

CHAPTER V

DISCUSSION

The scheme developed appears to be applicable for simultaneous determination of Hg, Cu, As, Se and Sb in fresh water samples. With the exception of Hg, all fractions were clean. The separation of bromine from Hg could be performed rapidly by sucking the solution, in a reducing medium, through a AgCl or AgBr layer which selectively adsorbed the bromides. The errors of the analysis could be minimized by increasing the irradiation time, by using a higher neutron flux reactor, by increasing the sample volume or by increasing the counting time. This could not be performed in the present study due to the lack of the facilities.

The whole separation process could be completed within 2 days. The results of the concentration ranges of Hg, Cu, As, Se and Sb obtained from the analyses are given in Table 5-1 in comparison to the permissible concentration in potable water as specified by WHO (14).

For the future study of water pollution, an automatic closer cylinder must be installed for the collection of samples. The samples must be processed as soon as possible since adsorption on the container wall could cause significant losses.

Table 5-1 The concentration range of Cu, Hg, As, Se and Sb in some water-samples collected from the Lower Chao Phya River during April and June, 1974 and the permissible concentration for potable water.

Element	Permissible level(14) (ppb)	Concentration rage in Lower Chao Phya River (ppb.)
Cu	1000	5.0-26.0
Hg	1	N
As	50	0.3-8.0
Se	10	N
Sb	-	N -2.6

- = Not reported

N = Not detectable