INFLUENCE OF ROUGHING FILTER AND SLOW SAND FILTER IN DRINKING WATER TREATMENT WITH RAW WATER FROM KARANGPILANG INTAKE OBSERVED BY PHYSICAL PARAMETER

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Abstract
Drinking water treatment alternative that applied in Drinking Water Company District at Karangpilang still use conventional system and use chemicals to decrease the turbidity. It caused coagulant requirement is too much and the treatment become too expensive so the effective, efficient, low cost, and reasonable treatment are needed.

This experiment that use physical parameter (turbidity and colour) and filtration rate variety. Units that use are Roughing Filter (RF), Prasedimentation basin, Slow Sand Filter (SSF), and Rapid Sand Filter (RSF). Filtration rate variety that use are 0,125 m³/m².hour, 0,25 m³/m².hour, and 0,5 m³/m².hour and then to determine the turbidity and colour that can decrease by each unit, to determine the turbidity and colour that can decrease from various filtration rate variable that be given, influence rate filtration to pattern washing RF and SSF units, and influence RF and SSF for water treatment.

Result of the research are turbidity and colour decrease more efficient if use SSF with pretreatment RF unit. The most effective filtration rate to decrease the turbidity and colour at RF and SSF is 0,25 m³/m².hour. So high the filtration rate so washing periode is more often each units. Raw water treatment can decrease chemicals so it can saver treatment cost.

Key words : Colour, Roughing Filter, Slow Sand Filter, Turbidity