



## **WASTE SUBSTITUTION EXTRACTION OF STRIP EXTRACTION COAL-PILLAR UNDER BUILDINGS**

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### **ABSTRACT**

In order to solve technical problems of mining strip extraction coal-pillar and disposing waste in underground, the waste substitution extraction was proposed. By expounding the effect to surface movement while the layout of waste filling roadway was centralized and decentralized and analyzing feasible coal-pillar's width of substitution extraction, the layout, which two waste filling roadway was placed in middle of strip extraction coal-pillar, was determined and its width and high was 4,0×5,0m, the coal-pillar width between filling roadway was 4,0m. Based on numerical simulation to analyze the stability of substitution extraction coal-pillar and vertical stress distribution of main roof in strip and substitution extraction, the conclusions, which the strength of substitution extraction coal-pillar achieved design requirement and strata structure of main roof was still stable, were reached. By the mechanics theory to analysis the character roof's moving and deformation after coal mining, the conclusion was got that the basic roof wasn't broken. The surface deformation wasn't over the allowing deformable of building. The research results have been successfully applied in coal mining.

**Key words:** strip extraction coal-pillar mining, underground disposal of waste, substitution extraction, filling roadway, epidermal deformation, filling technology.