

## **Heavy Metals in Landfill Waste of Trepça, after Flotation Process as Pollutants of Water and Soil**

Ilir shehu\*, Skender Demaku, Tahir Arbnesi, Selim Jusufi, Ferat Shala, Bahrije Dobra

*Chemistry Department, University of Pristine, str. Mother Teresa 5, 10000 Pristine, Kosova*

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**Abstract:** In this work we have determined the concentration of heavy metals in soil, water, sludge and waste after flotation process, in the region of Trepça at Mitrovica town in Kosova. We took samples near the Trepça complex and we have analyzed the concentrations of heavy metals with ICP-OES and AAS, in the June 2010. Soil and waste after flotation process samples were taken in the area with high indication of pollution, in front of Batteries factory, Metallurgical faculty and landfill waste “Kelmend”, which are located waste after flotation process. In landfill waste, we found that the concentration of heavy metals were: Pb 11750.00-23140.53 ppm; Zn 2897.00-50642.70 ppm; Cu 2929.0-399050 ppm; Cd 313.90-580.64 ppm; The concentration of heavy metals in soil, near the landfill waste, near the concrete factory, landfill waste “Kelmend” and near rivers Trepça and Sitnica, differ as following: Pb 0.2554-420.04 ppm, Zn 0.1010-464.64 ppm, Cu 0.5870-50.880 ppm and Cd 0.001-2.100 ppm. Samples for water analysis were taken in nine different positions in the rivers Sitnica, Trepça and Ibri. The concentration of heavy metals in water was: Pb 0.009-1.004 ppm, Zn 0.0198-0.9981ppm, Cu 0.0000-0.0990ppm, Cd 0.0000-0.0980 ppm. In sludge of the rivers Sitnica and Ibri, the concentration of heavy metals was: Pb 0.9460 -201.55 ppm, Zn 1.0980-170.60ppm, Cu 0.560-9.450 ppm, Cd 0.040-2.980 ppm. According to the experimental results obtained in this work we can conclude that the waste after flotation process, are charged with high concentration of heavy metals. These metals can penetrate from landfill waste to the environment area and will have an negative influence on the contamination of water, sludge and soil. From these results we have found that the concentration of heavy metals in these environmental areas (water, sludge, soil and waste after flotation process) was higher compared to the standards for water, soil, sludge and waste product from ores.

**Keywords:** *Heavy metals, waste, flotation process, water, soil, Trepça, Mitrovica, Kosova*

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\* Corresponding: E-mail: [ilir-shehu@hotmail.com](mailto:ilir-shehu@hotmail.com); Tel: +38138244186