

ABSTRACT

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Geological Structure is one of the main factor in the development of hidrocarbons, especially as a migration roads and traps. Fault evaluation which is contain in an oil and gas field serves to determine the fault characteristic either as a migration roads or as a seal.

Collecting data and the interpretation held in PT. Chevron Pacific Indonesia, Rumbai. This research focus on Bekasap Formation in Golden Field which is located in Soutern Part of Central Sumatra Basin. Methodology that used in this research was subsurface mapping which contains of core description, well log corellation to determine the facies and depositional environment of the research area, continued by seismic interpretation for structural analysis and fault seal analysis, pressure analysis also calculation of the prospect zone. Research area was an anticline which cut by fault with N-S orientation. Geological Structure contained in Golden Field are anticline with NW-SE orientation, three major fault with N-S orientation and a fault with NE-SW orientation. After fault seal analysis, proved that there is no compartementalization both of structural and stratigraphic. The Fault SGR (Seal Gouge Ratio) value $< 20\%$ = Leaking.

In Tectonic, research area have three tectonic phases, First Phase (F1) resulted fracture in basement because of the rifting and extention processed in Eo-Oligocen, Second Phase (F2) stress from North-South in Early-Middle Miocene, resulted Normal Fault and Dextral Strike Slip Fault with the splay. Third Phase (F3) stress from North East-South West in Late Miocene which resulted anticline and fault reactivated. Based on Kinematic analysis strain value on research area are under 8%, shortening in Western Golden Field, and Extentional in Eastern Golden Field. Strain value in Northen and Southern part less than strain value in the middle area. This statement show that deformation processed was more intensif in the middle area.

Depositional environment in Golden area was Tide Dominated Estuary that divided into 3 facies association, Subtidal Channel, Tidal Bar and Mud Flat with 12 lithofacieses.

Keywords: *Golden Field, Tide Dominated Estuary, Geometry Analysis, Dynamic Analysis and Kinematic Analysis, Fault Seal.*