

# Hubungan antara kompleksitas struktur geologi dengan respon seismik, permodelan maju untuk kasus Lapangan Tiaka, Sulawesi Tengah = relationship between the complexity of the geological structure with seismic response, advanced modeling for the case Tiaka Field, Central Sulawesi

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## Abstrak

[Usaha untuk mendapatkan data seismik yang baik serta interpretasi seismik dari data eksisting pada suatu lapangan yang mempunyai struktur kompleks relatif sukar untuk dilakukan. Pembuatan model ideal untuk parameter seismik dengan menggunakan Forward Modelling diharapkan mampu untuk membuat hubungan antara kompleksitas struktur dengan data seismik yang dihasilkan.

Hasil dari pembuatan Forward Modelling yang dilakukan dibandingkan dengan data real menunjukkan bahwa response seismik pada zone prospek menunjukkan trend yang sama, dimana pada zona yang mengalami struktur geologi yang kompleks, response seismik kurang bagus. Hasil pengurangan trace data real versus synthetic pada lintasan UT88-520 dan UT88-535 masih menunjukkan residu yang cukup besar, sebagai akibat dari kompleksitas struktur

geologi lapangan Tiaka. Hasil Forward Modelling dapat dijadikan sebagai pembanding dan validasi hasil seismik yang diharapkan untuk mendapatkan model seismik yang dapat menjadi acuan pada saat akuisisi seismik, agar didapatkan data seismik yang lebih baik.

.....The effort to get good seismic data from very complex geological structure is very difficult; such as the case for interpreting the existing data. Ideal modeling for seismic survey using Forward Modeling hopefully can explain the correlativity between geological structural complexities and the seismic result that we get.

The main result of this study show us that comparison between Forward Modeling against Real Data indicate that the trend of seismic response in prospect zone/target zone almost similar, while the seismic response in fracture zone is not clear. Subtractions results between real data against synthetic in line UT88-520 and UT88-535 still give significant remain, indicate that structural geology in Tiaka Field is very complex. The Modeling result can be use as the ideal result and can be use as validation/comparable result to get the certain model and can become reference for seismic acquisition.;The effort to get good seismic data from very complex geological structure

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