



Heavy Metals in the River Drenica (Kosova) From the Deposited Ash of the Complex “New Ferronickel”

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Abstract: The goal of this work was to analyze the pollution influence of the deposited ash from the complex “New Ferronickel”, with heavy metals in the river Drenica and its influence in the pollution of the soil and sludge near the river. We have analyzed the heavy metals in the storage ash of the complex “New Ferronickel” which produce Ni and Fe in Kosova. We have analyzed the concentrations of heavy metals with ICP-OES and AAS, on June 2010. In deposited ash, we found that the concentration of heavy metals was: Pb; 15.00-16.21 ppm, Zn; 14.30-19.10 ppm, Cu; 2.20-5.50 ppm, Cd; 0.00 ppm, Fe; 789.90-15900.00 ppm and Ni; 201.10-260.50 ppm. The concentration of heavy metals in soil, near the river Drenica, differ as following: Zn; 39.00-97.00 ppm, Pb; 48.60-55.50 ppm, Cu; 17.90-22.60 ppm, Cd; 0.00 ppm, Fe; 8845.00-13860.00 ppm and Ni; 40.00-107.80 ppm. Samples for water analysis were taken in five different positions in the river Drenica. The concentration of heavy metals in water were: Pb 0.0008-0.0998 ppm, Cd; 0.00-0.00 ppm, Zn; 0.0396-0.1012 ppm, Cu; 0.0036-0.0260 ppm, Fe; 0.0238-0.3490 ppm and Ni; 0.0038-0.2546 ppm. In sludge of the river Drenica, the concentrations of heavy metals were: Pb; 22.30-121.00 ppm, Zn; 45.00-2541.00 ppm, Cu; 15.10-50.90 ppm, Cd; 0.00 ppm, Fe; 6102.00-31800.00 ppm, and Ni; 152.00-4035.00 ppm. From the results we can conclude that deposited ash of the complex “New Ferronickel” in Kosova, are charged with heavy metals. These metals can penetrate from ash to the environment area and will have an influence on the contamination of water, sludge and soil. From these results we have found that the concentrations of heavy metals in these environmental areas (water, sludge, soil and ash) were higher compared to the standards for water, soil, sludge and ashes.

Keywords: *Heavy metals, Deposited Ash, Drenica River, Water, Soil, Sludge, Complex “New Ferronickel”, Kosova.*

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