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DEVELOPMENT CONCEPT OF RANTAU FIELD BASED ON 3-D SEISMIC DATA

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ABSTRACT

The Rantau Oil Field is one of the producing fields in Pertamina's North Sumatra working area. Daily production averages 660 BOPD and 3,400 MCFD gas. Cumulative production through January 1995 was 272.44 MMBO. Rantau Field is located in Tamiang deep and is part of the Rantau - Kuala Dalam - Sungai Buluh regional anticline which is on a northwest -southeast trend. The productive layers are located between -200 and -1400 meters deep and consist of 53 productive zones in deltaic sands named the Seureula and Keutapang Formation. A total of 550 wells have been drilled in the Rantau Field.

The aim of this study is to optimize the development of the Rantau Field, especially in the productive zones, and to estimate the distribution and facies changes within the reservoirs based on an interpretation of 3-D seismic data. The methods employed are :

- Amplitude anomaly observation
- Cross plotting amplitude vs net sand
- Well data correlation

One of the conclusions of this 3-D seismic study is a field development arrangement of zones 560, 600, 640, 660, 770 and 800, including a proposal for additional well development in a deeper pool and possible EOR applications.

The remaining reserves, based on the 3-D seismic study, are estimated to be 323.59 MMBO.

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