

GWF9107.009-RJS

Source affinity studies were conducted on samples of liquid hydrocarbons recovered from Pelican 5. A condensate sample from 2788.2m has an alkane composition and aromatic content which reflect derivation from land-plant organic matter. The  $C_{12}+$  composition also attests to a terrestrial source affinity as shown by dominance of  $C_{29}$  in the  $C_{27}$ - $C_{29}$  sterane and diasterane distributions, high pristane/phytane and pristane/n-heptadecane ratios. These ratios also indicate that the organic matter was exposed to oxic conditions prior to being reworked in a peat swamp by anaerobic bacteria.

#### **CONTRIBUTIONS TO KNOWLEDGE/REASONS FOR FAILURE:**

Pelican 5 confirmed the presence of a large gas-condensate accumulation in the lower to middle M. diversus zone at Pelican Field. Testing of the reservoirs in this zone was disappointing with only low to moderate deliverability being achieved at best.

Pelican 5 also established that the rich gas condensate ratios (135 bbls/MMCF) measured from FIT recoveries in earlier wells were substantiated by test results.

The Palaeocene and Late Cretaceous sequence contains sandstone reservoirs which appear to be charged with rich gas condensate (from observation of the gas chromatograph) but when testing was attempted all zones proved to be tight.

Further drilling on the Pelican structure to establish if better permeability reservoirs occur on other fault blocks is considered high risk. Fault blocks at higher structural elevations may have better preserved reservoir quality and therefore provide a more acceptable level of risk.