

STRATIGRAFI SEISMIK PADA FORMASI BUYA UNTUK PENENTUAN  
PALEOGEOGRAFI DENGAN METODE ABC  
CEKUNGAN SULA, MALUKU UTARA

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**ABSTRAK**

Cekungan Sula merupakan salah satu cekungan dengan potensi penghasil hidrokarbon di area *offshore* Banggai – Sula bagian utara. Salah satu formasi yang menarik untuk dieksplorasi adalah Formasi Buya, karena dianggap berpotensi sebagai batuan induk, reservoir, hingga batuan penudung. Penelitian ini difokuskan untuk mengetahui lingkungan pengendapan, fasies pengendapan dan asosiasi fasiesnya, karakter stratigrafi seismik yang meliputi sikuen dan fasies seismik, serta rekonstruksi paleogeografi Formasi Buya menggunakan metode ABC, sehingga dapat diketahui pelamparan dari formasi tersebut di daerah penelitian. Metode ABC sendiri merupakan salah satu metode rekonstruksi paleogeografi melalui pendekatan stratigrafi seismik dengan kontrol data sumur & paleontologi yang terbatas. Data yang digunakan terdiri dari 2 data sumur dan 16 data *line* seismik sebagai data utama, serta data deskripsi *core*, *mud log*, biostratigrafi, dan *report* dari masing – masing sumur sebagai data pendukung. Berdasarkan hasil analisis data sumur dan data pendukung, Formasi Buya terbentuk oleh 3 fasies pengendapan, yaitu fasies *middle shelf*, fasies *outer shelf*, dan fasies *slope* yang terendapkan dalam siklus fase transgresif dan menyusun lingkungan pengendapan *shelf* hingga *deeper marine*. Selain itu, Formasi Buya hanya dibentuk oleh satu sikuen pengendapan yang dengan umur Jura Tengah hingga Kapur Bawah. Berdasarkan hasil analisis data seismik, terdapat 2 fasies seismik dalam sikuen pengendapan tersebut, yaitu fasies seismik *parallel* dengan terminasi refleksi atas dan bawah *concordant* di bagian barat daya lokasi penelitian, dan fasies seismik *parallel* dengan terminasi refleksi atas *concordant* dan terminasi refleksi bawah *downlap* di bagian timur laut lokasi penelitian. Melalui perubahan fasies seismik tersebut, dihasilkan peta paleogeografi yang mengacu pada interpretasi fasies seismik terhadap lingkungan pengendapan oleh Sangree (1977) dan menunjukkan perubahan lingkungan pengendapan *shelf* di bagian barat daya lokasi penelitian menjadi lingkungan *slope* subzona *undiform* di bagian timur laut daerah penelitian. Disamping itu, peta paleogeografi juga menunjukkan adanya *uninterpreted zone* di bagian utara – timur laut daerah penelitian, sebagai akibat dari asosiasi lokasi penelitian dengan batas tektonik Sula *Thrust Zone* yang merupakan zona penunjaman antara mikro kontinen Banggai – Sula dengan Laut Maluku bagian selatan.

**Kata kunci:** *Cekungan Sula, Banggai – Sula, Stratigrafi Seismik, Paleogeografi, Metode ABC, Fasies Pengendapan, Formasi Buya, Sula Thrust Zone.*

*SEISMIC STRATIGRAPHY ON BUYA FORMATION FOR PALEO GEOGRAPHY  
DETERMINATION USING ABC METHOD  
SULA BASIN, NORTH MALUKU*

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**ABSTRACT**

*Sula Basin is one of basin that has potency as hydrocarbon provider in Northern Area of Banggai – Sula offshore. One interesting formation that worth to explore is Buya Formation, because it has potency as source rock, reservoir, and seal at once. This research focused on knowing depositional facies, seismic stratigraphy character that include sequence and seismic facies, and paleogeography reconstruction of Buya Formation using ABC method, so that the lateral spread of Buya Formation can be discovered. ABC method itself is a paleogeography reconstruction method using seismic stratigraphy approach with limited well and paleontology control. Data's used in this research are 2 wells and 16 seismic line as the main data, and also core description, mud log, biostratigraphy, and report from each well as the secondary data. Based on the wells and secondary data analysis, Buya Formation is deposited on transgressive cycle and consist of 3 depositional facies, those are middle shelf facies, outer shelf facies, and slope facies that form shelf – deeper marine depositional environment. Other than that, this formation only formed by one depositional sequence that has an age interval from Middle Jurassic – Lower Cretaceous. Besides that, based on seismic data analysis, there are 2 seismic facies in Buya Formation sequence, those are parallel seismic facies that lies in southwest part of research location and has concordant pattern in upper and lower termination seismic reflector, and also parallel seismic facies in northeast part of research location that has concordant pattern in upper termination seismic reflector and downlap pattern in lower termination seismic reflector. From that seismic facies change, produced a paleogeography map that refers to seismic facies interpretation towards depositional environment by Sangree (1977). That paleogeography map shows depositional environment transition from shelf environment that lies in southwest part of research location, changing to slope environment, undaform subzone that lies in northeast part of research location. Besides that, there is uninterpreted zone in that map, that lies in north – northeast part of research location. That zone is caused by association between research location and Sula thrust zone tectonic margin which is a subduction zone between Banggai – Sula microcontinent and Southern part of Molluca Sea.*

**Keywords:** *Sula Basin, Banggai – Sula, Seismic Stratigraphy, Paleogeography Reconstruction, ABC Method, Depositional Facies, Buya Formation, Sula Thrust Zone.*