

New Source and Seal Types for Malaysia – the Key to Unlocking the Oil Potential of Deepwater Northwest Borneo

Algar, Sam ¹, Doug Waples ² (1) Murphy Sabah Oil Company, Kuala Lumpur, Malaysia (2) Independent Consultant

The discovery of the deepwater Kikeh oil field overturned the widely held belief that the NW Borneo deepwater play was “gas-prone”. This paper will present the data and geological principles that explain why this area has such significant oil potential and hence why it has become one of the most successful oil plays in the recent history of Malaysian oil exploration.

A new source rock has been discovered, and, with the aid of extensive conventional coring, fluid sampling and geochemical evaluation carried out by Murphy and our partners Petronas Carigali, a link to the oils and gases reservoired in the deepwater discoveries can be demonstrated. These data point to an entirely new charge system which can be demonstrated from 2-D basin modeling to be the likely primary charge mechanism for the Malaysian deepwater oil discoveries made so far.

Further laboratory analyses of core material combined with extensive pressure tests from Kikeh and other Murphy-Petronas Carigali discoveries have contributed the final piece of the puzzle by proving that the seal type is a crucial element of the oil story.