Paper 6

Palas field integrated depletion plan

ANG DUEN WOEI, MATHIS R.S., MOHD RIZAM SARIF, AARON TEE,

YAP KOK THYE AND KOMPANIK, G.S.

Esso Production Malaysia Inc.
Menara Esso, Kuala Lumpur City Centre
50088 Kuala Lumpur

The Palas field is located approximately 215 km offshore Peninsular Malaysia in the South China Sea. The initial development in 1985 was based on result from five exploration wells. The currently developed reservoirs are the I-100/102 and eleven minor Group I reservoirs. The last exploration well, Palas-6, was drilled in 1993 to delineate the Group K and undeveloped J reservoirs. The Palas-6 results were encouraging and the J reservoirs are planned for development during the upcoming infill drilling program.

This presentation will highlight the technical challenges in redevelopment of I-100/102 reservoirs and the Group J reservoirs development. The I-100/102 reservoirs consist primarily of tidally influenced deltaic deposits and are interpreted to share common original fluid contacts. The I-100/102 infill program will consist of three conventional wells and one horizontal well. The well paths were designed to allow completion in viable Minor I sand targets where possible. The Group J reservoirs are mainly subtidal sand bars with varying levels of bioturbation and can be separated into 3 fluid systems. The Group J reservoirs have thin oil columns and large gas caps. Most of the Group J development will be long reach horizontal wells with multiple reservoir completion.

To facilitate planning of these wells, two detailed 3D geologic models were built, incorporating structural interpretations and seismic attributes (impedance and discontinuity) from a new 3D seismic survey (acquired in 1998), detailed sequence stratigraphic correlation, facies mapping and log analysis. The 3D geologic models were used as the basis for the reservoir simulation studies. A history-matched model of the I-100/102 reservoirs was used to identify infill opportunities.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 26, No. 6, November-December 2000

The drilling is expected to commence soon to develop about 23 MBO of reserves. This integrated approach will optimize overall development and gives maximum economic returns.