

Abstract

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Industrial Wastewater Treatment Systems in Egypt: Difficulties and Proposed Solutions

ABSTRACT The industrial wastewater disposal into surface water and/or land has become a vital issue to consider especially when it becomes a threat to the aquatic life and surrounding environment. Consequently, thorough studies and analyses should be done for the quality of wastewater being discharged from the different industries to determine and implement the most suitable method of treatment at feasible costs. In Egypt, this has been done for 10th of Ramadan City, New Nubaria City, New Borg El Arab City, and Industrial Area of Mubarak - Quesnna. It was found that the optimum treatment facility to be used for the first was oxidation ponds for the availability of vast areas for the second city best results for treating combined domestic and industrial WW was to construct an anaerobic pond at the inlet of the existing WWTP with a retention time of over 6 hrs, which can be considered as flow equalization basin for the third city, studies showed that best results could be attained when domestic and industrial WW are mixed and treated using an activated sludge process but replacing the primary tanks with anaerobic ponds as for the fourth and last city, it was recommended to install additional units to enhance the treatment of industrial WW before combining it with the received domestic WW to proceed with the treatment process.

KEYWORDS: anaerobic ponds, chemical treatment, cost, industrial WW, organic load, UASB