



Treatment of Wastewater by Using Sand and Anthracite Filters by Certain Guidance[#]

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Accepted December 31, 2010

Abstract: Wastewater resulting from industrial activities generally consists of significant amounts of pollutants such as organic materials, mineral materials, colour, turbidity, circular hydrocarbons and so on. These pollutants are not removable in primary processes of filtration (purification, refinement). Therefore, to removal of pollutants, using supplementary refinement systems such as sand filters are required. In this study, using sand and anthracite mixing by certain guidance was evaluated empirically for supplementary refinement (purification, filtration) of industrial sewage's of factory of dairy products plant. In this purpose, a laboratory pilot was used with the height of 2.4 meters in which three vent pipes had been designed and the distance of 24 cm from each other. The expects sewage by Debbie 1.33 lit/h (litter per hour) was entered into the filter pilot and the samples were performed in three different times (1, 3, 5 hours). The amount of sand and anthracite are changeable. The results show that two- layer mixed filter (50% w/w) has considerable result such as removing 24% COD and 23.9% turbidity. Also, it was observed that the pressure drop decreased when using two- layer filters, and this causes that the increasing (operation time) of two- layer filters to one-layer, the quality of colour and turbidity was improved so after that filtration we could use it for agriculture process. This searching was completely green because of the materials were used.

Key Words: *Wastewater, Sand Filter, Anthracite Filter, BOD, COD, Turbidity*

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[#]This paper has been presented at 11-ICCA, 20-22.11.2010, Luxor-EGYPT