

# Timescale and Provenance of Pleistocene Sediment from ODP Leg 113 Site 693

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Creating an accurate age model for Antarctic sediment is difficult due to a general lack of preserved carbonate. Core 693A-2R, from the Ocean Discovery Program (ODP) Leg 113, is an exception. Cored in 2560 m of water, this 9.5 m long core contains abundant foraminifera. Site 693 is located adjacent to Dronning Maud Land in the Southeast Weddell Sea on an upper slope bench near Wegener Canyon. Based on the shipboard timescale, it appears that Core 2R ranges from 0.25 to 0.95 Ma, placing it across the Brunhes-Matuyama reversal. We hope to better constrain the age of the core using the abundant foraminifera. Here we use the planktonic foraminifera species *N. pachyderma* (sinistral), to create a downcore stable oxygen isotope record for Core 2R. This record will later be compared to the LR04 benthic stack to determine the exact age of the core. This data shows that the  $\delta^{18}\text{O}$  signature of the foraminifera is heavier when the carbonate volume and weight percent ice rafted detritus (IRD) are higher. Heavier  $\delta^{18}\text{O}$  usually indicates greater ice volume and/or colder conditions. Higher concentrations of carbonate and IRD are typically seen during warmer periods, making this data unusual. In addition to looking at foraminifera, hornblendes and biotite were picked for  $^{40}\text{Ar}/^{39}\text{Ar}$  analysis in order to get an idea of the provenance of IRD at Site 693. The grains from the top of Core 2R show a dominant 500 Ma signature, likely indicating a local source of icebergs. In contrast, Pierce *et al.* (2014) looked at provenance of present day IRD from nearby core tops and found a mix of local and distant icebergs.