

## 吉林安图刘生店钼矿床辉钼矿 Re-Os 同位素定年及其地质意义

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中文摘要:刘生店钼矿是吉林中东部新发现的一个重要斑岩型钼矿床。6件辉钼矿样品 Re-Os 同位素分析表明:辉钼矿中 Re 含量为 9.88~11.37  $\mu\text{g/g}$ , Os 含量为 27.68~32.40  $\text{ng/g}$ , 的模式年龄为  $(168.0 \pm 2.3) \sim (170.8 \pm 2.5) \text{Ma}$ , 加权平均年龄为  $(169.36 \pm 0.97) \text{Ma}$ ,  $\text{MSWD}=0.73$ , 等时线年龄  $(185 \pm 12) \text{Ma}$ ,  $\text{MSWD}=0.72$ 。以加权平均年龄作为该矿床的形成年龄, 的成矿作用发生于中侏罗世, 与同属小兴安岭-张广才岭钼矿带的大黑山和福安堡矿床成矿时代基本一致, 是燕山早期太平洋板块俯冲构造背景下, 吉黑东部大规模钼成矿作用的集中体现。据辉钼矿中 Re、Os 含量, 初步认为刘生店钼矿成矿物质以壳源为主, 但混有少量幔源组分。

中文关键词:[Re-Os 同位素定年](#) [辉钼矿](#) [斑岩型钼矿](#) [刘生店钼矿](#) [吉林安图](#)

## Re-Os Dating of Molybdenite from the Liushengdian Molybdenum Deposit in Antu Area of Jilin Province and Its Geological Significance

**Abstract:**The Liushengdian ore deposit is one of the porphyry molybdenum deposits recently discovered in eastern Jilin Province. Re-Os dating of six molybdenite samples collected from typical ores shows that the Re and Os values of samples vary between 9.88 and 11.37  $\mu\text{g}\cdot\text{g}^{-1}$  and between 27.68 and 32.40  $\text{ng}\cdot\text{g}^{-1}$  respectively; the model age ranges from  $(168.0 \pm 2.3)$  to  $(170.8 \pm 2.5) \text{Ma}$ , with the weighted mean age being  $(169.36 \pm 0.97) \text{Ma}$  ( $\text{MSWD}=0.73$ ), and the isochron age being  $(185 \pm 12) \text{Ma}$  ( $\text{MSWD}=0.72$ ). The results indicate that molybdenum mineralization took place in middle Jurassic, roughly contemporaneous with that of Daheishan and Fuanpu molybdenum deposits, which belong to the Xiao Hinggan Mountains-Zhangguangcai Mountain metallogenic belt. These ore deposits were formed by the large-scale Yanshanian metallogenic activity in the eastern part of northeastern China, influenced by the subduction of the Pacific plate. In addition, the Re content of the molybdenite suggests that the ore-forming materials may have been derived mainly from the crust with the participation of small amounts of mantle materials.