

**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

Paul Montgomery¹, Paul Enos², Daniel J. Lehrmann³, Wei Jiayong⁴, Brooks B. Ellwood⁵ (1) ChevronTexaco, Bellaire, TX (2) University of Kansas, Lawrence, KS (3) University of Wisconsin-Oshkosh, Oshkosh, WI (4) Guizhou Bureau of Geology and Mineral Resources, Guiyang, China (5) Louisiana State University, Baton Rouge, LA

Post Mortem in Guizhou: Rates and Reasons of Post-drowning Deposition

The Yangtze platform in southwestern Guizhou, China, drowned abruptly in the Triassic after a long history of shallow-water carbonate deposition. A high-resolution, biostratigraphically constrained, magnetostratigraphy has been developed at Yongningzhen, Guizhou, that can be correlated to the Newark Basin magnetostratigraphic time-scale providing a chronostratigraphic framework for the Yangtze platform's demise.

Latest Ladinian rocks consist of shoaling-upward carbonate cycles with peritidal caps, overprinted by subaerial diagenesis. In the early Carnian (Cordevolian) a rapid transition to grey nodular lime mudstone containing pelagic biota signals the drowning of the platform. Deposition of nodular limestone continued at an average rate of 17 m/my during the Julian and Tuvlian; slightly bored and encrusted intraclasts suggest incipient cementation and reduced final depositional rates. The latest Tuvlian/ earliest Norian deposits are condensed black shale with interbeds of dark-grey, manganiferous lime mudstone near the base.

Graphical correlation of our magnetostratigraphy with the Newark basin indicates two declines in pelagic sedimentation rate during the Carnian: early Julian, from 45 to 14 m/my, and late Julian-Tuvlian, from 23 to 6-7.5 m/my. These may correspond to the deepening events of sea-level cycles UAA-3.1 and UAA-3.2. Small fluctuations in global sea level possibly influenced depositional rates in the pelagic realm. Prior to the advent of rock-forming pelagic biota, periplatform sedimentation apparently dominated deep-water carbonate sedimentation.