

'H' and 'I' groups truncation play in PM309 — SE of Malay Basin

MUZAMMAL A. GHANI & MANSOR AHMAD

PRAD, PMU Petronas
Level 28, Tower 1, PETRONAS Twin Towers
Kuala Lumpur City Centre
50088 Kuala Lumpur

The interpretation of the H and I groups truncation was carried out in the eastern part of Block PM309, SE of Malay Basin with the aim of identifying new hydrocarbon play.

PM309 of the southeastern part of Malay Basin lies in the prolific oil and gas province whose structures were formed during the Early to Middle Miocene time. The tectonic movement during this time which resulted the folding and uplift of the eastern portion of the Malay Basin gave rise to high relief anticline which now form the major producing trend. The axial region of this anticline became exposed and were eroded with the greatest amount of sediment stripping occurring in the most easterly portion of PM309 where the section, down to middle of Lower Miocene, mainly H and I groups has been removed. This is followed by a period of major marine transgression where the transgressive shale acts as effective seal in this group D formation. The truncated H and

I formations abutting against the overlying group D formation hence form good stratigraphic trap. This study is therefore, to identify any stratigraphic trap with relation to this unconformity.

The H and I Petroleum System is sourced from intraformational coals and coaly shales (type II/III) deposited in a coastal/delta plain environment. The source beds are high in T.O.C., up to 78% in the coals and show good oil source potential. Hydrocarbon is expected to be generated from the deep mature source and migrated laterally and updip into the stratigraphic trap/s.

This study has identified possible hydrocarbon trap/s in the H and I truncation play. Some amplitude anomalies could be observed at the reservoir level which could be related to hydrocarbon occurrence.

With the existence of favourable hydrocarbon system and with the help of distant hydrocarbon migration into the trap/s, this stratigraphic play may be a viable prospect to be explored in the future.