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FURTHER STUDIES ON THE CHEMISTRY OF TAP WATER IN SOME SRI LANKA CITIES

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This study was carried out in the areas around Kandy, Nuwara Eliya and Anuradhapura. The general chemistry of the tap water under investigation can be summarized as follows:

	pH	Total Hardness (mg/l $CaCO_3$)	NO_3^- (μg/l)	PO_4^{3-} (μg/l)	Pb^{2+} (μg/l)
Nuwara Eliya	5-6	10-20	0-100	0-50	10-120
Kandy	5-7	30-50	10-500	100-1,000	20-200
Anuradhapura	6-8	200-400	0-500	100-5,000	100-600

The rapid decrease of Pb concentration with increasing pH was mainly found in the soft waters (hardness 10-100 mg/l $CaCO_3$). The NO_3^- content of water does not seem to affect the Pb content in the tap water. In

Kandy and Nuwara Eliya regions there was a decrease of Pb concentration with an increase of soluble PO_4^{3-} The F^-/concentration appeared to show an effect on the Pb content of tap water. The tap water in the Anuradhapura region differs from that in the other areas reflecting the hydrogeochemistry of the groundwater and factors associated with purification and piping.

All samples were analyzed in triplicate and inter-laboratory checks made. A relative standard deviation of $\pm$ 5% was observed for the analytical data.

References

1. Bailey, R. J. *and* Russel, P. F. (1981). Predicting drinking water lead levels, *Environ. Tech. Letters*, **2**, 57-59.
2. Dissanayake, C. B., Senaratne, A., Weerasooriya, S. V. R. and Wannigama, G. P. (1982). Preliminary studies on tap water chemistry in Kandy region. *Sri Lanka Ass. Advmt. Sci*, **38** (1), 74.