

Cenozoic structure and stratigraphy of the Eastern Continental Shelf and Upper Slope of Vietnam

S. WIRASANTOSA¹, J. S. WATKINS¹ & G. WHITE²

¹Department of Geophysics, Texas A&M University, College Station, TX 77843.

²Halliburton Geophysical Services, Inc., PO Box 5019, Sugar Land, TX 77487-5019.

The eastern margin of Vietnam between 10°N and 16°N is characterized by two structural and stratigraphic regimes. Between 10°N and 11°30'N normal faults generally trend northeast-southwest, whereas between 11°30'N and 16°N normal faults trend north-south. Strain-ellipse analysis suggests that faulting in the northern area may have resulted from left-lateral motion accompanying the southeastward extrusion and clockwise rotation of Sundaland during the collision of India and Asia. The origin of the northeast-southwest faulting between 10°N and 11°30'N is unknown. Regionally, the net throw is down to the east or southeast.

Both sets of faults have associated horst-graben sequences. Sediment thicknesses within these basins range from 0.5 seconds to more than 4 seconds two-way-travel time or 15,000 ft or more. Basin fill consists of both posttectonic and syntectonic sediments. We have inferred on the basis of global sea level changes and associated megaregional unconformities the following 5 sequences in the posttectonic section of our seismic data: Upper Oligocene-lower Miocene, lower Miocene-middle Miocene, middle Miocene-upper Miocene, upper Miocene-Pliocene, and upper Pliocene-Holocene. These sequences have been divided into a number of seismic facies from which depositional environments have been inferred.