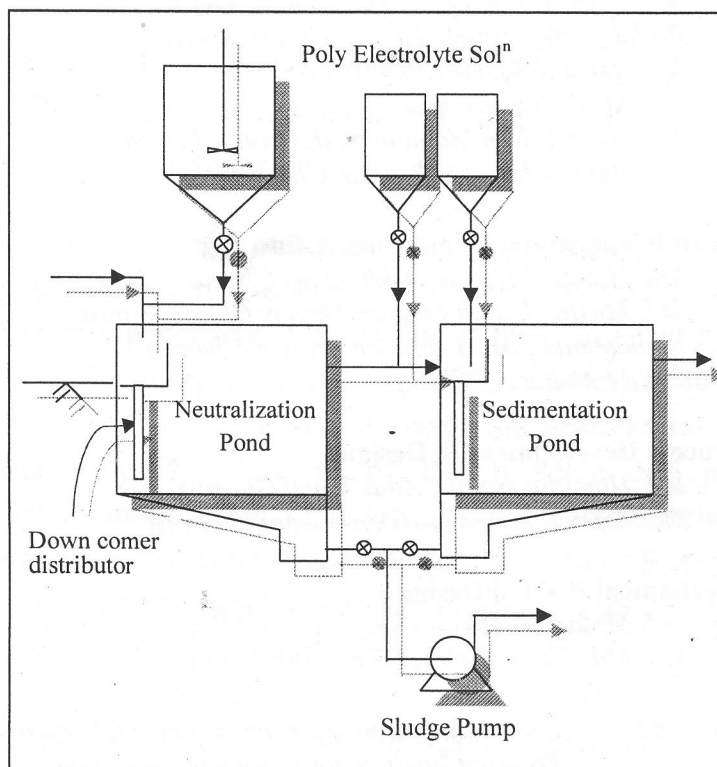


*Report on*  
**Design of Effluent Treatment Plant**  
**for**  
**TSP Complex Ltd., North Patenga, Chittagong**



Date: 29/12/2015

Analytical Chemistry & Environmental Science Department

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### Abstract

The acidic effluent of TSPCL is to be treated with lime slurry for neutralization and precipitation. The major part of supernatant clear effluent after lime treatment has to be recycled along with river water as make-up to Calendaria ejector and the other portion is to be blown down. The blow down and the loss amount shall be made up with river water. Micro-biological treatment will be carried out on the mixture of blow down portion & other wastewater for making it compatible to the river water. The effluent after imposing micro-biological treatment shall be discharged mixing with the over flow of the intake/wash water pond. By implementing this process total consumption of river water will be reduced greatly and the discharge effluent quality will comply the EQS of Bangladesh.

It is to be mentioned here that extra production cost will be added for lime consumption (about 15/16 tons/day) to neutralize acidic wastewater. On the other hand a considerable amount of precipitated sludge (25 to 30 tons/day) containing phosphorous having fertilizer value may be recycled that might contribute to minimize the cost and to be benefited in some extent. Consumption of lime can be reduced by controlling/improving TSP production process and/or using low fluoride content rock phosphate.

