

UNIVERSITI TEKNOLOGI MARA

**STUDY OF SPRING WATER QUALITY AT JALAN
BATU ARANG, PUNCAK ALAM**

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**Project paper submitted in partial fulfilment of the requirements for
the degree of
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Declaration by Student

Project entitled "Study of Spring Water Quality at Jalan Batu Arang, Puncak Alam" is a presentation of my original research work. Wherever contribution of others are involve, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussion. The project was done under the guidance of En Hashim Bin Ahmad as Project Supervisor and Assoc. Prof Hazilia Hinti Hussain as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons.)

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Abstract

Study of Spring Water Quality at Jalan Batu Arang, Puncak Alam

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A cross-sectional study was conducted at Jalan Batu Arang, Puncak Alam from November 2010 until April 2011. The main objective of this study is to determine the spring water quality at Puncak Alam in term of physical, chemical, and biological parameter. A total of 50 people were selected as respondents and 40 water samples was analysed in this study. From the water analysis, most of the parameter shows on no violation occurrence except for five parameters that are pH, Cadmium, Nitrite, E.coli and Total Coliform. The descriptive statistical analysis was used to get the mean result for all parameter. Next, the independent t-test was used to look on significant different on spring water quality between dry and wet days, and between two pipes. There are significant means different for cadmium with p value ($p = 0.00$), for nitrite with p value ($p = 0.00$), for sulphite with p value ($p = 0.001$), for E.Coli with p value ($p = 0.00$) and for Total Coliform with p value ($p = 0.003$). Next there are significant different of water quality between two pipes, for Cadmium with p value ($p = 0.004$), for sulphite with p value ($p = 0.00$), for E.Coli with p value ($p = 0.002$), and Total Coliform with p value ($p = 0.003$). There are strong correlation between cadmium and conductivity, between nitrite and conductivity, and strong negative correlation between E.Coli and Total Coliform with dissolve oxygen level. The Chronic Daily Ingestion and Hazard Index were calculated for ala respondents, the mean shows on value 0.062 for cadmium, and 0.074 for nitrite. In conclusion, the water quality of this spring water is not good for human consummation, this is due to violation occurred in some chemical parameter, and both biological parameter, the water quality become worse after the rain day. Public should avoid this kind of water in order to prevent any health effect after chronic exposure.

Keywords: Spring Water Quality, Chronic Daily Intake, Hazard Index, Chronic Exposure