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STUDY ON THE QUALITY OF WATER SUPPLY SOURCES FOR IASI CITY, ROMANIA

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Abstract

Evaluation of the quality of natural waters used as sources for drinking water supply is very important for selection of the proper technological treatment system that would ensure the compliance of physical, chemical and microbiological parameters with the specific standards. The current study aims at investigating the quality of two natural waters used as sources for drinking water supply of Iasi City: Prut River (surface water) and Timisesti (groundwater). The experimental analysis of the water quality was performed by daily sampling and analysis of four of the main quality indicators that are critical for disinfection: temperature, pH value, turbidity and oxidability for both sources. Evaluation of monthly, seasonal and yearly averages and variations also has been accomplished. Based on the results of this study conducted for a period of almost five years (January 2009 – November 2013) it was found that the main quality indicators for the two natural water sources comply with the Romanian technical norm. The comparison of the average values of the analyzed parameters for the period 2009 – 2013 reveals a better quality of the Timisesti source that would require only a simple physical treatment followed by chlorination. Prut River water source, however, requires a physical and chemical treatment followed by disinfection through chlorination before being distributed to the water supply network of Iasi City.

Keywords: drinking water supply, oxidability, Prut, sustainable development, Timisesti, turbidity

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