POSSIBILITIES OF MINING WASTES UTILIZATION BY THERMAL DESTRUCTION WITHIN THE UNDERGROUND GAS GENERATOR

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Purpose. Study the possibility of developing the technical and technological justification of mining wastes utilization within the closed cycle of gassgene in in economic effective level.

Methodology. The studies were carried out through the justification of the thermal and material balance in the closed cycle of underground gas generator with the aim of mining waste utilization with activators and catalysts usage.

The destructive heating influence on mining wastes during the coal gasification within ecologically closed gas generator cycle has been considered. Technical and technological performance of such gas generator and mechanism of material and heat balance was adopted to concrete conditions of Western Donbass coal mines. The analytical methods and practices as well as the developed author software have been proposed for such investigations. Also, the management of the rockmass by forming the artificial bi-layer shell was defined for leek surrounding rocks. After specific treatment, organogenic and solid domestic wastes are utilized by means of thermal decomposition of firing coal within a gas generator. Economic evaluation of the proposed means confirms the expediency of their implementation in mines with industrial and balanced coal reserves as well as within the areas where this energetic source has already been already mined out.

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