Waralee Weerasilapachai 2012: Efficiency Removal of Heavy Metal in Synthetic Wastewater by Fly Ash and Bottom Ash. Master of Engineering (Environmental Engineering), Major Field: Environmental Engineering, Department of Environmental Engineering. Thesis Advisor: Associate Professor Suthep Siriwittayapakorn, M.Eng 85 pages.

Heavy metal absorption experiment in synthesis wastewater had been conducted 5 mg/l of Cd, Pb and As repectively by fly ash and bottom ash application as the absorbed materials. The 4.3 x 10^{-3} m^3 cylinder plastic column provided the filter with fly ash and bottom ash mashed with ratio 80:20 by weight. The gravity wastewater to the column with 60 cm of height of absorbed materials were rate of surface water 0.4 0.5 and 0.6 cu.m./sq.m.-hr. respectively.

At the rate 0.4 cu.m./sq.m.-hr., the efficiency in the absorption Cd, Pb and As were 43.25 - 99.80% 88.32 - 99.80% and 88.99 - 99.81% respectively. The rate 0.5 cu.m./sq.m.-hr., the efficiency in the absorption Cd, Pb and As were 30.05 - 99.80% 45.39 - 99.81% and 44.40 - 99.81% respectively. The rate 0.6 cu.m./sq.m.-hr., the efficiency in the absorption Cd, Pb and As were 21.35 - 99.80% 31.37 - 99.80% and 37.49 - 99.81% respectively.

_____ _____ ___ / ___ / ___

Student's signature Thesis Advisor's signature