

PROCEEDINGS, INDONESIAN PETROLEUM ASSOCIATION
Twenty-Sixth Annual Convention, May 1998

**APPLYING THE RESERVOIR MANAGEMENT PROCESS TO THE PANTAI
PAKAM TIMUR, GAS FIELD: A FIELD CASE STUDY**

Cecep Briantoro*

Widjiono S.*

Akhmad Miftah*

ABSTRACT

The modern reservoir management process involves establishing a purpose or strategy and developing a plan, implementing and monitoring the plan, and evaluating the results. This poster presents application of this process on the Pantai Pakam Timur gas field.

Pantai Pakam Timur is a new gas field in Pertamina Operasi Rantau Aset Pangkalansusu. This field is located in the onshore portion of the North Sumatra Basin, Indonesia. The area is approximately 15 km northwest of Medan. The Pantai Pakam Timur Structure was discovered as a gas and condensate entrapment in the Belumai formation (Z-2385,2400). There is also a shallow prospect called the Keutapang formation (Z-1275), which has a strong reflection in the seismic data of about 1300 milli sec.

The field production started about 9 years ago, and it is very important to evaluate the reservoir characteristics to define the future field development strategy. The pressure transient testing analysis of several wells shows that very different rock characteristics, primarily permeability, exist between the deep zone (Z-2385,2400) and the shallow zone (Z-1275). The permeability at the deep zone is less than 5 md, while the shallow zone's permeability is greater than 500 md.

Reservoir monitoring and evaluations are being performed through several technical approaches: continuous monitoring of production performance, well testing analysis and evaluating the P/Z versus cumulative gas production plot, which was compared to the volumetric method for reserve estimation.

Furthermore, during the strategy planning stage, the gas deliverability was estimated based on modified isochronal test results of several existing wells in order to maximize the reservoir's potential.

* Pertamina