



ASSESSMENT OF WATER POLLUTION POTENTIAL BY ACIDE DRAINAGE

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Abstract

An assessment of acide drainage forming potential for a mining waste material resulted in a former mine of nonferrous and precious metals ore has been made. The waste material has the following contents: 2,20÷2,28% sulphide sulphur, 2,53÷2,58% Fe, 0,07% Cu, 0,05% Zn, 0,36÷0,40% Pb, 0,008÷0,013% Ca and 3,85÷7,97% sulphate. Bacterial leaching tests in percolating columns during 380 days have been made. The leaching liquor has been recirculated at a liquid:solid ratio of 1L:1kg. After a period of recirculation the liquid was removed and a new solution has been used. Three leaching solution have been used in such manner. Based on results obtained by chemical analysis from the three leaching solutions, the leaching degree of metals Fe, Cu and Zn as well as of the mineral sulphides (pyrite, chalcopyrite and blende) have been assessed. Leaching degree of 77,2% for copper, 99,8% for zinc, 19,9% for iron have been established. 18,2% leaching of the pyrite and an acide productin of 5,08 g/kg have been estimated for a period of 380 days.

Key words: acid drainage; mining sites; water pollution.
