ABSTRACT

CHARACTERIZATION CARBONATE RESERVOIR BATURAJA FORMATION BASED ON ANALYSIS OF ACOUSTIC IMPEDANCE MODEL BASED INVERSION "SPARTA" FIELD JAMBI SUB BASIN

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"SPARTA" Field is one of the fields operated by PT. Pertamina EP UBEP JAMBI. The study was conducted to characterize the Baturaja Formation carbonate reservoir in Field "SPARTA" by using acoustic impedance inversion analysis model based. This research have done to get the distribution value of acoustic impedance and identified prospect area of hydrocarbon. This research uses seismic data 3D Post-Stack, 4 exploration wells. The horizon which use in the research was horizon viha, rinjkad horizon, and a horizon salvrins. The third horizon is a horizon of carbonate reservoirs in the Baturaja Formation (BRF), which became the target of research. Seismic inversion of acoustic impedance (AI) model based obtained by wavelet extraction to be used in the initial modeling. Early models later in the analysis of pre - inversion and seismic inversion AI performed using a model-based inversion. The result of AI inversion was slice on horizon at Baturaja Formation to get carbonate reservoir lithology distribution at the "SPARTA" field based on the value of acoustic impedance (AI) and porosity around the well. Based on the analysis of each reservoir horizons, distribution value of acoustic impedance (AI) in the reservoir VITHA 20,265 (ft/s)*(g/cc) – 25,225 (ft/s)*(g/cc) with a porosity of 26.6 % - 17.8%. Rinjkad reservoir has an acoustic impedance values ranged from 28,531 (ft/s)*(g/cc) – 41,755 (ft/s)*(g/cc) with a porosity of 21.5 % - 1.5%. Reservoir Salvrins have acoustic impedance values ranged from 38,862 (ft/s) * (g/cc) – 49,370 (ft/s) * (g/cc) with a porosity of 19.0 % - 6.4%.

Keyword : *Reservoir, Accoustic Impedance, Porosity, BRF*