论文摘要

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大团山矿床采空区处理方法

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摘　　要：　　采用岩石力学原理和方法，　通过现场初始地应力实测、室内岩石力学性质试验和矿床开采全过程的三维有限元模拟，系统地分析了大团山矿床开采过程中采空区顶底板和矿柱的稳定性。结果表明，　矿柱宽度小于27.5m 时，矿柱将会发生失稳，　增加矿柱宽度对采空区顶底板稳定性的影响并不明显。　据此进一步提出了一套合理的空区处理方法，　并被设计和生产所采纳。

关键字：　　采空区　　支护　　三维有限元　　矿柱　　加固

SUPPORT METHODS OF MINED CAVERNS FOR DATUANSHAN DEPOSIT

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Abstract: The stability of rock around mined caverns and safety pillar was analyzed with the measurement of in-situ stresses and laboratory tests of mechanical properties of rocks as well as 3D FEM simulation of the whole course of mining based on rock mechanics principle. It was clarified that vertical safety pillar would become unstable when its width is less than 27.5 m and enlarging the width of the pillar can not improve the stability of hanging wall and footwall significantly. A rational support method was proposed based on the simulation results. The conclusions have been adopted by mining design and production of the deposit.

Key words: 　　mined cavern　　support　　3D-finite element method　　pillar　　reinforcement