

PENGARUH BERBAGAI KOMBINASI KETEBALAN MEDIA FILTER PASIR DAN ZEOLIT TERHADAP PENURUNAN KADAR BESI (Fe) DAN MANGAN (Mn) PADA AIR SUMUR PERUM NILASARI PABELAN KARTASURA

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Abstract

Contents of Fe and Mn on water which have flow standardization capacity which causes environment and healthy problems. Content Fe and Mn in Nilasari Pabelan Kartasura have exceeded capacity standardized are 3,163 mg/l and 1,012 mg/l. degradation of Fe and Mn can be done by sand zeolit filtration. The purposes of this research are to know about some influences of thick sand zeolit filter on degradation of contains of Fe and Mn. The method which used in this research are experiment which test experiments pretest-post with control groups desig. Populations in this research are all of arthesis well in Perum Nilasari RT 01 RW VI. Accounts of sample which used 20 liter, every practically used 5 liter to 3 more repeated. Result of statistics use anova. The results of this research show are the influence of thick in sand zeolit media on degradation contains of Fe and Mn. The result of laboratory test show that control of Fe and Mn are 3,157 mg/l and 1,011 mg/ sand- zeolit have thick about 40 cm in contains of Fe and Mn about 0,265 mg/l dan 0,275 mg/l, thick of sand- zeoliot 50 cm have contains of Fe and Mn are 0,193 mg/l dan 0,164 mg/l, thick of sand- zeolit 60 have contains of Fe and Mn are 0,145 mg/l dan 0,077 mg/l. Effective of thick caused degradation about contains of Fe and Mn in 60 cm about 95,42% dan 92,39%.

Keyword : contains of Fe and Mn, sand-zeolit, artesian well

PENDAHULUAN

Air yang dikonsumsi manusia harus memenuhi syarat kualitas dan kuantitas. Secara kualitas air harus memenuhi syarat fisik, kimia dan biologi. Syarat fisik air tidak berwarna, berbau, berasa, jernih, dan tidak mengandung zat padatan. Syarat kimia air tidak mengandung logam, misalnya Fe dan Mn. Fe dan Mn dalam air memang dibutuhkan untuk metabolisme tubuh, akan tetapi jika Fe dan Mn dalam air sudah melebihi nilai baku mutu air minum akan menimbulkan berbagai

masalah, misalnya; menimbulkan bau, warna kuning dan coklat pada pakaian, rasa pada minuman dan kerusakan hati. Syarat biologi air tidak boleh mengandung bakteri patogen (Sutrisno *et al*, 2010).

Standar mutu air minum atau air untuk kebutuhan rumah tangga ditetapkan berdasarkan Peraturan Menteri Kesehatan Republik Indonesia No. 492/MENKES/PER/IV/2010 tentang persyaratan kualitas air minum. Baku mutu Fe dan Mn yang