

**JABATAN KIMIA MALAYSIA
PROFICIENCY TESTING PROGRAMME**

ENVITEST 2-19

Year 2019

Metals in Industrial Effluent

KIMIA PT Report No. 2/2019

April 2019



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ACKNOWLEDGEMENTS

This proficiency testing programme was conducted by Quality Management and Research Centre in collaboration with Environmental Chemistry Division of Department of Chemistry Malaysia, Petaling Jaya.

We would like to thank the management and staff of the participating laboratories for their support towards this programme.

Approved signatory,

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This report was authorized by
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Date: 16th April 2019

SUMMARY

This proficiency testing programme was conducted in February-April 2019. A total of one hundred and five (105) participants from laboratories in Malaysia and ASEAN countries participated in this PT scheme. A set of two PT item labelled as ENVITEST 2-19 "Item A" and "Item B" was dispatched to the participating laboratories and only 99 participants had submitted their results.

Results for this study are summarised as follows:

PT Item	Testing Parameter	Assigned value (mg/L)	Expanded Uncertainty (mg/L)	Number of scores, $ z \leq 2.0$	Total number of responses	% $ z \leq 2.0$
Item A	Aluminium	1.201	0.028	83	86	96.5
	Total Chromium	0.299	0.006	77	79	97.4
	Copper	0.216	0.006	86	86	100.0
	Iron	1.977	0.032	96	97	98.9
	Manganese	0.321	0.006	95	96	98.9
	Zinc	0.308	0.006	84	85	98.8
Item B	Cadmium	0.097	0.004	77	81	95.0
	Lead	0.244	0.004	76	83	91.5
	Nickel	0.344	0.007	73	77	94.8

The expanded uncertainties are based on an estimated confidence probability of not less than 95% and have a coverage factor of $k = 2$