

THE PROCESSES OF THE SEDIMENTARY BASIN-OROGEN TRANSITION IN LANPING AREA, CHINA DURING MESOZOIC-CENOZOIC

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The Lanping sedimentary basin formed based on the Qamdu-Simao block and is related to Nujiang-Lancangjiang-Jinshajiang orogenic belt. The tectonic patterns in the Lanping area consist, from west to east, of Lancangjiang orogenic belt, Zhaduo-Jinghong volcanic arc (Late Palaeozoic to Early Mesozoic), Jiangda-Weixi-Luchun volcanic arc (Late Palaeozoic to Early Mesozoic) and Jinshajiang-Ailaoshan orogenic belt, respectively. During the Triassic to Cretaceous, the Lanping sedimentary basin showed the back-arc foreland basin (retro-arc basin) as a result of the thrusting of the Lancangjiang ocean, the collision between island and continental, the subduction of the Jinshajiang-Ailaoshan ocean as well as collisional orogenic activity. The sediments in the basin vary from the material of the deep water basin facies, shallow-shelf facies, tidal facies and delta facies from bottom to top during the Triassic to tidal facies, lacustrine facies and river facies during the Jurassic to Cretaceous. The Lanping sedimentary basin exhibits a transition from back-arc foreland basin into strike-slip pull-apart basin because of the northward intracontinental convergent orogeny of Indian plate during the Late Cretaceous to Eocene. The basin was filled by the terrigenous clastic sediments of the lacustrine facies, delta facies, river facies, alluvial fan facies and fluvial facies.

The history of the sedimentary basin-orogen transition in Lanping basin has been divided into 4 stages. They are: T_1/P_2 , J_3/K_1 , K_2/E_1 and E_1/E_2 .