SEDIMENTARY PETROLOGY OF THE LOWER PALEOZOIC ROCK UNITS EXPOSED ALONG THE EASTERN PART OF PINDAYA RANGE, PINDAYA TOWNSHIP, SHAN STATE (SOUTH)

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THIDA OO

DEPARTMENT OF GEOLOGY
UNIVERSITY OF YANGON
MYANMAR

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ABSTRACT

The study area consists of a small segment of the eastern part of Pindaya range. The area is underlain by a sequence consisting of the Chaung Magyi Group (Precambrian); Pandung and Myet-ye formations of the Molohein Group (Late Cambrian); Lokepyin, Wunbye, Nan-on formations and Tanshauk Member of the Pindaya Group (Ordovician); Linwe, Wabya formations (Early Silurian) and Taungmingyi Member (Late Silurian) of the Mibayataung Group and the Plateau Limestone Group (Carboniferous to Middle Triassic).

The Myet-ye Foramtion is composed of five lithofacies. These sediments were probably deposited in the four facies associations recognized on the basis of lithology, acies successions and bed geometry: (1) foreshore association, (2) upper shoreface ssociation , (3) lower shoreface associaion , and (4) upper offshore association.

Eight different lithofacies of the Lokepyin Formation are divided and these sediments were deposited at the three facies associations can be established namely: (1) lagoonal beach, (2) channel and , and (3) lagoonal pond.

Detailed microfacies study of the Wunbye Formation indicated that it is composed of eleven microfacies which have been deposited in cyclic pattern, and accumulated in the tidal flat environment. These microfacies are: (1) dolomitic mudstone, (2) dolostone, (3) dolomitized calcareous siltstone, and (4) laminated mudstone microfacies; and they belong to a supratidal association. Microfacies (5) of pelloidal mudstone and (6) of bioclastic pelloidal packstone are grouped into an intertidal facies association. Facies such as oolitic grainstone, and oolitic packstone, bioclastic wackestone, intraclastic pelloidal grainstone, and oolitic pelloidal packstone are placed in a subtidal facies association. There are two cyclic oolitic or grainstone cycles during sedimentation in the Wunbye Formation. These cycles represent the upward shoaling sequences and are interpreted to have been occurred during marine regression. These shelf cycles usually belong to a general regression. The depositional environment documented by microfcacies, faceies analysis coincides with the facies belts from 6 to 9. The Nan-on Formation is composed of five lithofacies; namely (1) parallel laminated siltstone, (2) wavy laminated siltstone, (3) fossiliferous siltstone, (4) bioturbated siltstone and (5) siltstone with iron concretions. The Nan-on Formation was probably deposited in a shallow marine, open circulation

shelf environment with normal marine salinity. The Linwe Formation was divided into six microfacies : (1) laminated mudstone, (2) microbioclastic mudstone, (3) dolomitic mudstone, (4) bioclastic wackestone, (5) bioclastic packstone, and (6) lithoclastic bioclastic packstone. They are accumulated in the foreslope, deep shelf margin, deep shelf and basin environment. The Wabya Formation may be deposited in basin, outer shelf environment. The Taungmingyi Member may be formed in a beach, inner shelf environment. The common diagenetic fabric and processes of carbonate rocks of the Wunbye and Linwe formations are cementation, compaction, authigenic mineral growth, crystal enlargement, crystal diminution, pressure solution and dolomitization. The carbonate diagenesis within the carbonate units is considered to have operated in three principal environments: the marine, near –surface meteoric and burial environments.

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