

CARBONATE MOUNDS OF THE PORCUPINE SEABIGHT: LITHOLOGICAL CHARACTERISTICS OF SEDIMENTS AND PALEORECONSTRUCTION

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The 7-th Cruise of Training Through Research programme was carried out in North Atlantic. The region of carbonate seabed mounds of the Porcupine Seabight was sampled during this cruise. The sediments from these mounds mainly consist of the breakdown of abundant and relatively fast growing corals *Lophelia petrusa* and *Madrepora oculata*. Influence of global changes of temperature on the growth and development of corals and corals reefs was studied. Four cores were investigated in detail: on the tops, from a moats and at the distance of the mounds. Forty intervals from different lithologies were sampled in these cores for X-ray analyses and investigation in thin-section. Clear mineralogical and lithogenetic control of sedimentary thickness increasing in interglacial periods on the mounds surface due to micrite and coral detritus increasing was exposed. Two different hypotheses of the carbonate mounds origin were studied: due to form in close association with active hydrocarbon seepage and as a result of bottom current activity. An absence of gas in sediments from carbonate mounds indicated that the origin of this mounds is not related to gas seeps. On the contrary, reduced thickness and presence of different lithologies suggest more active sedimentary environment at the mounds. This layered succession formed as a result of continuous supply of biogenic detrital material that is subsequently being redeposited by bottom currents. The currents could supply nutrients developing the growth of coral patch. Sometime, the coral patch can be a source for coral detritus covering the mounds surface.