PACS: 42.60.-v

Technology of development of thin ore bodies with preliminary laser disintegration of strong rocks

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Received December 07, 2021

The article presents the results of cutting strong rocks with a powerful laser. A technical and technological solution is proposed for the selective mining of rich areas of thin ore veins from a strong rock mass using a mining combine equipped with a combined laser-mechanical equipment. Laser exposure is carried out behind the contours of a thin ore vein with the disintegration of mineralized host rocks and their subsequent milling in order to form exposed surfaces in the lower part of the thin vein for subsequent breaking off of the ore with a hydraulic hammer. Differentiated development of the massif using a rational combination of various methods of disintegration of strong rocks ensures the implementation of the principles of resource conservation in mining.

Keywords: valuable mineral raw materials, laser disintegration of rocks, selective mining, mining combine, combined working equipment.

DOI: 10.51368/1996-0948-2022-1-64-69

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