

## ABSTRAK

Mukarrom, Hakim Alfin, 2022, Pengolahan Air Payau Berbasis Treatment Sucolite, Manganese Greensand, Ferrolite, Zeolit, Dan Karbon Aktif, Tugas Akhir, Teknik Lingkungan, Fakultas Teknik Universitas PGRI Adi Buana Surabaya.

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Air sumur telah banyak tercemar rembesan septic tank dan tercemaran antara air laut dengan air tawar sehingga rasa sedikit payau, sehingga kualitas air sumur tidak memenuhi baku mutu yang dipersyaratkan pada Peraturan Menteri Kesehatan Nomor 32 Tahun 2017 tentang Hygiene Sanitasi. Tujuan penelitian ini adalah untuk mengetahui variasi lama waktu kontak dan penggunaan kadar sucolite 5 dan 7 ppm untuk kadar Total Disolved Solid (TDS), Mangan (Mn), Zat Organik, Deterjen dan *Eschericia Coli* dengan treatment Pengolahan Air Payau Berbasis Treatment Sucolite, Manganese Greensand, Ferrolite, Zeolit, dan Karbon Aktif. Dalam penelitian ini varibael yang digunakan adalah waktu kontak 5 menit dan 15 menit dengan sucolite 5 dan 7 ppm. Metode pengumpulan data dalam penelitian ini dilakukan selama 2 hari, dengan treatment sucolite, manganese greensand, ferrolite, zeolite, karbon aktif. Dari hasil treatment diperoleh kadar TDS yaitu pada waktu kontak 15 dengan sucolite 5 ppm rata – rata penurunan 2.226 dengan *removal* 0.083 mg/l, untuk kadar Mn (Mangan) yaitu pada waktu kontak 15 menit dengan sucolite 5 ppm rata–rata prnurunan 2.895 dengan *removal* 1.675 mg/l, untuk kadar Zat Organik yaitu pada waktu 5 menit dengan sucolite 5 ppm rata–rata penurunan 22.35 dengan *removal* 6.45 mg/l, untuk kadar Deterjen yaitu pada waktu kontak 5 menit dengan sucolite 7 ppm rata - rata penurunan 0.165 dengan *removal* 0 mg/l, untuk kadar *Eschericia Coli* yaitu pada semua waktu kontak antara 5 dan 15 menit dengan rata–rata penurunan 0 dengan *removal* 50 mg/l.

**Kata Kunci :** Air Payau Sucolite, Manganese Greensand, Ferrolite, Zeolit Karbon Aktif.

## ABSTRACT

*Mukarrom, Hakim Alfin, 2022, Treatment of Brackish Water Based on Sucolite, Manganese Greensand, Ferrolite, Zeolite, and Activated Carbon, Final Project, Environmental Engineering, Faculty of Engineering, Universitas PGRI Adi Buana Surabaya.*

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*Well water has been heavily polluted by septic tank seepage and seepage between sea water and fresh water so that the taste is a little brackish, so the quality of well water does not meet the quality standards required by the Minister of Health Regulation Number 32 of 2017 concerning Sanitary Hygiene. The purpose of this study was to determine the variation in contact time and the use of 5 and 7 ppm sucolite levels for levels of Total Dissolved Solid (TDS), Manganese (Mn), Organic Substances, Detergents and Fecal Coliform with treatment of Brackish Water Treatment Based on Sucolite Treatment, Manganese Greensand, Ferrolite, Zeolite, and Activated Carbon. In this study, the variables used were contact time of 5 minutes and 15 minutes with 5 and 7 ppm sucolite. The data collection method in this study was carried out for 2 days, with treatment of sucolite, manganese greensand, ferrolite, zeolite, and activated carbon. From the results of the treatment, the TDS levels were obtained, namely at a contact time of 15 minutes with 5 ppm sucolite with an average decrease of 2.226 with a removal of 0.083 mg/l, for levels of Mn (Manganese) at a contact time of 15 minutes with 5 ppm sucolite, the average decrease was 2.895 with removal 1.675 mg/l, for levels of Organic Substance that is at 5 minutes with 5 ppm sucolite the average decrease is 22.35 with removal of 6.45 mg/l, for Detergent levels that is at 5 minutes contact time with sucolite 7 ppm the average decrease is 0.165 with removal 0 mg/l, for E.Coli levels at all contact times between 5 and 15 minutes with an average decrease of 0 with 50 mg/l removal.*

**Keywords:** *Brackish Water Sucolite, Manganese Greensand, Ferrolite, Zeolite, Activated Carbon.*