

ABSTRACT

Salap Field is one of the onshore exploration prospects in the East Java Basin which has not been drilled before. Based on the seismic interpretation and analog data from the AGT Field which has been producing from the same formation, the prospect formation target is a multilayer gas reservoir with various reservoir characteristics in each layer consisting of Zones C, D, E and F, so that it becomes the basis for conducting an uncertainty assessment in the Salap Field development study. Uncertainty assessment Deterministic Method has limitations to be used, due to the prospect of the Salap Field multilayer reservoir having subsurface risk factors and uncertainty in large amounts of geological-reservoir data so that uncertainty assessment in the study is made using the Probabilistic Method of Monte Carlo Simulation which accommodates subsurface risk factors and large numbers of geological-reservoir uncertainty data.

The study began by collecting data consisting of data from the Salap Field, such as marker depth and bulk volume and analog data such as rock and fluid data from the AGT Field. The AGT Field data is used as an analog due to the similarity of the prospect formation with the formation that has been produced in the AGT Field. The next step is, determines the uncertainty variables, prepare data, uncertainty assessment modeling and running reservoir simulation using the data from the uncertainty assessment results using the Probabilistic Method of Monte Carlo Simulation. Reservoir simulation using the data from the uncertainty assessment of the Deterministic Method is also made to shows the limitations of this method.

The results of the development study based on uncertainty assessment using the Probabilistic Method of Monte Carlo Simulation Scenario P50 estimating that 2 reservoir zones is produce gas in place with a total value of 51.43 BCF, resources 46.5 BCF and 10 development wells with plateau production for 3 years and field life of 16 years.

Key words : assessment, development, exploration, prospect, study, uncertainty