TRIASSIC SEQUENCE STRATIGRAPHY AND CORRELATION FROM POLY-ARC AND BACK-ARC SYSTEM IN EASTERN TIBET

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It is dominantly characterized that arc and back-arc basin occur mutually in arc-basin systems, Jomda arc and Sinda back-arc basin located in Qamdo area are typical(Fig. 1). Jomda arc covered by Triassic with thickness about 10 000 m. Marine sediments predominate, and are Characterized by the largely thick turbidity rocks and arc volcanic rocks of calc-alkali suite which frequent volcanic events raised. Sinda back-arc basin with a land-crust basement is filled by the Upper Triassic sedimentary strata of more than 5 000 m. The active marginal sediments are composed of terrigenous, basinal and volcanic turbidity deposits of bathyal to deep-sea facies, Characteristic extensive alkali basalts and submarine spout hot water deposits. Based on investigation of the cutcrop pro-file, isotime grillwork for Triassic sequence stratigraphy has been established. for example Jomda arc basin, including 6 type 1 and 4 type 2 boundaries. 10 three-order sequences are divided, including 6 type 1 and 4 type 2 sequences. These sequences evolves during 37 Ma, the estimated average time of a sequences is 3～7 Ma, with being generally 1～2 Ma, the longest being about 10 Ma. type 1 and type 2 sequence boundaries are identified, in Upper Triassic Sinda back-arc basin two type 1 and one type 2 sequences are divided. Relations have been first concluded among mainly controlled factors of sequence stratigraphies in arc and back-arc basin systems. First, more sequences product and three-units of its structures are complete in arc systems of complicated tectonic-volcanic topographies, for example Jomda arc area of island-sea framework, because lots of deposits are supplied and accumulations are allowed. Secondly, tectonic control is very clear, type 1 boundaries of SQ1 and SQ7 are clearly unconformity interfaces stressed by tectonism. Thirdly, volcanic rocks is greatly related with sequences, and there are various volcanic rocks in mang sequences, for example Jomda sequence stratigraphies, volcanic rocks of calc alkaline suite occurs in LST which thickness occupying in LST is middle; both tholeiite and calc-alkaline, alkaline suite (Sinda back-arc area) in TST, thickness smallest; calc-alkaline suite in HST, Thickness biggest. It proves that intra-genetic association between volcanic and relative sea-level changes, which is gained by the concordance of thick curves of volcanic rock and sea-level in different systematic traces. When thickness of volcanic rocks growing or progressing, relative sea-level falls; otherwise, when reducing, it ris-

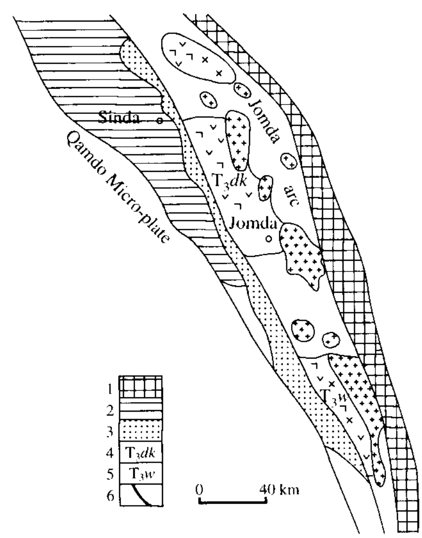

Fig. 1 Map showing for the tectonic units from Qamdo area
1—Jinshajiang suture; 2—Sinda back-arc basin; 3—Tertiary red bed basin; 4—Upper Triassic Tengks Form; 5—Upper Triassic Waqu Form; 6—Boundary fault

es. There are larger differences in quantities, structures and types of sequences by comparing sequence stratigraphies of arc, back-arc with craton area. Those varieties are responses for interactions among tectonic-volcano, sediment and eustacy. It is pointed out that tectonic and arc volcanic processes are crucial.

Key words: arc and back-arc basin; sequence stratigraphy; sequence correlation; eastern Tibet