

CHAPTER VIICONCLUSIONS

It could be concluded from the study of characteristics of oxygen transfer by multiple tray aerator, follows:

1. The optimum tray spacing which the multiple tray aerator could performed satisfactorily was 30 cm. center to center. The overall oxygen transfer coefficient increased as the increase in tray spacing.
2. Final dissolved oxygen of greater than 90% oxygen saturation value was obtained with six trays for once through operation. The increase of the number of tray results in the increase of dissolved oxygen.
3. The overall oxygen transfer coefficient increased as the increase of flow rate at a definite volume of water aerated.
4. The oxygen transfer rate per unit power consumption decreased as the increase of both flow rate and power consumption.
5. The oxygen transfer rate slightly fluctuated for a given flow rate and the its mean value at various rates of flow ranged from 2.3 to 4.0 lb  $O_2$ /hp/hr for tray aeration.
6. Gravel size 1-3 in. as packing and absorbing media could be used successfully.