

OIDS WITH CONCENTRIC STRUCTURE FROM THE MIDDLE JURASSIC DALICHAH FORMATION, ALBORZ MOUNTAINS, IRAN

OKHRAVI, RASOOL, Dept. of Geology, Faculty of Science, University of Tehran, Tehran, I. R. Iran

Very few, if any, ooids with preserved tangential cortical fabric have been reported from ancient carbonates. Some ooids of the Dalichai Formation, with Middle Jurassic age, exhibit smooth, evenly laminated and concentric cortical fabric which their characteristic features are not obliterated by diagenesis. The cortical layers observed with SEM are made of tangential, subhedral lath-like crystals with blunted ends, having average length of 1 μ m. Optically, the slower vibration direction of the crystals is normal to the ooid surface and the faster one is tangential to the ooid surface. The cortices of these ooids were in fact carbonate minerals (probably aragonite) replaced by iron silicate during early diagenesis. The Dalichai ooids also show all variety of cortical microfabric from original to advanced cemented ones, and therefore a great variety of textures than any other cases so far reported. On the other hand, they show all gradation from partially dissolved to totally dissolved ooids, leaving well defined oomoldic porosity. Many questions arising from these observations, some include the following: How the microfabric of this ancient ooids has been preserved? What was the mineralogy of these ooids? Why they differ in composition from other Jurassic ooids? How were they formed? How have they been preserved? How aragonitic (?) microfabric fits secular trend of aragonite Vs calcite precipitation through Jurassic time? Key question to be asked is: how aragonitic microfabric fits secular trend of aragonite Vs calcite precipitation through Jurassic time?