ABSTRAK

APLIKASI MEMBRAN REVERSE OSMOSIS DENGAN PENAMBAHAN ULTRAVIOLET DALAM PENYISIHAN PARAMETER AIR SUMUR GALI

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ABSTRAK

Kebutuhan air semakin lama akan semakin meningkat sejalan dengan kebutuhan hidup manusia, baik di daerah perkotaan maupun daerah pedesaan. . Kualitas udara yang dimaksud yaitu kualitas fisik, kimia dan biologi. Berdasarkan hasil uji air sumur warga di TPA Talang Gulo Kota Jambi sudah mengalami kontaminasi logam berat diantaranya logam kromium sebesar 0,10 mg/L, dan logam tembaga sebesar 0,19 mg/L. (SM Fikri, 2023) dilakukan percobaan/eksperimen Aplikasi Membran Reverse Osmosis Dengan Penambahan Ultraviolet Dalam Penyisihan Parameter Air Sumur GaliJenis penelitian ini menggunakkan metode eksperimen kuantitatif berupa angka dan grafik yang di tampilkan berdasarkan hasil uji yang diperoleh. Penelitian ini bertujuan untuk mengetahui kandungan pH, Suhu Besi, mangan dan Total Coliform pada air sumur gali sesudahnya dilakukan perlakuan dengan menggukan Reaktor membran reverse omosis, dibeli dengan isi membran berupa PP Sediment 5 micron, Granulate Actived Carbon (GAC), PP Sediment 1 micron ditambahkan lampu ultraviolethasil sebelum dimasukkan ke dalam reaktor sebesar: pH: 7,41, suhu: 26,8°C, besi: 0,744mg/l, mangan: 0,535mg/l serta total coliform

sebesar 33mpn, Setelah dimasukkan ke dalam reaktor hasilnya sebesar pH: (7,248,017,64), suhu:(26,526,627), besi:(0,7510,7460,758), mangan: (0,5290,5330,564), sedangkan pada total coliform sebesar (7,81,8). hasil sebelum dimasukkan ke dalam reaktor sebesar: pH: 7,41, suhu: 26,8°C, besi: 0,744mg/l, mangan: 0,535mg/l serta total coliform sebesar 33mpn, Setelah dimasukkan ke dalam reaktor hasilnya sebesar pH: (7,248,017 ,64) , suhu: (26,526,627), besi: (0,7510,7460,758), mangan: (0,5290,5330,564), sedangkan pada total coliform sebesar (7,81,8). Efisiensi penyisihan konsentrasi parameter pH secara berurutan sebesar 2,3%,-8%,-3%, para meter suhu sebesar 1,1%,0,7%,-0,7%,parameter besi dan mangan tidak terjadi penurunan yang signifikan , sedangkan pada parameter total coliform sebesar 76,4%,94,5%,94,5.

Kata Kunci : Reverse Osmosis, Air Sumur Gali

ABSTRACT

The need for water will increase over time in line with the needs of human life, both in urban and rural areas. . The air quality in question is physical, chemical and biological quality. Based on the results of the well water test of residents at the Talang Gulo Landfill, Jambi City, has been contaminated with heavy metals, including chromium metal of 0.10 mg/L, and copper metal of 0.19 mg/L. (SM Fikri, 2023) experiments/experiments were carried out on the application of Reverse Osmosis Membrane with the addition of Ultraviolet in the preparation of dug well water parametersThis type of research uses a quantitative experimental method in the form of numbers and graphs that are displayed based on the test results obtained. This study aims to determine the content of pH, Iron Temperature, manganese and Total Coliform in the excavated well water after treatment using a reverse omosis membrane reactor, purchased with membrane contents in the form of 5 micron PP Sediment, Granulate Actived Carbon (GAC), 1 micron PP Sediment added with ultraviolet lamp before being put into the reactor as: pH: 7.41, temperature: 26.8°C, Iron: 0.744mg/L, manganese: 0.535mg/l and total coliform of 33mpn, After being put into the reactor the result is pH: (7,248,017.64), temperature: (26,526,627), iron: (0.7510,7460,758), manganese: (0.5290,5330,564), while the total coliform is (7,81,8). The results before being put into the reactor are: pH: 7.41, temperature: 26.8°C, iron: 0.744mg/l, manganese: 0.535mg/l and a total coliform of 33mpn, After being put into the reactor the results are pH: (7,248,017,64), temperature: (26,526,627), iron: (0.7510,7460,758), manganese: (0.5290,5330,564), while the total coliform is (7.81.8). The efficiency of the pH parameter concentration

allowance was sequentially 2.3%, -8%, -3%, the temperature meters were 1.1%, 0.7%, -0.7%, the iron and manganese parameters did not decrease significantly, while the total coliform parameters were 76.4%, 94.5%, 94.5

Keywords: Reverse Osmosis, Air Sumur Gali