



Deepwater fold and thrust belt SE Nansha Trough, the South China Sea

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The deepwater fold and thrust belt SE Nansha Trough, the South China Sea, hosting a significant number of proven hydrocarbon accumulations, is one of the most important areas of deepwater development and production. In the past two decades, there has been long-standing academic interest in the controlling mechanism of deepwater folding-and-thrusting. Two mechanisms have been discussed as primary controlling factors: 1) basement-driven crustal shortening and 2) gravity-related delta tectonics. In this study, based on reprocessed and post-stack depth-migrated regional 2D seismic profiles across the deepwater fold and thrust belt and previous research achievements, their geological structural interpretation reveal the features of compressional, syn-depositional deformation. Consequently, the dynamic mechanism and its evolution models for the deepwater fold and thrust tectonics are established.