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Abstrak

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PERBEDAAN KETEBALAN FILTER *BIO CERAMIC BALL* TERHADAP PENURUNAN TOTAL *COLIFORM* PADA AIR MINUM DI *PANTRY* PT. BETON ELEMEN PERSADA

ix + 91 halaman + 16 Tabel + 10 Gambar + 5 lampiran

Air dimanfaatkan oleh manusia salah satunya untuk air minum, sehingga harus diupayakan agar memenuhi persyaratan. Air minum yang tersedia di *Pantry* PT. Beton Elemen Persada menggunakan pengolahan dari sinar ultraviolet, hasil pemeriksaan secara bakteriologis tidak memenuhi syarat bakteri *Coliform* yaitu sebesar 76 APM/100 ml, data penyakit akibat kerja menunjukkan adanya karyawan terkena penyakit diare pada tahun 2021. Sumber air berasal dari sumur artesis, jarak sumur artesis < 5 meter dengan kandang ternak. Perlu dilakukan pengolahan tambahan dengan metode filtrasi menggunakan filter *bio ceramic ball.* Tujuan Penelitian untuk mengetahui perbedaan ketebalan filter *bio ceramic ball* terhadap penurunan total *Coliform*, dengan ketebalan filter 10 cm, 15 cm, dan 20 cm. Jenis penelitian eksperimen, desain penelitian *Pre test and Postest without Control,* populasi seluruh air minum di *Pantry*, sampel sebagian air dari populasi yang diambil, serta teknik pengambilan sampel *grab sampling,* besar sampel sebanyak 36 sampel. Alat pengumpul data; alat laboratorium, pH meter, *thermometer*, TDS meter, kamera. Teknik pengumpulan data meliputi pemeriksaan laboratorium, pengukuran ketebalan media filter *bio ceramic ball*, pengukuran pH, suhu, dan TDS. Uji yang dilakukan *One Way Anova.* Hasil penelitian menunjukan, ketebalan 10 cm menurunkan 58%, 15 cm menurunkan 73%, dan 20 cm menurunkan 87%. Sehingga terdapat perbedaan ketebalan filter *bio ceramic ball* terhadap penurunan total *Coliform* pada air minum. Penelitian lanjutan dengan menambahkan ketebalan filter *bio ceramic ball* untuk mencapai standar baku mutu persyaratan air minum menurut Peraturan Menteri Kesetahan RI No. 492 Tahun 2010 atau dengan mengkombinasikan pengolahan air minum menggunakan proses desinfeksi.

DAFTAR PUSTAKA : 31 (2010 – 2020)

KATA KUNCI : Ketebalan, Filter *Bio Ceramic Ball*, Total *Coliform*, Air Minum.

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Abstract

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DIFFERENCES OF BIO CERAMIC BALL FILTER THICKNESS TOWARDS THE DECREASE OF TOTAL COLIFORM DRINKING WATER IN PANTRY PT. BETON ELEMEN PERSADA

ix + 91 page + 16 table + 10 picture + 5 attachment

Water is used by humans, one of which is for drinking water, so efforts must be made to meet the requirements. Drinking water available at the Pantry PT. Concrete Elements Persada uses processing from ultraviolet light, the results of the bacteriological examination do not meet the requirements for Coliform bacteria, which is 76 APM/100 ml, work-related disease data shows that employees have diarrheal disease in 2021. The water source comes from artesian wells, the distance from artesian wells < 5 meters with cattle pens. It is necessary to do additional processing with a filtration method using a bio ceramic ball filter. The aim of the study was to determine the difference in thickness of the bio ceramic ball filter on the total reduction of Coliform, with filter thicknesses of 10 cm, 15 cm, and 20 cm. The type of research is experimental, the research design is Pre test and Posttest without Control, the entire population of drinking water in the Pantry, a sample of some of the water taken from the population, as well as the grab sampling technique, the sample size is 36 samples. Data collection tools; laboratory equipment, pH meter, Thermometer, TDS meter, camera. Data collection techniques include laboratory examinations, measuring the thickness of the bio ceramic ball filter media, measuring pH, temperature, and TDS, taking pictures. Tests carried out by One Way Anova. The results showed, 10 cm thickness decreased 58%, 15 cm decreased 73%, and 20 cm decreased 87%. So that there is a difference in the thickness of the bio ceramic ball filter on the decrease in total Coliform in drinking water. Further research by adding the thickness of the bio-ceramic ball filter to achieve quality standards for drinking water requirements according to the Regulation of the Minister of Health of the Republic of Indonesia No. 492 of 2010 or by combining drinking water treatment using a disinfection process.

Bibliography : 31 (2010 – 2020)
Key words : Thickness, Bio Ceramic Ball Filter, Total Coliform, Drink Water.