

DEPOSITIONAL ENVIRONMENTS AND DIAGENESIS OF LEAD AND ZINC BEARING CARBONATES, WEST OF IRAN

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The sedimentary environment and diagenesis of carbonate rocks, consisting of Pb and Zn were subject of this study. The abundance of organic debris and variation of clastic coefficient were major factors. Five major microfacies were distinguished. Comparing with the standard microfacies of Wilson and Flugel, and variations in these microfacies the sedimentary environment of each facies is determined. The microfacies analysis of carbonate units denotes some marine and burial diagenesis. Petrographic analysis of sandstone shows that these rocks are lithic wacke, quartz wacke, lithic arenite with some rock fragments and calcitic sandstone. The detrital mode of sandstones shows recycled orogenic setting. During the Laramid orogenic phases and magmatism, different intrusive body of Golpayegan, Bouroujerd, Malayer and Alvand were injected and hydrothermal fluids of igneous massive passed through fractures, faults. These hydrothermal fluids were responsible for mineralization in the area. These minerals consist of galena, tetrahydrite, sphalerite, and calcopyrite. This mineralization is in different lithology. The deposition is after diagenesis of carbonate rocks and sandstones. Referring to Routhier models, this mineralization is in model number 4 of Routhier hypogene epigenetic.