DEPOSITIONAL FACIES AND DIAGENETIC PHENOMENA IN «PANTOKRATOR LIMESTONES» OF ARGOLIS PENINSULA (TASOULEIKA-KARNAZEIKA AREA)

M. Varti-Mataranga, D. Mataranga

Institute of Geology and Mineral Exploration, 70 Messoghion Str., 11527 Athens, Greece

The Upper Triassic-Lower Liassic carbonate sequence of Argolis peninsula, known as Pantokrator limestones, is a typical example of drowned carbonate platform. Lagoon to tidal carbonate facies with cyclic development (loferites), are predominant. This type of carbonate sedimentation during the Upper Triassic-Lower Liassic period, characterized not only the regional Pelagonial zone and the Hellenides but nearly all the South continental margin of the Tethys. Among the main depositional facies, besides the loferitic cycles which are dominant, the coral reef facies restricted to the Teokafta and Sarmeika areas and the oolithic facies are included. The loferitic cycles consist of alternating subtidal limestones rich in Megalodon and Dacycladaceae with inter-supratidal dolomites. They are similar to the Dachstein carbonate facies of Alps and the recent carbonate sediments of Florida-Bahamas.

Repeated and long lasting subaerial exposures, in the end of the loferitic cycle have caused intensive diagenetic phenomena. In Tasouleika-Karnazeika area where the thichkness of the repeated facies is not consistent, the primary depositional features are intensively modified, compared to the other regions of Argolis. The formation of dolocrete is one of the main diagenetic processes that took place in a vadose marine environment and a hot semiarid climate. The extension of the dolocrete horizon has been also found in the loferitic cycles of Parnassos, Gerania, Trapezona, Didymi, Hydra. The dolomitization of the dolocrete particles is early diagenetic in schizohaline environment. Mineralogically the dolomite is non-stoichiometric ($Ca_{60}Mg_{40}CO_3$). The presence of black pebbles and tepee structures is very characteristic in the Karnazeika-Tassouleika area and indicate also subaerial exposures. The peritidal breccias which are predominant in Karnazeika area are the result repeated formation of tepee structures. The filling sequence of the fenestral and the solution cavities is: a) vadose anvironment gravitational and mentiscus cement b) sub-intertidal marine internal sediment with calc-micrite or peloids, c) marine phreatic radiaxial calcitic cement with dolomite inclusions and d) calcitic granular cement.