ANALYSIS OF UPFLOW SLOW SAND FILTER FOR WELL WATER TREATMENT WHICH CHANGE BECOME DRINKING WATER WITH MEDIA THICKNESS AND FILTRATION RATE VARIATIONS

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Abstract

PDAM of Surabaya doesn’t completely supply water needs to the community. The unsupplied community choose to use another raw water, that is well water like in Gebang, Sukolilo District. But, quality of well water isn’t good enough because the distance between each house is close so the distance between septic tank is close as well. So there is contamination of well water from septic tank which can caused increases of coliform total and organik matter exceeding drinking water standard of PERMENKES RI no. 492/Menkes/ Per/IV/2010.

This reasearch discuss about the process of well water becoming drinking water with the variations of media thickness 50 cm and 80 cm along with filtration rate 0.1 and 0.2 m/h. The parametes are coliform total and organic matter. Media of filter is sand. Filter operates during 15 days for each variations.

Result of reasearch is average efficiency of decreasing organic matter ranging from 11% - 20%. For coliform total ranging from 84% - 98%. The most optimum of variations to decreases coliform total and organik matter in well water are 80 cm for media thickness and 0.2 m/h for filtration rate.

Keywords: coliform total, filtration rate, media thickness, organic matter, upflow slow sand filter
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