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摘要:

本文首次对佳木斯地块西缘、张广才岭东侧英城子金矿区出露的大面积黑云母碱长花岗岩,进行了锆石⁴⁰Ar/³⁹Ar实验共获得四组单颗粒锆石U-Pb谱和年龄,它们分别为 $612\pm 4\text{Ma}$ 、 $495.2\pm 2.7\text{Ma}$ 、 $476.8\pm 5.5\text{Ma}$ 和 $431\pm 3\text{Ma}$;早古生代地壳过程形成的花岗岩锆石特征, $495.2\pm 2.7\text{Ma}$ 的U-Pb年龄与区域内麻山群的变质作用时间相吻合, $431\pm 3\text{Ma}$ 的年龄与区域地壳增生作用时间吻合,而 $476.8\pm 5.5\text{Ma}$ 的锆石年龄则代表黑云母碱长花岗岩的真实结晶年龄。这项成果记录了该地区重要的地壳增生事件,增生后的地壳被打开形成大洋;至早古生代早期,两侧的地体发生拼贴,引起区域麻山群发育花岗质麻岩;在早古生代晚期,佳木斯地块西缘的陆间洋最终闭合,形成具有壳源特征同碰撞花岗岩,之后的碰撞提供了有利条件。

关键词: [早古生代](#) [黑云母碱长花岗岩](#) [锆石LA-ICP MS U-Pb定年](#) [英城子金矿区](#) [黑龙江](#)

Zircon LA-ICP MS U-Pb Dating of the early Paleozoic granite in the District of Yingchengzi, the east of Zhangguangcailing area and its geological significance [Download Full Text](#)

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Abstract:

There were a great deal of biotite alkali-feldspar granite in the Yingchengzi gold deposit, Jiamusi massif, eastern of Zhangguangcailing area. We chosen biotite alkali-feldspar granite from zircon LA-ICP MS U-Pb dating, subdivided in to four groups ages, as ages of $612\pm 4\text{Ma}$, $495.2\pm 2.7\text{Ma}$, $476.8\pm 5.5\text{Ma}$ and $431\pm 3\text{Ma}$ by the zircon analysis with LA-ICP MS, the date of $612\pm 4\text{Ma}$ indicated that some granites formed in the process of crustal growth; the date of $495.2\pm 2.7\text{Ma}$ was consistent with the metamorphism of mafic rocks; the date of $431\pm 3\text{Ma}$ was consistent with the regional metamorphism in the late Paleozoic, the real crystallization age of biotite alkali-feldspar granite was $476.8\pm 5.5\text{Ma}$. The result indicated this area had happened crustal growth during the early Paleozoic and the new crust was opened formed ocean. Until the early of early Paleozoic, the terranes between the Jiamusi and the eastern of Zhangguangcailing area were separated by the ocean. In late Early Paleozoic, the syn-collisional granite which has the crust source characteristics in the western of Jiamusi massif with the collision offered some advantages for the gold deposit.

Keywords: [the Early Palaeozoic](#) [biotite alkali-feldspar granite](#) [zircon LA-ICP MS U-Pb dating](#) [Yingchengzi deposit](#) [Heilongjiang province](#)