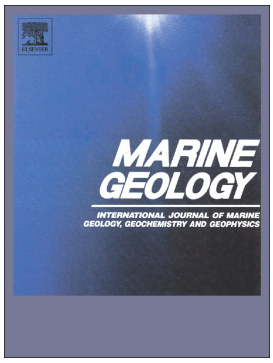

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Cenozoic North Atlantic deep circulation history recorded in contourite drifts, offshore Newfoundland, Canada

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Abstract

In the North Atlantic Ocean, contour-following deep currents have created regional erosional unconformities and deposited contourite drifts that exceed two km in thickness and extend for 100s of km. The stratigraphic records in the drifts have been used to reconstruct variations in North Atlantic deep-water circulation throughout the Cenozoic; however, uncertainties remain about certain aspects of the timing, intensity, depth distribution, and regional impact of these currents. Here, we use an integrated dataset of seismic-reflection profiles and IODP core data (lithology, biostratigraphy, and magnetostratigraphy) to document sedimentation history and the development of current effects in the Cretaceous to present sedimentary record on the J-Anomaly Ridge and