



“Gh. Asachi” Technical University of Iasi, Romania

***ICEEM/03 – ENVIRONMENTAL POLLUTION
PREVENTION***

**DETERMINATION OF THE CONCENTRATION OF
HEAVY METALS IN SOIL AND PLANTS BY
INDUCTIVELY COUPLED PLASMA-ATOMIC
EMISSION SPECTROMETRY**

Mariana Dobra^{*}, Vasile Viman

North University of Baia Mare, 62/A Dr. Victor Babes Street, 430083, Baia Mare, Romania

Abstract

Mining activities in the area of Baia Mare, contribute to the polluting of the environment with heavy metals. These metals accumulate in the soil depending on its physico-chemical characteristics, and the soluble chemical combinations are generally accessible to plants, too. In order to estimate the pollution level and the danger presented by this phenomenon, some analyses are required with regard to determining the concentration of heavy pollutant metals in soil and plants samples. For the precise determinations of the major components, as well as the minor ones, and also of those found in traces, the analytical techniques used must have low detection limits and the lowest matrix effects possible. The method that responds to these requirements is inductively coupled plasma atomic emission spectrometry (ICP-AES). This paper is a study of these aspects in an area where the high pollution of the soil and plants with heavy metals has negative influence on the environment and on the human health.

Keywords: heavy metals, inductively coupled plasma atomic emission spectrometry, soil

^{*} Author to whom all correspondence should be addressed: Phone: 0040262/218922, Fax: 0040262/276153, e-mail: mdobra@ubm.ro