

PROCEEDINGS INDONESIAN PETROLEUM ASSOCIATION
Twenty Fourth Annual Convention, October 1995

RESULTS OF BETUNG RESERVOIR STUDY

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ABSTRACT

Proven non-associated gas reserves in the Betung reservoir in the Baturaja Formation are 398.8 BSCF. The Betung structure was calculated initially to be capable of maintaining a gas supply of 40 to 60 MMSCFD for about 15 years. However, depletion of hydrocarbons amounting to 80 % OGIP will largely depend on the distribution of reservoir parameters, reservoir pressure and depletion coordinates.

It is known that by producing Betung gas directly to the pipeline, the future reservoir pressure will not be sufficient to deliver the expected gas volume from the wells. Installation of gas compression will effectively lower the separator and wellhead pressures, which will improve the well flow rate and result in increased recovery of reserves.

In order to justify the installation of compression facilities, a specific depletion program will be required along with an assessment of the value of the gas recovered, using current production facility parameters. In order to realistically calculate the above factors, it is necessary to use a numerical simulator for predicting future gas deliverability.

The Betung reservoir simulation study was conducted in 1994, using the Eclipse-100/200 Network facility.

The following results were obtained from this reservoir simulation study :

1. At a gas production rate of 40 MMSCFD from 1994 to the year 2006, total recovered gas is 342 BSCF or 64 % OGIP. If gas compression is installed at year 2000, the recovered gas is 423 BSCF or 79 % OGIP.
2. At a gas production rate of 60 MMSCFD from 1994 to the year 2001, total recovered gas is 342 BSCF or 64 % OGIP. If gas compression is installed at year 1997, the recovered gas is 417 BSCF or 78 % OGIP.

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