



Chemical Analysis of the Vërbnica Lake's Water (Kosova)

Fatmir Faiku*, Naser Troni, Arben Haziri, Fatbardh Gashi, Arlinda Fetahu

Chemistry Department, Prishtina University, str. Mother Teresa 5, 10000 Prishtina, Kosova

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Abstract: Vërbnica Lake is in the North-West part of Kosova. In this research work we have analyzed 67 elements in the water of Vërbnica Lake (Kosova). We used ICP/MS as method for the analysis. Also some physico-chemical parameters are determined: air temperature, water temperature, pH, electrical conductivity (EC), residue after evaporation, residue in filtered water, acidity (mA, pA), total hardness and temporary hardness. From our results we can see that the Lakes water of Vërbnica was with basicity properties and it is very hard water. From the results, we found that all elements are under maximum level of WHO standards for the surface water, except chromium which is in some samples in higher level as allowed from the WHO standards ($V_1=2.2 \mu\text{g L}^{-1}$, $V_2=2.5 \mu\text{g L}^{-1}$, $V_3=2.3 \mu\text{g L}^{-1}$, $V_5=2.5 \mu\text{g L}^{-1}$, $V_6=2.0 \mu\text{g L}^{-1}$). Also we have classified this water according to the level of metals. Based on copper the samples D, V_1 - V_6 are classified in second class. Based on zinc the samples D, V_4 - V_6 are classified in first class, V_2 , V_3 in third class and V_1 is in fourth class. Based on lead the samples D and V_4 are in second class, in third class are V_1, V_2, V_3, V_5 and V_6 . Based on cadmium the samples D, V_1 - V_6 are classified in first class. From these results we can conclude that water from Vërbnica Lake can be used as drinking water but before it should chemically treated for the removing of chromium.

Key words: *Vërbnica Lake (Kosova), water, eco-toxic elements, ICP/MS, FIMS, statistical analysis.*

*Corresponding: E-mail: f_faiku@hotmail.com; Tel: +377261366; Fax: +38138549872