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新疆511铀矿床7号采区U-Se-Re-Mo等元素分布特点

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中文摘要: Re、Se是中国急需的紧缺矿种,对国家的资源战略与环境安全保障具有重要影响。新疆伊犁盆地511矿床在开采铀的过程中,发现了Re、Se和Mo等元素存在富集的现象。文章以511矿床7号采区为例,采取野外地质调查与室内分析测试及综合研究相结合的技术路线,以探求Re、Se、Mo等元素的分布特点及其与U元素富集之间的关系。研究表明,Re和Se在空间上与砂岩铀矿体密切共生,说明在511矿床中矿源等条件具备的情况下,7号采区内的层间氧化作用促使Re和Se富集成矿,证实了511铀矿床中与U密切相关的Se、Re等元素具有线状分布的特点。

中文关键词:地球化学 Re Se Mo U 7号采区 511铀矿床 新疆

Distribution characteristics of U-Se-Re-Mo at No. 7 working sector of No. 511 uranium deposit, Xinjiang

Abstract: Minerals of dispersed elements Re, Se are much-needed scarce ore species in China and are of great significance for national resource strategy and environmental safety realization. However, the ore-forming mechanism of Re, Se has been long controversial, which leads to the confusion and difficulty in prospecting for similar mi- nerals. Therefore, the improvement of the understanding of the ore-forming mechanism is of both theoretic and practical value. During the exploration of the No. 511 ore deposit in Xinjiang, the authors found evidence of enrichment of dispersed elements Re, Se. Taking No. 7 working sector of this ore deposit in Yili basin as an example and following the technical line of combining field geological survey with laboratory test and comprehensive study, this paper tries to discuss the distribution features of elements Re, Se, Mo and their relationships with uranium element. The result indicates that the dispersed elements Re and Se are spatially closely related to uranium ore bodies in the sandstone type ore deposit, while no Re and Se super-enrichment exists at No. 7 working sector besides several specific spots. It is thought that the interlayer oxidation at No. 7 working sector might have led to the enrichment of dispersed elements Re and Se, but with no mineralization even under the condition of existence of such mineral resources in the No. 511 ore deposit. It is evident that trace elements Re and Se which have a close relationship with uranium in the No. 511 ore deposit present a linear distribution.

keywords:geochemistry Re Se Mo U No. 7 working sector No. 511uranium deposit Xinjiang

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