Hartarto, N. T., 2018. Penyisihan Kadar Salinitas Air Sumur Menggunakan Resin Penukar Ion di Deasa Kalanganyar, Kecamatan Sedati, Kabupaten Sidoarjo. Skripsi ini di bawah bimbingan Prof. Dr. Ir. Agoes Soegianto, DEA dan Dr. Eko Prasetyo Kuncoro, S.T., DEA. Program Studi S-1 Teknik Lingkungan, Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga.

ABSTRAK

Penelitian bertujuan untuk mengetahui besar persentase penyisihan salinitas air sumur yang berasal dari Desa Kalanganyar, Kecamatan Sedati, Kabupaten Sidoarjo dengan metode pertukaran ion. Penelitian ini dirancang dengan menggunakan tiga tahapan. Pertama reaktor pertukaran ion dimodifikasi dengan variasi debit sebesar 80 ml/menit, 100 ml/menit, dan 120 ml/menit. Kedua, variasi tinggi media kolom resin yang terdiri dari 30 cm, 40 cm, dan 50 cm. Ketiga, kombinasi antara debit dan tinggi media terpilih. Hasil penelitan ini menunjukkan persentase penyisihan ion klorida (Cl^-) berdasarkan variasi debit masing-masing sebesar 14,21%; 9,7%; dan 5,94%. Persentase penyisihan ion klorida (Cl^-) berdasarkan variasi tinggi media masing-masing sebesar 14,21%; 18,43%; dan 24,21%. Persentase penyisihan ion klorida (Cl^-) pada air sumur berdasarkan kombinasi debit 80 ml/menit dan tinggi media 50 cm didapatkan sebesar 26,5%.

Kata kunci: debit, pertukaran ion, tinggi media

Hartarto, N. T., 2018. The Decreasing Salinity of Groundwater with Using Ion Exchanger Resins in Kalanganyar Village, Sedati District, Sidoarjo Regency. This work was supervised by Prof. Dr. Ir. Agoes Soegianto, DEA and Dr. Eko Prasetyo Kuncoro, S.T., DEA. Environmental Engineering, Department of Biology, Faculty of Science and Technology, Airlangga University.

ABSTRACT

This study aimed to determine the decreasing percentage of groundwater salinity from Kalanganyar village, Sedati Disctrict, Sidoarjo regency with using ion exchange method. This study was designed with using three stages. First stage, the ion exchange reactor was modified with using the variation of the discharge of 80 ml/min, 100 ml/min, and 120 ml/min. Second stage, the reactor was operated with the height variation of the resin column of 30 cm, 40 cm, and 50 cm. Third stage, the combination between the discharge and the height of resin column which was chosen. The results showed that the decreasing percentage of ion chloride (Cl^-) based on each variation of the discharge were 14,21%; 9,7%; and 5,94%. The decreasing percentage of ion chloride (Cl^-) based on each variation of media height were 14,21%; 18,43%; and 24,21%. The decreasing percentage of ion chloride (Cl^-) at groundwater based on the combination of the discharge of 80 ml/min and the media height of 50 cm was 26,5%.

Keywords: *discharge, ion exchange, media height*