STUDY OF WASTEWATER TREATMENT
INSTALLATION PERFORMANCE FOR DRINKING
INDUSTRIAL
(CASE STUDY: PQR DRINKING INDUSTRIAL, PT XYZ)

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Abstract
The process of PQR Drinking production results wastewater that contain high organic matter, for TSS is 953 mg/L, BOD is 8773 mg/L and COD is 18299 mg/L, so that, they need a wastewater treatment plant (WWTP). Since WWTP was built on 2005 until now 2009 haven’t been observed about its performance for understanding how effectiveness the PQR Drinking WWTP’s performance. Because of that, they need a study about WWTP performance.

This research analyzed for design performance of each WWTP unit, such as equalization basin, UASB, Oxidation Ditch and Clarifier. The problem of equalization basin, occured the anaerobic process. The problem of UASB, occured the discharge of TSS removal effectiveness. The problem of Oxidation Ditch, F/M ratio was too low, so it need to increase more nutrient. And the problem of clarifier unit was clogging at tube settler and activated sludge that floating at surface.

Based on problem analysis above, obtained recommendation of problem solving to enhance WWTP performance. For equalization basin, it needs increase the oxygen supply by using mixer that can reach minimum a half of depth. For UASB, effluent that recycled should precipitated first to prevent disappear solids because mixing process by sludge blanket. Hilangnya. For oxydation ditch, it needs increase nutrien, such urea was 0,52 kg/day and TSP was 2 kg/day. For clarifier, the problem can be solved by accelerate detention time of sludge in clarifier with accelerating a distance of valve opening time of sludge wasting to sludge drying bed.

Key words: WWTP of PQR Drinking Industrial, Equalization basin, UASB, Oxidation Ditch and Clarifier