

Dolomitization and evaporate mineralization of Sachun Formation at type locality (SE Shiraz)

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Abstract: The Sachun Formation (Paleocene-Lower Eocene) is mainly composed of carbonates and evaporates that were deposited in shallow-marine evaporitic mudflat environments. The Sachun Formation in the study area has been divided into three units including: lower evaporate; middle bioclastic limestone and upper evaporate. It is mainly composed of diagenetic gypsum, which originated from dehydration of anhydrite precursor. This gypsum in the Sachun Formation generally displays alabastrine and porphyroblastic textures with corroded anhydrite relics. Petrological studies reveal that the most important diagenetic processes affected the middle Part of the Sachun Formation are dolomitization and evaporate mineralization. Four types of dolomite, ranging from early to burial diagenetic environments, were identified. These are including very fine-to-fine crystalline (D_1), neomorphic dolomite (D_2), fine-to-medium crystalline euhedral to subhedral dolomite (D_3) and pore- and fracture-filling dolomite (D_4).

Keywords: *gypsum, anhydrite, alabastrine, porphyroblastic, dolomite, Sachun Formation.*

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