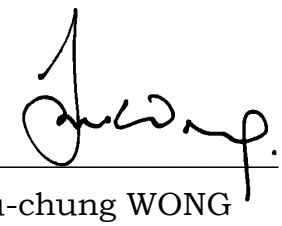
DETERMINATION OF POLYCYCLIC AROMATIC HYDROCARBONS IN SEDIMENT

PROFICIENCY TESTING PROGRAM

APLAC T068

FINAL REPORT

25 May 2009



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Summary of Results

1. The proficiency testing program (APLAC T068) aimed at evaluating the testing capability of participants on the quantitative analysis of five polycyclic aromatic hydrocarbons, *viz.* phenanthrene (PHE), fluoranthene (FLT), benzo(a)anthrancene (BAA), benzo(a)pyrene (BAP) and benzo(ghi)perylene (BGP), in sediment.

2. A total of 58 laboratories from 23 economies enrolled in the program and 54 of them returned results to the organizer.

3. The reference values of polycyclic aromatic hydrocarbons were assigned by the organizers using isotope dilution gas chromatography-mass spectrometry (ID-GCMS) technique. The standard deviations for proficiency assessment were calculated using the Horwitz Equation[8.1]. z-Score was used as the numerical indicator to assess individual participant's competence in the program.

4. z-Scores for the five polycyclic aromatic hydrocarbons are summarized as follows:

Performance	Number of Participants / Percentage				
	PHE	**FLT**	**BAA**	**BAP**	**BGP**
$\|z\| \leq 2$	34	35	38	35	31
	64.2%	66.0%	70.4%	64.9%	62.0%
$2 < \|z\| < 3$	11	12	10	15	11
	20.8%	20.6%	18.5%	27.8%	22.0%
$\|z\| \geq 3$	8	6	6	4	8
	15.1%	11.3%	11.1%	7.4%	16.0%
Total:	53	53	54	54	50
	100%	100%	100%	100%	100%