

INTISARI

Kondisi air tanah di D.I. Yogyakarta terindikasi terjadi pencemaran, salah satunya akibat *Total Coliform* yang berasal dari Instalasi Pengolah Air Limbah Domestik (IPALD) di Sleman hasil pemantauan dan monitoring Badan Lingkungan Hidup DIY tahun 2017, oleh karena itu kinerja sistem IPALD di Sleman, dan jenis material bak kontrol dalam sistem perpipaan perlu dievaluasi.

Aspek Kinerja IPALD yang diteliti adalah IPALD tipe I yaitu bak perata, *settler*, *Anaerobic Filter (AF)*, *Horizontal Gravel Filter*, dan klorinasi berada di Sembir dan IPALD tipe II yaitu perata, *settler*, *Anaerobic Baffled Reactor (ABR)*, *AF* di Tambakrejo merujuk Permen PUPR nomor 04/PRT/M/2017 variabel kinerja meliputi Debit IPALD dan kualitas *influent* air limbah domestik, kondisi fisik prasarana dan sarana pendukung, kapasitas, dan kualitas *effluent* air limbah hasil olahan. Permen LHK RI No P.68/Menlhk/Setjen/Kum.1/8/2016 tentang baku mutu air limbah domestik dan Perda D.I.Yogyakarta No. 7 Tahun 2016 tentang baku mutu air limbah sebagai rujukan kualitas *effluent*. Permenkes RI No 32 tahun 2017 merupakan rujukan kajian rembesan pada Bak kontrol yang berbahan *precast*, pasangan bata, beton cor setempat, dan buis beton.

Hasil penelitian menunjukkan Kinerja IPALD tipe I tidak maksimal karena jumlah penggunaan air bersih lebih besar dari rencana, dampaknya melebihi kapasitas rencana, pengolahan air limbah domestik tidak optimal, waktu tinggal tidak proporsional, beberapa nilai parameter di atas standar baku mutu air limbah dengan indeks polusi (PI) 7.02, kategori cemar sedang. Kinerja IPALD tipe II kapasitas pengolahan air limbah hampir melebihi kapasitas rencana, beberapa parameter di atas standar baku mutu air limbah dengan PI 6.96, kategori cemar sedang. Tanah di bawah bak kontrol terdapat jumlah *Total Coliform* dan bakteri *E. Coli* melebihi standar Standar Baku Mutu Kesehatan Lingkungan terdapat pada bak kontrol pasangan bata, *precast*, beton cor setempat, dan buis beton. Pada sebagian tanah di bawah bak kontrol buis beton tidak ditemukan bakteri *E. Coli*.

Kata kunci : Sleman, Kinerja IPALD, Bak Kontrol

ABSTRACT

There are pollutant substances indicated in the groundwater in D.I. Yogyakarta. Based on the monitoring of *Badan Lingkungan Hidup* (Environmental Agency) DIY in 2017, one of the pollutants is *Total Coliform* which comes from the Domestic Wastewater Treatment Plant (DWWTP) in Sleman.

The aspects of DWWTP performance being studied is DWWTP type I that are equalization chamber, Anaerobic Filter (AF), Horizontal Gravel Filter, and chlorination in Sembir; and DWWTP type II that are equalization chamber, settler, Anaerobic Baffled Reactor (ABR), AF in Tambakrejo refers to *Permen PUPR No.04/PRT/M/2017* with performance variables covering the DWWTP debit and the influent quality of domestic waste, the physical condition of supporting infrastructure and facilities, capacity, and the effluent quality of processed wastewater. *Permen LHK RI No. P.68/Menlhk/Setjen/Kum.1/8/2016* about the wastewater quality standards and *Perda D.I.Yogyakarta No. 7 year 2016* about the wastewater quality are used as the references of effluent quality. *Permenkes RI No. 32 year 2017* is the reference of the study of seepage in the manhole made from precast, brickwork, cast-in-place concrete, and concrete *buis*.

The study shows the performance of DWWTP type I is not maximum because of the amount of clean water use is greater than planned. This condition impacts on the over capacity from the planned; domestic wastewater treatment is not optimum, the retention time is not proportional, some parameters values exceed the standard of wastewater quality standards with pollution index (PI) 7.02 – it includes in medium polluted category. The DWWTP type II capacity of wastewater treatment is almost over the planned capacity, some parameters exceed the standard quality of wastewater with PI 6.96 – it includes in medium polluted category. There are *Total Coliform* and *E. Coli* bacteria found in the soil under brickwork, precast, cast-in-place concrete and concrete *buis* manholes, which is over the standard of Environmental Health Quality Standard. Nevertheless, there is no *E. Coli* bacteria found in half of the soil under concrete *buis* manholes.

Keywords: Sleman, Performance of DWWTP, Manhole