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## **HEAVY METALS REMOVAL FROM MINING DRAINAGE ACID WATER BY USE OF NATURAL ZEOLITES**

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### **Abstract**

In order to investigate the degree of pollution by heavy metals, mining water samples were subjected to analysis, using inductively coupled plasma optical spectrometry method. An experimental module was developed and the water treatment capacity of natural zeolites was studied. The contaminated water was passed through 3 columns filled with zeolites, under static and dynamic mode in order to optimize the ion exchange process.

Experiments were performed using different particle sizes of zeolite, and in different pH conditions. In this study, the degree of treatment in static conditions was performed, when a purification degree of 97.04% for zinc and 96.70% for manganese was obtained. In dynamic operation, the purification degree was lower, 81 % for manganese and 93% for zinc.

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