

Abstract

Research on the study of textile industrial waste pollution on free groundwater quality conducted in Gumpang Village, Kartasura District, Sukoharjo Regency, there was a ditch that was flown by a liquid waste from PT Tyfountex Indonesia and also domestic waste. Based on an information from surrounding populations that most of them complaint their well waters, there was fishy smelled well water, after let overnight there was a yellowish- brown formation that caused crust in cooking pan and water color was impure. The groundwater condition in the region was a population obstacle due to fresh water need was not fulfilled. So that people moved to PDAM (Regional Water Drinking Water Company). This research was aimed to know groundwater quality was free of industrial waste viewed from a physical parameter: *Total Suspended Solid* (TSS) and *Total Dissolved Solid* (TDS) chemical parameter: Chrome (Cr), Ammonia and Detergent based on a drinking water quality standard. And to obtain map of free groundwater quality dispersion pattern.

This research used a survey method, Laboratory Analysis Method and Mapping methods. The field parameter and laboratory water quality test in digging well that its soil water was assumed affected towards textile industrial waste exile and river as a comparator referring to The Decree of The Minister of Health of Republic of Indonesia Number 492/MENKES/PER/IV/2010 on Drinking Water Quality Requirements. Among parameters mentioned in the attachment, both a physical parameter: *Total Suspended Solid* (TSS) and *Total Dissolved Solid* (TDS) chemical parameter: Chrome (Cr) and detergent based on content exceeded quality standard in the research location wells.

From the laboratory test result, river and ditch water for TSS parameter (60 mg/l-62mg/l), TDS (1124 mg/l-2158 mg/l) especially in Ngenden Ditch, BOD (8.1 mg/l-12.6 mg/l), COD (28 mg/l-44 mg/l) exceeded a quality standard based on The Governmental Regulation of Republic of Indonesia Number 82 of 2001 on Water Quality Processing and 2nd Class Water Contamination Control for irrigation water and fishery uses. Based on a water laboratory test in public well water, its TSS content (7 mg/l-9 mg/l) exceeded quality standard according to The Regulation of The Ministry of Health of Republic of Indonesia Number 492 of 2010 on Drinking Water Quality requirements. A laboratory test result from TDS parameter, detergent, total chrome, and ammonia for public well water sample was in overall did not exceed quality standard so that it was still feasible to drink.

Keywords: Assessment, Wastewater Textile, Ditch, Groundwater.