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Tectonic Zonation and Tectonic Rock Assemblages of Melange in Bangong Lake Area

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The Bangong Lake area is located in western part of Bangong - Nujiang suture zone, the ophiolite outcrops full and melange zonation is apparent, but the study of tectonic deformation and melange zonation is weak. During the 1:50000 regional geological survey, we made a detail structural analysis about melange slice and matrix on the basis of routes geological survey and profile work of the study area. We determine seven kinds of structural styles, they are deep molten, ductile shear, tectonic *mélange*, lens network system, reverse fault, fold and cleavage. After ocean-land transform along with the collision zone, internal strata, rocks, tectonic assemblage and tectonic deformation characteristics, the author divide the Bangong Lake *mélange* zone into three parts, they are: ophiolitic *mélange* belt, ophiolitic tectonic *mélange* belt, tectonic *mélange* belt. Ophiolitic *mélange* belt slices' main type is ophiolite (MOR and SSZ type), the structural features are deep molten, ductile shear, *mélange*, lens network systems, reverse faults and cleavage. Ophiolitic tectonic *mélange* belt slices' main types are ophiolite (basically all SSZ-type) and sedimentary rocks, structural features are *mélange*, lens network systems, reverse faults and cleavage. Tectonic *mélange* belt slices' main types are sedimentary and a small amount of volcanic rocks in non-ophiolitic rocks component, structural features are tectonic *mélange*, lens network systems, reverse fault and cleavage. The tectonic deformation types of matrix in each secondary structure zone are similar, most of them are tight fold, isoclinal fold and reverse fault. But from the center of the ophiolitic *mélange* belt to both sides of the tectonic *mélange* belt, the relative content of matrix is increase and the metamorphic grade is weakened.

The Late Cretaceous continental collision made the ophiolitic *mélange* belt, ophiolitic tectonic *mélange* belt and tectonic *mélange* belt to form. Different tectonic zonations, tectonic frameworks and tectonic styles are the results of different evolutionary stages of the plate stretch ocean basin opened, plate subduction ocean basin atrophy and plate collision ocean-land transform, and the results of different tectonic rock assemblages' in the different mechanisms, depths, temperatures and stress environment.

The formation of oceanic crust at the stretch phase in

main oceanic basin is extruded to the surface in the form of the ophiolite suite. The central part of the main oceanic basin may now be the main collision zone. In this area, the collision is the most intense and the ophiolite suite is the extrusion center. The extrusion of back thrust reverse fault structural styles to both sides is the most significant. This result in the belt ophiolite outcrops fairly complete and rock slices are more developed than matrix. During the ocean basin opening period, most of the ophiolite's extensional deformation had a transformation, only part of the rock slices left remnants.

The trench-arc-basin system which is formed in northern-southern bidirectional subduction stage of the main ocean basin was the secondary collision zone during the collision time. The intensity of the collision is just next to the main collision zone. Turbidity deposit, forearc deposition together with sand slate of the residual basin sediments which were formed during the subduction were jointly as matrix. Part of the sandstone, limestone mass and ophiolite slices of subduction zone jointly constitute the ophiolitic *mélange* rock belt. The matrix of this tectonic zone is significantly increased when compare with the ophiolitic *mélange* zone, and the tectonic *mélange* is also significantly enhanced but the ophiolite composition, especially the ultramafite are relatively decreased. In addition, some ophiolitic limestone slices of the ophiolitic *mélange* cover the matrix of ophiolitic *mélange* zone in the form of klippe.

If the component of slices does not have ophiolite suite, the early sedimentary rock mass would be roughly the same as ophiolitic tectonic *mélange* belt, the main difference between them is that the material composition of the rock slices. The sand-slate matrix of *mélange* belt form the tight fold, isoclinal fold, axial plane cleavage, imbricate reverse fault and other tectonic deformations in the compression. The overall formations show an orderly state and can be identified the basic sequence of strata. There is seldom *mélange*, but partial strata are overturned with disordered state.

Key words: Bangong Lake; *mélange*; tectonic deformation; tectonic zonation; tectonic rock assemblages

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