

Sedimentary environment of a piston core recovered from the ultra high salinity brine lake in the eastern Mediterranean Sea

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Investigation upon the marine sediments accumulate in the extreme environment brings great insights into understanding biota among them and process of diagenesis during their accumulations. In the eastern Mediterranean Sea, there is a unique feature called brine lakes. The characteristics of water in the subjective lake named Medee Lake are recognized as extremely high salinity (300 PSU) and temperature (15.0 C) compared to their surrounding waters. This extra ordinary water with high salinity is considered to be squeezed by the regional tectonic motions from the salt layer deposited during the Messinian Salinity Crisis during 5.3 to 6 Ma. Despite their recognitions, only small knowledge upon these brine lakes has been investigated due to the instrumental difficulties. Especially, there is fairly no information about the marine sediments that have been accumulated at this extreme condition. In order to grasp general information and preservation status in marine sediments of this brine lake, using by pinpoint sample collector called Navigable Sampling System (NSS), we have succeeded to obtain piston core sample at the edge of the Medee Lake (water depth 2794 m) during the KH06-04 cruise. Recovered sediments (3 m length) consists of light to dark grey layers at very top of the cores with light brown calcareous ooze with alternation of light and shades at the rest of them. Judging from oxygen isotope records of the planktonic foraminifer (*G. ruber*), this core sample covers at least two interglacial and one glacial period with missing the top of their surface. With missing the core tops, it is difficult to determine exact age of marine sediments at this point. Drastic color changes in the marine sediments suggested the changes in the depth of surface of brine lake. We will discuss the relationship the timing of glacial to interglacial period and the changes in color of the sediments.