ABSTARCT

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EFFECT OF VARIATION OF TIME AND CURRENT ON THE DECREASE OF TOTAL DISSOLVED SOLID AND pH IN RAINWATER WITH ELECTROCOAGULATION METHOD
ix + 87 pages + 21 tables + 4 pictures + 11 attachments

One example of contaminated rainwater is collected through gutters and then flowed into rainwater reservoirs. Obtained from testing samples of rainwater has the following contents. The parameters used in the physical examination of TDS with the inspection method resulted in 19.7 NTU. The rainwater TDS measuring instrument is low mineral water or low TDS, between 0 ppm to 30 ppm the highest TDS is 500 ppm drinking water and for rain water pH is 6.5.

The purpose of this study was to determine the effect of time and current variations on the decrease in total dissolved solids and pH in rainwater with the electrocoagulation method.

This type of research is a quasi-experimental research with the research design of The Non Randomized Control Group Pretest-Postest Design. This experiment is in the form of treatment or intervention on a variable and it is expected that there will be changes or effects on other variables. The total sample in this study was 96 samples with details of 4 variations and 6 treatments.

The results of the One Way Anova test show that there are differences in the of time variations with current variations for decreasing TDS levels in rainwater using the electrocoagulation method, time and current variations with time variations of 2 minutes: 0.4; 0.6; 0.8; 1,2 current, time variation 4 minutes : 0.4; 0.6; 0.8; 1,2 current variation time 6 minutes : 0.4; 0.6; 0.8; 1.2 current, time variation 8 minutes : 0.4; 0.6; 0.8; 1.2 current, from 4 variations tested.

The conclusion obtained is that it can be concluded that the time variation of 8 minutes and a current of 1.2 amperes is the most effective variation as a decrease in TDS to meet the requirements of clean water. Suggestions for research need to be continued by increasing the variation of time, which can then change the variables used such as variations in time, current, electrode distance, plate thickness, so as to obtain maximum results in obtaining a decrease in TDS levels in rainwater.

Keywords : Rainwater, Electrocoagulation, TDS and pH
Library : 33 readings (2007 – 2020)