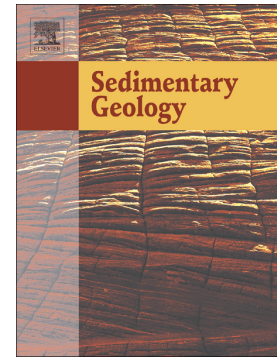


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**Paleogeographic and Paleo-oceanographic Influences on Carbon Isotope
Signatures: Implications for Global and Regional Correlation, Middle-Upper
Jurassic of Saudi Arabia**

Hassan A. Eltom¹, Luis A. Gonzalez^{1,2}, Stephen T. Hasiotis¹, Eugene C. Rankey¹, and
Dave L. Cantrell²

- 1) Kansas Interdisciplinary Carbonates Consortium, Department of Geology,
University of Kansas, Lawrence, KS, U.S.A.
- 2) King Fahd University of Petroleum and Minerals, Department of Geosciences,
Dhahran, Saudi Arabia

Abstract

Carbon isotope data ($\delta^{13}\text{C}$) can provide an essential means for refining paleogeographic and paleo-oceanographic reconstructions, and interpreting stratigraphic architecture within complex carbonate strata. Although the primary controls on global $\delta^{13}\text{C}$ signatures of marine carbonates are well understood, understanding their latitudinal and regional variability is poor. To better constrain the nature and applications of $\delta^{13}\text{C}$ stratigraphy, this study: 1) presents a new high-resolution $\delta^{13}\text{C}$ stratigraphic curve from Middle to Upper Jurassic carbonates in the upper Tuwaiq Mountain, Hanifa, and lower Jubaila formations in central Saudi Arabia; 2) explores their latitudinal and regional variability; and 3) discusses their implications for stratigraphic correlations.

Analysis of $\delta^{13}\text{C}$ data identified six mappable units with distinct $\delta^{13}\text{C}$ signatures (units 1–6) between up-dip and down-dip sections, and one unit (unit 7) that occurs only in the down-dip section of the study succession. $\delta^{13}\text{C}$ data from the upper Tuwaiq

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