



INFLUENCE OF ROSIA POIENI AND ROSIA MONTANA MINING AREAS ON THE WATER QUALITY OF THE ARIES RIVER

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Abstract

Water quality in the Aries River catchment (NW Romania) in the vicinity of Rosia Poieni and Rosia Montana mining areas was investigated. This study included the determination of pH, EC, dissolved trace metals (Ni, Cu, Zn, Cd, Pb, Mn), major cations (Na, K, Ca, Mg, Fe), chloride, nitrate and sulfate concentration in waters sampled from the Aries River and its tributaries (Abrud River and Musca and Sesei rivulets) that drains the mining area. In the studied area, pollution derived primarily from nonferrous and precious metal mine tailings deposited near the water courses. Although high metals and sulfates concentrations were found in the Sesei and Musca rivulets, due to the low flow rate of these tributaries, in the Aries River significant increases were found only for Mn, Cu, Fe and sulfate while for the other metals a moderate increase was observed.

Key words: Aries River, heavy metals, mining, water quality

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