ABSTRAK

Pemanfaatan air limbah hasil pengolahan (effluent) dari Instalasi Pengolahan Air Limbah (IPAL) menjadi air penyiram tanaman merupakan upaya inovatif dalam mendukung prinsip ekonomi sirkular dan keberlanjutan lingkungan. Penelitian ini dilakukan di PT Anugrah Analisis Sempurna (AAS) yang telah mengimplementasikan sistem IPAL dan memodifikasi alurnya agar air limbah hasil olahan dapat dimanfaatkan kembali untuk penyiraman tanaman. Evaluasi dilakukan terhadap kualitas effluent dan air tanah di sumur pantau dengan mengacu pada baku mutu teknis No. 660.1/1018.DLHK. Hasil penelitian menunjukkan bahwa sebagian besar parameter kualitas air (pH, TSS, BOD, COD, Total Coliform, dll.) berada di bawah ambang batas baku mutu, meskipun sempat ditemukan konsentrasi amoniak yang melebihi ambang batas pada bulan tertentu. Dengan modifikasi sistem IPAL melalui penambahan sand filter dan carbon filter, air limbah yang dihasilkan memenuhi syarat untuk dimanfaatkan sebagai air penyiram tanaman.
Kata Kunci: IPAL, effluent, sand filter, carbon filter

ABSTRACT

Utilization of processed wastewater (effluent) from Wastewater Treatment Plants (WWTP) into water for watering plants is an innovative effort to support the principles of circular economy and environmental sustainability. This research was conducted at PT Anugrah Analis Sempurna (AAS) which has implemented the WWTP system and modified its flow so that the processed wastewater can be reused for watering plants. Evaluation was carried out on the quality of effluent and groundwater in monitoring wells by referring to technical quality standards No. 660.1/1018.DLHK. The results of the study showed that most of the water quality parameters (pH, TSS, BOD, COD, Total Coliform, etc.) were below the quality standard threshold, although ammonia concentrations were found to exceed the

threshold in certain months. By modifying the WWTP system by adding sand filters and carbon filters, the wastewater produced meets the requirements to be used as water for watering plants.
Keywords: IPAL, effluent, sand filter, carbon filter