

**ABSTRACTS OF PAPERS**

## Paper 1

**Petroleum migration in the Malay Basin – Our current understanding**S. CREANEY<sup>1</sup>, P.S. KOCH<sup>2</sup> & K.W. RUDOLPH<sup>1</sup><sup>1</sup>Esso Production Malaysia Inc.

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The Malay Basin consists of a number of separate petroleum systems all driven by non-marine source rocks ranging from algal-dominated (lacustrine) sources of Oligocene age to delta plain/coastal plain sources of Miocene age. Oils of the Malay Basin appear to generally migrate and accumulate within reservoir sections co-associated with their inter-bedded source rocks. Thus migration for oil follows a strata parallel style. To date, significant cross stratal migration has only been documented for certain pools in the northwest of the basin where large volumes of overmature, carbonate sourced carbon dioxide occurs in immature clastic reservoirs. Preliminary results on the K petroleum (K sandstone reservoir) have revealed that fill and spill is a dominant secondary migration style with considerable lateral migration occurring on to the immature northern flank of the basin. Significant oil accumulations occur up to 100 km updip from mature K sources. The low regional dips in this area have required regional structural mapping on a 1-km grid to allow resolution of subtle shifts in drainage direction. Future work will concentrate on refining source rock definition, structural and maturation timing, drainage analysis at time of migration and geochemical corroboration of inferred migration pathways. This latter step is complicated by the effects of evaporative fractionation, biodegradation and possible mixing of oils from multiple sources.

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