AAPG Annual Meeting
March 10-13, 2002
Houston, Texas

Matthew J Badiali[1], Louis R. Bartek[2] (1) University of North Carolina, Durham, NC (2) University of North Carolina, Chapel Hill, NC

Variable Thickness of Transgressive Systems Tract on the East China Sea Shelf

A data set comprising over 10,000 linear km of chirp sonar and high-resolution seismic profiles and cores acquired from an area of the East China Sea (ECS) that is over 36,000 km2 was used to study the characteristics of the stratigraphy of margins subjected to both an extremely high sediment supply and an intense hydrodynamic regime. Isopach and facies maps of the Transgressive Systems Track (TST) indicate that the stratigraphy bears little resemblance to the stratigraphy described in recent investigations of other continental margins such as southwestern France (Lericolais et al., 2001), northwestern Borneo (Hiscott, 2001), and New Jersey, USA (Sheridan et al., 2000). On shelves discussed in other studies, transgressive deposits frequently consist of an extensive and thin veneer of strata that directly overlie clay and silt of underlying highstand deposits. Thicker accumulations occurring as the upper fill of incised valley systems are also prominent features of these transgressive deposits. The TST of the ECS also consists of a thin (<5 m) and laterally extensive veneer of strata, but in most areas the veneer lies above laterally extensive, sandy, lowstand fluvial deposits. Isopach highs of this system are associated with the positive relief of tidal ridges. The lack of similarity between the ECS and other shelves is due to the high volume of sediment the system received and the extremely low shelf gradient. Lowstand incisions were filled relatively quickly leaving a stratigraphy that consists of an extensive layer of fluvial deposits capped by the extensive TST