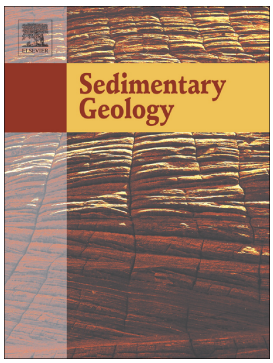

Architecture and Genesis of Prograding Deep Boundstone Margins and Debris-Dominated Carbonate Slopes: Examples from the Permian Capitan Formation, Southern Guadalupe Mountains, West Texas

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Architecture and Genesis of Prograding Deep Boundstone Margins and Debris-Dominated Carbonate Slopes: Examples from the Permian Capitan Formation, Southern Guadalupe Mountains, West Texas

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ABSTRACT

Steep, debris-rich, progradational carbonate slope systems have been well-documented around the world in a variety of settings and time periods. While the association of such slopes with deep microbial boundstone upper slope factories, the planar nature of their clinoform profiles, and their toe-of-slope trajectory patterns have been discussed thoroughly, the internal architecture and genesis of clinothems and the mechanics behind progradation remain poorly understood. Capitan Formation (Seven Rivers and Yates Formation equivalent) exposures in the southern Guadalupe Mountains of west Texas allow for examination of steep, prograding Upper Permian (Guadalupian) carbonate slope strata that are coeval with deep, skeletal-microbial boundstone reefs positioned on the upper slope (100-200 meters water depth). Measured section data tied to interpreted photomosaics and hand samples were collected within a 7