DESCRIPTION OF WELL WATER Fe DECREASE USING CATION RESIN AND CHARCOAL FILTER IN NGEPAS KIDUL, DONOHARJO, NGAGLIK, SLEMAN hamlets

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ABSTRACT

Background: Water is an important component of the environment for life. One of the problems that is often encountered and affects water quality is the Fe content in water.

Purpose: To determine the ability of the RIRA filter to reduce Fe in well water.

Method: This type of research is a quasi-experimental research design with Pre test-Post test Only Design which is analyzed descriptively. The study was conducted using the RIRA filter. In the implementation of the research, it was obtained 1 sample pre-test and 5 samples post-test.

Results: The results showed that the Fe content of the water before filtering was 2.80 mg/L. Meanwhile, after filtering with an RIRA filter, the highest Fe content was 0.83 mg/L and the lowest Fe content was 0.37 mg/L. Of the 5 repetitions carried out the difference in Fe levels before and after filtering with the RIRA filter obtained the highest difference of 2.43 mg/L and the lowest difference of 1.97 mg/L. The average difference in Fe levels before and after filtering is 2.22 mg/L.

Conclusion: From the research, it can be concluded that the RIRA filter is able to reduce Fe levels with an average decrease of 79.42% from 5 repetitions with a flow rate of 1 l/min.

Keywords: Fe, Filtration, RIRA

GAMBARAN PENURUNAN Fe AIR SUMUR MENGGUNAKAN FILTER RESIN KATION DAN ARANG DI DUSUN NGEPAS KIDUL, DONOHARJO, NGAGLIK, SLEMAN

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ABSTRAK

Latar Belakang: Air merupakan komponen lingkungan hidup yang penting bagi kehidupan. Salah satu permasalahan yang sering dijumpai dan mempengaruhi kualitas air yaitu kandungan Fe dalam air.

Tujuan: Mengetahui kemampuan filter RIRA untuk menurunkan Fe dalam air sumur.

Metode: Jenis penelitian ini adalah eksperimen semu dengan desain penelitian Pre test-Post test Only Desaign yang dianalisis secara deskriptif. Penelitian dilakukan dengan menggunakan filter RIRA. Pada pelaksanaan penelitian didapatkan 1 sampel pre test dan 5 sampel post test.

Hasil: Hasil penelitian menunjukkan bahwa kadar Fe air sebelum dilakukan penyaringan adalah 2,80 mg/L. Sedangkan kadar Fe setelah dilakukan penyaringan dengan filter RIRA, paling tinggi adalah sebesar 0,83 mg/L dan kadar Fe paling rendah adalah 0,37 mg/L. Dari 5 kali pengulangan yang dilakukan selisih kadar Fe sebelum dan sesudah dilakukan penyaringan dengan filter RIRA memperoleh hasil selisih paling tinggi adalah sebesar 2,43 mg/L dan selisih paling rendah adalah 1,97 mg/L. Rata-rata selisih kadar Fe sebelum dan setelah penyaringan yaitu 2,22 mg/L.

Kesimpulan: Dari penelitian dapat disimpulkan bahwa filter RIRA mampu menurunkan kadar Fe dengan rata-rata penurunan 79,42% dari 5 kali pengulangan dengan debit 1 l/menit.

Kata Kunci: Fe, Filtrasi, RIRA