



Influence of Wastewater Samples Retention Time On Their Quality

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ABSTRACT.

One of the basic elements to assess the functioning of a sewage treatment plant is to determine the quality of sewage. Sampling and determination is a key element. The paper presents an analysis of changes in the values of selected wastewater quality indicators, i.e. BOD₅, COD, pH, dissolved oxygen concentration, temperature, turbidity, conductivity and TDS as a function of time. The aim of the study is to determine the relationship between the sample retention time (resulting from transport time) and the values of the aforementioned quality indicators. The tests were performed during 6 hours with a one-hour time interval. On the basis of the obtained test results, a decrease in all analyzed parameters, except for temperature, was observed. The greatest decrease after the 6-hour holding time was observed for the COD parameter (32%). The results of the research made it possible to determine models that can be used to estimate the value of the parameter for any time period. It is extremely important when the time of sample delivery to the laboratory is long and we want to know the parameter value, i.e. at the time of collection.

Keywords: BOD₅; COD; modeling; sewage transport; wastewater quality