

Investigation of Trihalomethane Formation in Kandy South Water Treatment Plant and Distribution System with Other Water Quality Parameters

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In most of the cases where chlorination use as disinfection method it will lead towards the byproduct formation, mainly the trihalomethanes (THMs). During the investigation, 74 water samples were taken from the Kandy South Water Treatment Plant, 13 service reservoirs, and user end points and analyzed for THMs and other water quality parameters. Results were used to calculate the correlation between THMs and other water quality parameters. Trichloromethane (TCM) and bromodichloromethane (BDCM) were the major disinfection by-products found in treated water samples of Kandy South distribution system. DBCM and TBM were not detected in any of the samples. For the formation of BDCM there should be a possible bromine source in raw water. TCM was the most abundant THMs with the concentration ranged from 0 to 42.47 µg/L. Second abundant was BDCM and it ranged 0 to 13.0 µg/L. Total THMs found in Kandy South distribution system ranged from 0 to 54.85 µg/L. Distribution THMs formation depends on various factors such as residual chlorine, pH, conductivity, TOC but there are many significant relation with distance from WTP and service reservoirs. Average level and highest levels of TTHMs in water supply schemes of KSWTP were not exceeding WHO 8011g/L standard value. But long exposure of THMs in KSWTP will be a threat to consumer's health

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