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WATER MANAGEMENT AT THE FORMER COPPER MINING SITE MEDET (BULGARIA)

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Abstract

The scope of the present paper is water management dimensioning closed to the copper mining area in the Medet region (Bulgaria). The mining works left an open pit and several waste rock dumps within the catchment area of Medetska River. At present although the flooding of open pit is going on, it will be finished approximately in 2018. Water treatment is necessary due to the high concentrations of pollutants (sulphate and copper) in the waters influenced by mining. The objective of the study was the calculation of the catchment water balance, the quantification of the efficiency of the designed water management and a substances balance. The result of the calculations showed that the planned water flow system may provide only a limited reduction of the water volumes for treatment. An additional problem is the rather large water volume for treatment and the flood risk management. This requires an appropriate dimensioning of the leachate treatment plant and the selection of a sufficient treatment method. On the other hand the amount of recoverable copper is small.

Key words: substances transport, mine dewatering, mine water management

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