

**WATER QUALITY AND HEAVY METAL
CONCENTRATION IN GROUNDWATER AT BUKIT PUTUS,
KUALA PILAH**

NORSURIANI CHE HASHIM

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Norliza Dzakaria
Supervisor
School of Chemistry and Environmental Studies
Faculty of Applied Sciences
Universiti Teknologi MARA
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Tn. Sheikh Ahmad Izaddin
Sheikh Mohd Ghazali
Project Coordinator
School of Chemistry and
Environmental Studies
Faculty of Applied Sciences
Universiti Teknologi MARA
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Mazni Musa
Head of Programme
School of Chemistry and
Environmental Studies
Faculty of Applied Sciences
Universiti Teknologi MARA
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Date: _____

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ABSTRACT

WATER QUALITY AND HEAVY METAL CONCENTRATION IN GROUNDWATER AT BUKIT PUTUS, KUALA PILAH

The purposes of this project are to determine the water quality and heavy metals concentrations in groundwater at Bukit Putus, Kuala Pilah. The samples were taken through two channels of groundwater that classified by sample A and sample B. The measured parameters by in-situ analysis were temperature, electricity conductivity, salinity, dissolved oxygen (DO), pH, and turbidity. The parameters were laboratory analyzed based on ex-situ analysis which is biochemical oxygen demand (BOD) and chemical oxygen demand (COD). The temperature was range between 25.57°C and 25.87°C. An electricity conductivity were low that range between 26 $\mu\text{S}/\text{cm}$ to 28 $\mu\text{S}/\text{cm}$. The salinity was 0.02% for both samples. The dissolved oxygen was low in between 0.372 mg/L and 0.373 mg/L. The pH was alkaline, 8.05 to 8.22. The turbidity was higher in range between 47.06 mg/L to 52.68 mg/L. The biochemical oxygen demand (BOD) was quit higher in the range of 1.40 mg/L to 1.70 mg/L while chemical oxygen demand (COD) for sample A was 2.00 mg/L and higher for sample B, 15.00 mg/L. All this values were acceptable for drinking purposes regarding Interim National Water Quality Standard (INWQS) standard limits except for turbidity, BOD and COD. Results indicated that concentrations of all measured metals except lead were lower than the national and international standards and guidelines recommended by World Health Organization (WHO) and Malaysian National Drinking Water Quality Standard (MNDWQS). Continuous monitoring is recommended to identify the source of pollutions.