

The Study of Heavy Metals Distribution on the Jiu River Course

Cristina BARBU^a, Anisoara PREDA^b and Alexandru POPESCU^c

^a*Spiru Haret University, Craiova, Dolj, Romania*

^b*National R & D Institute for Cryogenics and Isotopic Technologies – ICSI Rm. Valcea, Romania*

^c*University Craiova, Chemistry Faculty, Craiova, Romania*

Abstract The Jiu River is an important river from Romania which length is 339 km. Administrative, Jiu hydrographical area/river basin covers integral the counties Dolj, Gorj, Mehedinti and partial the county Hunedoara. Heavy metals represent one the most important categories of pollutants or natural water. Main categories of pressures from Jiu hydrographical river basin are point source pollution and diffuse pollution. Small amounts of metallic pollutants can cause extreme damages o environment quality. This paper presents a study of distribution of Copper, Chromium, Lead, Nickel and Zinc on the Jiu River, between January and June 2005. The concentration of heavy metals was determined by Inductively Coupled Plasma Mass Spectrometry (ICP-MS). The obtained results are in the following ranges: in Malu Mare point 1.09 – 3.42 µg/L for Copper, 0.08 – 3.17 µg/L for Chromium, 0.32 - 2.60 µg/L for Lead, 0.54 - 2.21 µg/L for Nickel and 3.25 - 7.40 µg/L for Zinc, and in Zaval point 1.05 – 3.75 µg/L for Copper, 2.12 – 3.35 µg/L for Chromium, 0.30 - 2.05 µg/L for Lead, 0.98 - 2.74 µg/L for Nickel and 3.08 - 7.40 µg/L for Zinc.

Keywords: environment, heavy metals, inductively coupled plasma mass spectrometry.
