

**THE EVALUATION OF THE EFFICIENCY OF A COMMERCIAL
SLUDGE DIGESTOR AT A LATEX CONCENTRATE FACTORY**

By

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ABSTRACT

This study was to assess the efficiency of a commercial aerator (Aerob-A-Jet) which was claimed able to digest sludge. The study was carried out at the treatment ponds of a latex concentrate factory. It was found that the sludge depth in the first pond aerated by the Aerob-A-Jet aerator was reduced from 4 ft to 1 ft in 91 days. However, the other water quality parameters such as COD, BOD, ammonia were found to be very high in concentration and were not much reduced during the period of study. It is concluded that the low pH value of about 2.82 in the first pond is the primary cause of failure in removing the soluble pollutants in the first pond.

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CHAPTER 1

INTRODUCTION

Sludge is defined as the solids removed from wastewater during treatment and sedimentation, and then concentrated for further processing and disposal. Even though the environmental regulations have become more stringent, the volume of sludge generated is still on the increase. The subsequent handling, treatment, and disposal of sludge from municipal, as well as industrial wastewater treatment plant have become a complex management, economic, regulatory and ecological burden (Paul, 1994). The treatment of sludge is necessary because its volume has to be reduced to provide more space for storage and also to stabilize it. The treatment and disposal of sludge is called sludge management. A significant percentage of the maintenance cost of a treatment plant goes to the sludge management. Hence, an efficient management of sludge will help to reduce the maintenance cost of a wastewater treatment plant.

The characteristics of sludge vary, depending on its origin, the amount of aging that has taken place, and the type of treatment to which it has been subjected. Selection of a disposal option can be complicated due to the numerous factors that affect the selection of process, as well as misconceptions and inadequate information. A wrong decision can turn into a costly error.

In latex compounding industry, the residual latex coagulates to form rubber sludge in the aerated treatment ponds. This has resulted in the frequent need of