



Geochemical study on Rudists of the Tarbur Formation in Zagros basin

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Abstract: In the Zagros basin, Tarbur Formation is mainly consist of a massive reefal limestone with abundant Rudists. The main biozone is Omphalocyclus- Loftusia- Antalya korayi belonging to the Maestrichtian stage. The Gurpi and the Sachun Formations underlay and overlay by Tarbur Formation. respectively. Rudists are in the study area consist of Hippuritidae and Radiolitidae types with thick, multilayered bimineralic shells (aragonite & low- Mg calcite). Geochemical analysis of the Rudists shows that the Cretaceous and Holocene seawaters were similar. The other conclusions are as below: The Rudists of Tarbur Formation. were formed in a marine environment with temperatures from 22.2 oc to 27.4 oc (on the basis of heavy oxygen isotopes, $\delta^{18}O$: -2.4‰, $\delta^{18}O_{water}$: -1). Na concentration (ranging from 22 to 310 ppm.) indicate low salinity to brakish water. The Mg content (0.5%- 1.6%, average: 0.8%) in the Rudists shows mineralogy is a low Mg calcite (LMC). Carbon isotope values (average: 1.48‰) indicate relatively shallow water environment The above mentioned conditions is similar to the late Cretaceous in other parts of the world.