

Petrographic and geochemical investigation on Jurassic carbonates (Surmeh formation), in High Zagros Belt (Northeast Of Shiraz-Iran)

VAHID AHMADI AND REZA MONSEF¹

¹¹ Department of Geology, Shiraz branch, Islamic Azad University, Shiraz, Iran

In this study, One stratigraphic section of Jurassic sediments is selected. These sediments is related to Surmeh Formation and they are in the Interior Fars from High Zagros belt of Iran. Surmeh Formation (585/9 m thickness) is included five units. The age of them is Early to Late Jurassic (Toarcian-Tithonian). Diverse skeletal and non-skeletal grains with abundant red and blue-green calcareous algae, evaporites and early diagenetic dolomites in the Surmeh carbonates are similar to those of modern warm-water shallow-marine carbonates. Isopachous and fibrous intragranular sparry calcite cements resemble modern aragonite morphologies.

Meteoric cements are equant, mosaic to drusy calcites. Burial cements only occur as vein fillings.

Sr and Na covariance with Mn supports evidence of inversion of aragonite to calcite, with subsequent open phreatic diagenesis. Fe concentrations are a magnitude higher than Mn due to a reducing phreatic environment.