional litho-stratigraphic correlations within EPMI contract areas will also be presented.

In conclusion, the talk would demonstrate that by integrating sequence stratigraphic concepts with seismic stratigraphy, paleo age datings and eustatic sea-level correlations, EPMI has been able to better understand the chronostratigraphy of sediments within EPMI's contract areas in the Malay Basin. We are able to more consistently and satisfactorily unveil the past confusion with regard to the age and stratigraphy of the basin.