IMPACT: International Journal of Research in Engineering and Technology
ISSN (P): 2347–4599; ISSN (E): 2321–8843
Vol. 10, Issue 4, Apr 2022, 11–34

AGE AND TECTONIC SETTING OF TUANJIEDABAN INTERMEDIATE ACID INTRUSIVE ROCKS IN WESTERN QIANGTANG BASIN, TIBET

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Received: 17 Apr 2022 **Accepted:** 23 Apr 2022 **Published:** 27 Apr 2022

ABSTRACT

There is great controversy with the closure time of Bangong Lake-Nujiang Tethys Oceanfor a long time. A detailed petrological, geochemical and zircon U-Pb dating of the Tuanjiedaban intermediate acid intrusive rocks in Western Qiangtang Basin have been undertaken in this paper. The results show that the samples of the Tuanjiedaban intermediate acid intrusive rocks are characterized by high silicon (SiO_2 is 57.56% -72.35%), rich alkali (K_2O + Na_2O contents of 5.43% -10.41%), and peraluminous (A / CNK values of 1.0-1.51). The intrusive belongs to high potassium calc alkaline I-type granite. The trace elements of samples are enriched in Rb, Th, U, K and other large ion lithophile elements, but relatively depleted in Nb, Ta, Ti, and other high field strength elements. Light rare earth is enriched, and there is a weak negative Eu anomaly （δEU is 0.15-0.45), indicating that due to the subduction collision island arc tectonic environment, the subsidence of the ocean crust lithosphere triggered the underplating of mantle derived magma, accompanied by the melting of part of the crust. Zircon U-Pb dating results show that their formation ages are 120.33±0.99 Ma, 122.5±2.0 Ma and 125.7±2.1 Ma respectively, belonging to the middle and late Early Cretaceous, which is basically consistent with the formation time of Dongcuo, Zhongcang and duolong rocks on Bangong Lake Nujiang magmatic arc belt, and they are the products of Bangong Lake Nujiang Tethys ocean subduction collision. This study provides new constraints for understanding the tectono magmatic evolution of Bangong Lake Nujiang junction zone.

KEYWORDS: *Zircon U-Pb Age Tectonic Environment Tuandaban Rock Mass Bangonghu Nujiang Junction Zone*