

C
363.7
2NA

PERMANENT REFERENCE
FOR USE IN THE
LIBRARY ONLY

**DEVELOPMENT OF LOW COST METHOD
FOR THE MONITORING OF
AMBIENT AIR QUALITY**

A PROJECT REPORT PRESENTED

BY

NIROSHANA PRABATH DHARMASENA

to the

POSTGRADUATE INSTITUTE OF SCIENCE

**In partial fulfillment of the requirement
for the award of the degree of**

**MASTER OF SCIENCE
of the**

**UNIVERSITY OF PERADENIYA
SRI LANKA
2002**

ABSTRACT

Standard air pollution monitoring techniques utilize large, heavy and expensive instruments that are not easily adopted for micro environmental monitoring. Use of low cost wet-chemical methods for the monitoring of ambient air quality was explored in this study. Monitoring using passive and active sampling methodologies respectively for longer and shorter time duration were studied in detail and it was found that those methodologies are very much dependable and yield a high degree of accuracy.

Special windshield and an "Ogawa" type sampler were designed to improve the quality of results, and handling. The same methodology was adopted for the monitoring of ambient air quality at ten locations in Colombo, weekly and monthly basis. Results were also crosschecked with those of Automated Monitoring System at Fort Railway Station premises, Colombo. Monitoring results indicated that the Fort as the maximum polluted site with a maximum monthly average of 0.024 ppm and a maximum weekly average of 0.026 ppm. The Central Environmental Authority premises at Battaramulla indicated the minimum monthly average of 0.008 ppm and the minimum weekly average of 0.009 ppm during the above month period.

In this study use of active sampling for the monitoring of NO_2 , NO and SO_2 for shorter time durations (i.e. less than 8 hrs.) was also studied to obtain relatively high degree of precision and accuracy.