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Study of relationship between water quality parameters, selective heavy metals and radioactive elements content in Rivers at Gebeng, Kuantan, Pahang, Malaysia (Article) [\(Open Access\)](#)

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Abstract

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This study was focused on the correlation between water quality parameters with the level of radioactive elements and heavy metals at six different sampling points of rivers. For achieving these objectives, collected data was done for Balok river and Tunggak river in dry seasons. Both of the rivers selected were located in Gebeng industrial area, Pahang, Malaysia. The physical parameters such as temperature, specific conductivity, pH, turbidity and dissolved oxygen were measured by using hydrolab. The water samples were then collected for tracing the radioactive elements and heavy metals by using inductively coupled plasma-mass spectrometry (ICP-MS). The readings obtained from both in situ and ex situ analysis was analyzed by using SPSS to know the correlation between water quality parameter, radioactive elements and heavy metals. There were significant relationships found between all water quality parameters and most heavy metals selected (lead and cadmium), except for arsenic. While, for radioactive elements, in the year 2015, there were significant relationships found between most water quality parameters and thorium, exception for uranium. However, for year 2014, there is no significant relationship observed. The findings of the study showed some of the presence of pollutants such as heavy metals and radioactive elements concentrations were reflected some of the water quality parameters at all the sampling locations. © 2019 Chemical Publishing Co. All rights reserved.

SciVal Topic Prominence [i](#)

Topic: water quality | Multivariate analysis | total variance

Prominence percentile: 91.431 [i](#)

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Author keywords

[Balok river](#) [Correlation](#) [Heavy metals](#) [Industrial area](#) [Radioactive elements](#) [Tunggak river](#) [Water quality](#)ISSN: 09707077
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