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塔里木板块东北部古堡泉岩体岩石地球化学特征与岩石成因 [点此下载全文](#)

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摘要:

古堡泉岩体位于甘肃北山裂谷带的南带, 岩体呈不规则的岩株状, 出露面积约1.7km²。主体岩性为辉长岩、橄长岩析离体, 各岩相之间呈渐变过渡关系。大部分样品属于拉斑玄武岩系列, 少数样品属碱性玄武岩系列。岩体亲石元素和稀土元素丰度很低($\sum REE=5.29 \times 10^{-6} \sim 17.30 \times 10^{-6}$)。 $\epsilon Nd(t)=+6.9 \sim +8.1$, $\epsilon Sr(t)=+2.3 \sim +17.3$, $Zr/^{207}Pb/^{204}Pb=15.604 \sim 15.634$, $^{208}Pb/^{204}Pb=38.351 \sim 38.497$ 。岩体源区可能为先期发生过部分熔融的亏损型地幔, 受到大陆壳物质的污染。原生岩浆为富铁贫镁的玄武质岩浆, 在上侵和运移过程中主要发生了以单斜辉石和橄榄石为主, 不同程度斜长石的堆晶作用。岩体是地幔尖晶石橄榄岩在较低压力下发生较大程度部分熔融的产物。

关键词: [古堡泉岩体](#) [岩石地球化学](#) [岩浆演化](#) [塔里木板块](#)

Lithogeochemistry and petrogenesis for Gubaoquan intrusion in the northeastern part of the Tarim Plate [Download Fulltext](#)

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Abstract:

Gubaoquan intrusion lies in southern of Beishan rift zone, Gansu province. it covers an area of 1.7 km², and mainly consists of hornblende gabbros, including lots of olivine gabbros, pyroxene troctolite, and other kinds of rocks. Most of samples belong to tholeiite series, only a few sample belong to alkali basalt series. The rock has very low TiO₂, Na₂O, P₂O₅ content and LILE, REEs ($\sum REE=5.29 \times 10^{-6} \sim 17.30 \times 10^{-6}$). $\epsilon Sr(t)=+2.3 \sim +17.4$, $^{206}Pb/^{204}Pb=18.463 \sim 18.645$, $^{207}Pb/^{204}Pb=15.604 \sim 15.634$, $^{208}Pb/^{204}Pb=38.351 \sim 38.497$. The source is depleted mantle by previous melt extraction, and the magma experienced contamination to continental crust. The main dark-colored minerals are clinopyroxene and olivine in the early stage of crystallization and plagioclase accumulate. Gubaoquan intrusion is the product of highly partial melting of mantle at low pressure level in mantle.

Keywords: [Gubaoquan intrusion](#) [Lithogeochemistry](#) [Magma evolution](#) [Tarim plate](#)

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