

A new evidence for marine influence in Wilcox Strata: Calvert Bluff Formation, Big Brown Mine, Fairfield, Texas

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The Late Paleocene-Early Eocene (Thanetian-Ypresian) interval was a time of major changes in global climate, world ocean circulation, and significant turnovers of marine and terrestrial biotas over a span of 2 my. Climatic changes, including increasing temperature and rainfall, combined with basin downwarping influenced the deposition of sediments in the upper Wilcox Calvert Bluff Formation, previously interpreted as mostly fluvial in origin. New data from study of Calvert Bluff sediments at the Texas Utilities Big Brown Mine indicates that marine transgression outpaced sediment outbuilding to produce deltaic-estuarine sedimentation, resulting in a change to marine-influenced deposition toward the top of the section. This has implications for refining the ability to predict the morphology and distribution of reservoir-sand bodies in the upper Wilcox, as well as the distribution of lignite and coalbed methane generation.