

CHARACTERIZATION OF SEDIMENTS FROM BRUNHES-MATUYAMA EPOCH IN THE SOUTHEASTERN SOUTH ORKNEY SHELF, NW WEDDELL SEA - ANTARCTICA

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Sediment cores were investigated to reconstruct the Quaternary sedimentary history of the southeastern South Orkney shelf (NW Weddell Sea). Sediments were described macroscopically and their fabric investigated by X-ray. Laboratory work comprised detailed grain-size analysis, determination of water, carbonate and organic carbon content and sand fraction composition. Stable oxygen and carbon isotopes were measured on planktonic foraminifera and paleomagnetism were used for stratigraphic classification. Sediments of southeastern South Orkney shelf are mainly sandy silts and silty sands with a high proportion of gravel. These sediments were deposited dominantly by ice rafting during Brunhes- and Matuyama-EPOCH and reworked by currents which removed the fine fractions. Based on microfossil contents it was not possible to differentiate sediments from glacial to interglacial. In the upper portion of the cores graded sequences truncated by erosion were observed. These sequences were formed during Brunhes-EPOCH by strong currents with velocities decreasing periodically. Sediments with high proportion of siliceous microfossils but barren of foraminifera compose the lower part of the cores. These sediments were deposited during the warmer Matuyama-EPOCH.