

Stratigraphic refinement of the early Pleistocene record from IODP Site U1562 from the Reykjanes Ridge

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IODP Expeditions 384, 395C and 395 drilled five sites east of the Reykjanes Ridge to examine interactions between climate change, ocean circulation and Iceland hotspot dynamics by drilling through the Iceland-Scotland Overflow contourite drift deposits to the basaltic basement. Site U1562 (60°06.3006'N, 26°30.1044'W, 2003 mbsl) is located on the Bjorn drift and has high sediment accumulation rate (~6 cm/kyr) in the Pliocene and early Pleistocene. The average accumulation rate is much lower (<2 cm/kyr) between 1.8 and 0 Ma. Based on the shipboard age model, the interval between 1.1 and 1.8 Ma likely contains a disconformity or a series of disconformities. The record of accumulation on the Bjorn drift will help to understand the processes forming the sediment mound, and the details of when there are changes in accumulation rate and/or gaps in the record will contribute to the overall motivation of the expedition. Samples were taken at approximately 3 kyr resolution through the last 2 Myr of U1562, freeze dried, weighed, disaggregated, and sieved. The coarse fraction weight is a proxy for current lag deposition and shows an increase in coarse fraction percentage around the alleged disconformity. Benthic foraminifera were picked from the coarse fractions for stable isotope analyses, and the relative abundance of ice rafted detritus (IRD) were documented. Due to variability of benthic species abundance and quality in these samples, samples were picked for *Cibicidoides wuellerstorfi* and *Uvigerina peregrina* where possible, or mixed species of *Cibicidoides*, for samples with low abundance of *C. wuellerstorfi*. Additionally, the shipboard magnetic susceptibility was examined to evaluate the evidence for disconformity based on the periods of cycles. Preliminary results have shown a relationship between the coarse fraction percentage and MS signals, which may be connected to the prevalence of IRD in the samples and the associated glacial/interglacial cycles. Mass spectrometry has not yet been performed for picked samples, but due to the high sample resolution are likely to reveal further insights into the question of whether there is a disconformity between years 1.9-1.1 Ma.