

**THE PRELIMINARY STUDIES OF SAMPLING POINT
DETERMINATION IN ACCORDANCE TO HEAVY METALS (Cd
& Pb) CONCENTRATION ALONG TABUAN RIVER**



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ABSTRACT

A preliminary study on the condition of Tabuan River in term of heavy metals (Cadmium & Lead) concentration was conducted. The sampling activities were done twice. The first sampling is done for the purpose of surveying the concentration level of the heavy metals in the particular river. 10 Sampling locations were chosen for the first sampling activity and 10 more additional sites were added for the second sampling. The site is purposely chosen in order to establish any distribution pattern of the heavy metals along the river.

The data taken has shown that the river had a fairly low concentration of Cadmium (Cd) and Lead (Pb) andt there are well below the standard concentration for the all samples taken during both sampling days. The standard concentration of Cd is 0.01 mg/l and 0.05 mg/l for Pb. The study has found that the river has the reading below 0.02 mg/l for Pb and below 0.002 mg/l for Cd. Consequently no distribution pattern can be established during those particular sampling days.

The study was further extended to determine certain basic water parameters mainly Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD). The study has found that at certain sampling points, the number of samples did have a significantly high value of BOD and COD. There were 2 sampling point, which had a BOD reading of 7.7 mg/l O₂, and 6.7 mg/l O₂. The reading was higher than the standard concentration of 3 mg/l O₂.

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CHAPTER 1

1.0 BACKGROUND

As Kuching is developing into a major industrial area in the region, the issue of environment will be eventually appeared. The environmental problem might range from a day-to-day pollution to a more chronic situation. Nevertheless, any type of pollution that might occur usually related to the physical development and the waste management of the area. The Klang valley, for instance, the major environmental problem of the area is related to solid waste collection and disposal, sewerage and sewage disposal and river pollution. River is always readily exposed to pollution as it always provides the easy way out for certain industrial entities for waste disposal. There are many pollutants entering the rivers, from soluble and suspended pollutants derived from treated and untreated domestic and industrial waste to solid waste indiscriminately dumped in the rivers or left on the river banks which are floated off during rain storms when the river level rise. As a result the problem of water quality and aesthetics appear. The major river in Klang valley, the Klang River has been long under threat of pollution. The rapid development of Kuala Lumpur and its environs with the construction of satellite townships, housing development, commercial and industrial complexes and infrastructure works has contributed to the ill condition of the river. Klang River is indeed a good example of the fate of many rivers near any many major development centers. An analysis of water quality monitoring data over five years showed that the quality of the