ABSTRAK

ANALISIS POTENSI HIDROKARBON BERDASAR ANALIS LOG, METODE SEISMIK ATRIBUT DAN INVERSI MODEL BASED PADA FORMASI AIR BENAKAT LAPANGAN "A" SUB CEKUNGAN JAMBI

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Geologi pada sub-Cekungan Jambi yang berada di Cekungan Sumatra Selatan menurut aspek stratigrafi, tektonik, dan struktur serta hasil data penelitian terdahulu cukup kompleks dan berpotensi akan adanya suatu hidrokarbon. Salah satu potensi hidrokarbon tersebut berada di Formasi Air Benakat, di dapatkan adanya potensi suiatu reservoar minyak dan gas bumi. Formasi Air Benakat dapat dijadikan sebagai *upside potensial* dan penelitian lebih lanjut guna mengembangkan potensi lapangan "A" dan menjadikannya sebagai target baru cadangan hidrokarbon

Pada penelitian ini penulis menggunakan metode seismik atribut dan inversi *model based*. Seismik inversi *model based* digunakan untuk mendapatkan suatu karakteristik suatu reservoar yang berada di lapangan "A" dengan membuat model awal yang akan dibandingkan dengan hasil inversi, nantinya seismik inversi *model based* ini juga di bantu oleh data atribut yang menghasilkan bentuk zona prospek reservoar.

Menurut analisa log, hasil inversi *model based* dan interpretasi keempat atribut, di dapatkan 2 zona prospek reservoar, yang pertama berada pada kedalaman 250 meter – 500 meter dengan bentuk memanjang membentuk antiklin di sepanjang *marker* ABF yang dimana disana terdapat sesar sesar yang merupakan jalur migrasi hidrokarbon menuju jebakan. Sementara zona prospek kedua pada kedalaman 700 meter – 800 meter yang berada antara *marker sand* 18.5 – *marker* 27.5. Kemudian, dari analisa peta *slicing* atribut didapatkan adanya zona prospek yang membulat memanjang searah sesar dengan zona prospek pertama berada di terletak ketiga sumur dan zona prospek kedua berada di timur laut dari ketiga sumur.

Kata Kunci: Atribut, *Model Based*, *Log*, *Upside Potensial*, Zona Prospek.

ABSTRACT

ANALYSIS OF HYDROCARBON POTENTIAL BASED ON LOG ANALYSIS, ATTRIBUTE SEISMIC METHOD AND MODEL BASED INVERSION IN AIR BENAKAT FORMATION ON "A" FIELD SUB-JAMBI BASIN

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Geology in the Jambi sub-Basin in the South Sumatra Basin according to the stratigraphic, tectonic, and structural aspects as well as the results of previous research data is quite complex and has the potential for a hydrocarbon. One of the hydrocarbon potentials is in the Air Benakat Formation, where there is the potential for an oil and gas reservoir. The Air Benakat Formation can be used as an upside potential and further research to develop the potential for the "A" field and make it a new target for hydrocarbon reserves.

In this research, the writer used attribute seismic method and model based inversion. Where model-based inversion seismic is used to obtain a characteristic of a reservoir in the "A" field by making an initial model that will be compared with the inversion results, later this model-based inversion seismic is also assisted by attribute data that produces a reservoir prospect zone shape based on the data.

According to log analysis, the results of the Model Based inversion and the interpretation of the four attributes, obtained 2 reservoir prospect zones, the first is at a depth of 250 meters - 500 meters with an elongated shape forming an anticline along the ABF marker where there is a fault which is a hydrocarbon migration path. into a trap. Meanwhile, the second prospect zone is at a depth of 700 meters - 800 meters between the 18.5 - 27.5 marker sand. Then, from the slicing attribute map analysis, it is found that there is a prospect zone that is rounded along the direction of the fault with the first prospect zone located at the three wells and the second prospect zone located in the northeast of the three wells.

Key Word*: *Attribute, Model Based, Log, Prospect Zone, Upside Potential.