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Reservoir Characterization using Petrophysiscs Analysis in the Field 'X' Tamiang, South Sumatera Basin, Indonesia

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Tamiang Sub-basin of The North Sumatra Basin is the first area in Indonesia to produce hydrocarbons to the east of the Bukit Barisan Mountains, the northeast coast of Sumatra and the Andaman Sea. Well data used petrophysical analysis to obtain hydrocarbon saturation values and then integrated using bandlimited inversion methods and multi-attribute seismic methods. The bandlimited inversion method is used to calculate the impedance of the next rock layer from the previous layer in the form of physical information on the earth based on the information of the symmetrical record which is controlled by the well data. While multi-attribute seismic methods are use more than one attribute to predict some physical properties of the earth. The prediction carried out is the porosity distribution of seismic volume including porosity in C-26 and E-29 wells, field X which is assumed to have reservoir continuity which accumulates hydrocarbons. To increase the correlation between actual log and predict log, the Probabilistic Neural Network method is used. From the prediction results it is known that the distribution of X field porosity in the target reef zone is in the range of 7.5% - 17.5%.

Biography:

Iwan Prabowo is a teaching staff at the College of Oil and Gas Technology (STT Migas Balikpapan), Indonesia. He has done his master's program at National Research Tomsk State University, Russia Federation and Universite de Lille 1, France (double degree program). In the master's program he specializes in stratigraphy and paleontology. Before getting a master's degree program, he has finished a bachelor's program at University of Pembangunan Nasional Veteran Yogyakarta, Indonesia. At the time he was active as a lecture assistant in the paleontology laboratory.