

Title : Microfacies and depositional environment of limestones in Doi Tu Pu, Mae Yao Subdistrict, Doi Kong Khao, and Doi Hang, Doi Hang Subdistricts, Mueang Chiang Rai District, Chiang Rai Province

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ABSTRACT

The limestones, which dispersedly exposed in the Doi Tu Pu area, Mae Yao Subdistrict, and Doi Hang and Doi Kong Khao areas, Doi Hang Subdistrict, Mueang Chiang Rai District, Chiang Rai Province, aim to examine the microfacies characteristics and components classifications to interpret the depositional environment with the relative age. Fifteen limestone samples were collected for thin-section analysis under a polarizing microscope. The limestones are classified into four main groups, including mudstone, wackestone, packstone, and grainstone, based on the carbonate classification scheme of Dunham (1962). The major components are mainly composed of ooids, peloids, oncoids, and intraclasts as well as bioclasts fragment, such as bivalves, algae, echinoderms, bacteria, and foraminifera. From the microfacies analysis, six microfacies types are bioclastic wackestone, oncoidal wackestone, peloidal wackestone, peloidal packstone, bioclastic packstone, and bioclastic grainstone. The depositional environment inferred from the lithological observation and microfacies characterization suggests a shallow marine shelf setting, from lagoon to back-reef environments, corresponding to low to moderate energy conditions. The relative age of these limestones in the study area should be assigned to the Permian based on the occurrence of fusuline foraminifer.

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