Geeostatistical Approach Using Well Log and Seismic Data to Define Reservoir Potential in Mature Field

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Abstrak

ABSTRACT
To define reservoir potential or to have a better understanding of reservoir characterization become the most important part to get many subsurface information. It will be very useful to analyze and prospect new candidates. Reservoir characterization combined with the formation evaluation data between vertical and horizontal dimensions will produce a geologic model, which is used as an input for reservoir simulation.

The objectives of this research is to develop a reservoir model within the producing interval of interest defined as horizons ?E? where it plays as a main oil target. It is a part of the Salemba Field, Kutai Basin, East Kalimantan.

A geostatistical method used for the study was stochastic since the data set availability is good. But to have better self confidence, a glance of deterministic method was applied to see how the differences. There are three kind of stochastic method will try for facies modeling, there are: Object-base Modeling, Facies Transition and Sequential Indicator Simulation. Each method was varied using exponential types of variogram, which is considered as the best match use in Mutiara Field.

By using the existing software, it resulted more than 10 good scenarios and realizations of geological model generated for this study. Also the criterion of the main ranking will use the OOIP and OGIP. The result also was calibrated with current condition, cumulative production and recovery factor to see the remaining reserves.