Petrography and Microfacies of Ghar and Euphrates Formations in the Busaiya area in Southern Iraq.

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- **Abstract:** The research included a petrographic and microfacies study of (40 sample of the Ghar and Euphrates formations (early Miocene) in the Busaiya area, south of the city AL-Nasiriyah in the southern desert of Iraq. The petrographic study of the sandstone Al-Ghar Formation it consisted mostly of quartz and asmaller percentage of rock fragments, most of which were carbonate and very few percentages of feldspar with lime carbonate cement. The Euphrates Formation is divided into five microfacies, were distinguished: Lime Mudstone, Lime Grainstone, Lime Wackestone, Lime Packstone and Lime Bound stone microfacies. The Al-Ghar Formation it was divided into three lithofacies: mudstone lithofacies, sandstone lithofacies, and limestone lithofacies. Depending of the microfacies and their fossil content, the sedimentary environment of the Al-Ghar Formation was deduced between a river and a deltaic environment, while the Euphrates Formation was deposited in a marine environment extending from the confined shallow environment to the reef environment in front of the shallow reef.

- **Keywords:** petrographic, microfacies, environment, shallow reef