The Use of Units Slow Sand Filter, Ozone Generator and Rapid Sand Filter Household Scale To Improve Quality of Water Shallow Well Being Worth Drinking Water (Organic Matter and Detergents Parameters)

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Abstract

Water wells is groundwater that often used by people for daily activities. Wells water with high organic and the detergent content is not suitable for consumption for people because it could cause various diseases. Moreover, the presence of organic substances and detergents affect the color and odor of the water wells so that are not suitable for consumption. Slow sand filter is a processing unit that is capable to removal organic substances in water. Slow sand filters and rapid sand filters do not use chemicals in the processing so it is more economical and effective. While ozone, effectively used to removal organic substances in water by changing the chain of organic substances into simpler ones.

The purpose of this study was to determine the effectiveness of the use of slow sand filters, ozone generators and rapid sand filters in the designated load of detergent and organic substances in water wells.

The results showed that the removal efficiency of slow sand filter units for the load of organic substance and detergent by 57.6% and 60.5%, in units ozonation by 47.4% and 17.5%, and the rapid sand filter units by 50, 0% and 50.9%.

Keywords: Slow Sand filter, Ozone, Rapid Sand Filter, organic substances, detergents, water wells