



Paleoceanographic changes and glacial history of the Powell Basin, northern Weddell Sea

Kyu-Cheul Yoo (1), Ho Il Yoon (1), Jae Il Lee (1), Yong Il Lee (2), Kitae Kim (1), Min Kyung Lee (1), and Young-Suk Park (3)

(1) Korea Polar Research Institute, Korea Ocean Research and Development Institute, Songdomirae-ro, Incheon, 406-840, Korea, (2) School of Earth and Environmental Sciences, Seoul National University, Seoul 151-747, Korea, (3) The Earth and Environmental System Research Center, Chonbuk National University, Jeonju 561-856, Republic of Korea

Sedimentological, geochemical, and paleontological profiles were measured at three sediment gravity cores (GC01-PW02, 813 cm; GC03-PW2, 784 cm; GC04-G03, 592 cm) obtained from the Powell Basin (West Antarctica). These results show late Quaternary glacio-depositional environment and we present glacial and paleoceanographic changes in the basin. AMS ¹⁴C age dating of planktonic foraminifera *Neogloboquadrina pachyderma* (sinistral) has been used for chronology of core GC01-PW02 and the chronology of other cores was inferred from the relative comparison of stratigraphy. In particular, no existence of LOD (last occurrence of diatom) *Hemidiscus karstenii* over all cores' sediments indicates at least the maximum core bottom age within MIS 6. The study area provides an excellent depositional setting for undisturbed, well-defined sediment records with no turbidites, suggesting that turbidity current pathways do not affect the study area. All sedimentological, geochemical and paleontological proxies reflect a clear alternating pattern according to paleoclimatic change.