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Tue_276_GG-2_1354 - Diatom Reworking in the Ross Sea: Evidence for Quaternary Bottom Currents?

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Temporally accurate paleo-reconstructions of past ocean circulation can help us to understand climate change's influence on the Southern Ocean and the Antarctic in the past and into the future. Here, we present new chronostratigraphic constraints on an 11.75 m marine sediment core, RS15-LC42, recovered by the RV/IB *Araon* during the Korea Polar Research Institute cruise ANA05B. Collected from the continental slope in the Ross Sea at 2084 m water depth, this core is composed of alternating laminated muds and IRD bearing sand lithologies.

Our age model is based around a single paleomagnetic reversal at 8.26 meters below sea floor (mbsf), which we interpret to be the Bruhnes/Matuyama boundary (0.781 Ma). This interpretation is supported by the first occurrence (FO) of the diatom *Thalassiosira antarctica* (0.50 Ma) at 5.40 mbsf. While the presence of *Fragilariopsis kerguelensis* (FO 2.49 Ma) at 11.65 mbsf provides a maximum possible age for the base of the core, our preferred interpretation assigns the entire reverse polarity interval below 8.26 mbsf to chron C1r.1r (upper Matuyama), which provides a maximum basal age of 0.98 Ma. Diatom reworking is prevalent below 3.25 mbsf, so last occurrence biostratigraphic datums cannot be used to further constrain the age of the core. The transition from extensive reworking to primary accumulation at ~0.25 Ma suggests a change in circulation, which we now aim to evaluate using magnetic fabric as a paleocurrent indicator.