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THE ANALYSIS OF POLLUTANTS (NO₂, NO, CO, PM₁₀) EMITTED FROM
THE BUSES. A CASE STUDY AT KUALA TERENGGANU BUS STATION

By

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**JABATAN SAINS KEJURUTERAAN
FAKULTI SAINS DAN TEKNOLOGI
UNIVERSITI MALAYSIA TERENGGANU**

**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan bertajuk:

**THE ANALYSIS OF POLLUTANTS (NO₂, NO, CO, PM₁₀) EMITTED FROM
THE BUSES. A CASE STUDY AT KUALA TERENGGANU BUS STATION**

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LIST OF ABBREVIATION / SYMBOLS

Abbreviation	Description
DOE	Department of Environmental
NO ₂	Nitrogen Dioxide
CO	Carbon Monoxide
PM10	Particulate Matter
NO	Nitrogen Monoxide
SPSS	Statistical Package for Sosial Sciences
WHO	World Health Organization
API	Air Pollution Index
USEPA	United State Environmental Protection Agency
MPKT	Majlis Perbandaran Kuala Terengganu
PPM	Parts Per Million
PPB	Parts Per Billion

ABSTRACT

Air pollution now is seems to be such major problems that people have to give more attention on it. So, the study that place at MPKT Bus Station are carried out in order to measure the amount of pollutants being emitted at the area. Study includes measurement of emission of NO₂, NO, CO and PM₁₀ and also with its meteorological effect. NO₂, NO, CO gases were measured by using Draeger x-am Instrument. PM₁₀ was measured by using Casella Microdust Pro while windspeed was measured by using Casella Weather Station. The sampling activity done for 7 days which taken 8 hours in mid day. Highest percentage being emitted was CO which the amount is 70%. Concentration of NO₂ and NO is highest at S5 which the value was 136.68ug/m³ and 322.72ug/m³. CO and PM₁₀ were highest at S3 and the value was 1255ug/m³ while PM₁₀ value was 130.79ug/m³. It also indicated that most polluted area was S3 and S4 which nearest to the road. The trend of pollutants distribute at the area can be figure out. It is hope that, the government authorities will step up efforts to reduce the level of pollutants in the air especially at the area of MPKT Bus Station.

ABSTRAK

Pencemaran udara ini merupakan masalah terbesar di mana masyarakat perlu memberi perhatian. Kajian yang bertempat di Stesen Bas MPKT telah dijalankan bagi mengukur tahap pencemar yang dibebaskan di kawasan tersebut. Kajian ini mengambil kira pelepasan NO_2 , NO , CO dan PM_{10} bersama dengan faktor kesan meteorologi. Gas-gas NO_2 , NO , CO diukur dengan menggunakan instrumen Draeger x-am 7000. PM_{10} diukur dengan menggunakan Casella Microdust Pro manakala factor halaju angin diukur menggunakan Casella Weather Station. Kajian ini dijalankan selama 7 hari dimana pengukuran bahan pencemar diambil selama 8 jam pada waktu siang. Pencemar yang paling tinggi yang dibebaskan adalah CO dimana nilainya adalah sebanyak 70%. Kepekatan NO_2 dan NO paling tinggi pada stesen S5 dengan nilai $136.68\text{ug}/\text{m}^3$ dan $322.72\text{ug}/\text{m}^3$. pencemar CO dan PM_{10} yang tertinggi adalah pada stesen S3 dengan nilainya sebanyak $12551\text{ug}/\text{m}^3$ manakala nilai PM_{10} adalah $130.79\text{ug}/\text{m}^3$. kajian ini menunjukkan bahawa bahagian yang paling tercemar adalah S3 dan S4 dimana bahagian tersebut adalah disebabkan oleh berdekatan dengan laluan kenderaan. Melalui kajian ini, diharap ia dapat membantu pihak berkuasa tempatan untuk memberi perhatian yang lebih serius mengenai isu pencemaran sekitar ini terutama yang melibatkan pelepasan bahan pencemar oleh kenderaan bas