ABSTRACT

Title: Discovery of authigenic carbonates in the Canada Basin (Arctic Ocean) and its implications

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ABSTRACT BODY: Carbonate minerals were discovered from the giant box core (PS72410.1) of the pelagic basin sediments collected from the water depth of 1802 meters. The sediments show various colors from grey to brown, with carbonate minerals varying from blue to red. The contents of planktonic foraminifera vary from a few centimeters to meters. The activated carbon isotope values of the carbonate minerals are not organic-rich, indicating that these carbonates are authigenic in origin. The sediment-water interface is the source of the authigenic carbonates, indicating that these carbonates may be related to paleoequatorial conditions. The results of the study suggest that authigenic carbonates play a significant role in the cycling of carbon in the Arctic Ocean.