

Geochemical exploration for stream sediments and water quality determination in Sungai Pahang basin, Pahang Darul Makmur

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The study area is located in the Sungai Pahang Basin and its immediate surroundings, bounded by latitude 101°30'E to 103°30'E and longitude 3°00'N to 4°45'N. The scope of study includes geochemical exploration using stream sediments, and determination of water quality of the entire stretch of Sungai Pahang as well as groundwater quality around Pekan. For geochemical exploration, 291 stream sediment samples were collected for Sn, Pb, Cu, Zn, Fe, Mn, Ni, Cd, Cr and Au analysis. A total of 26 anomalous areas have been detected. The

distribution of the anomaly patterns show that there are indications of Au, Sn, Fe-Mn and Pd-Cu-Zn mineralization. Au and Sn mineralization is located in the western part of the study area near to the Bentong-Raub Suture, and the Fe-Mn and Pb-Cu-Zn mineralization occur in the center and eastern part of the study area. Correlation analysis indicates that Cd, Fe, Mn, Pb, Cu and Zn are associated with each other. F test also indicates that the distribution of Fe and Mn in this area are wide, however distribution of Pb, Cr and Ni are limited. A total of 291 samples of stream water samples have been collected from the entire stretch of Sungai Pahang and its major tributaries. The parameters tested include physical, chemical and biological parameters. From water quality classification, most of the Sungai Pahang and its tributaries can be classified as Class II water except for tributaries viz. Sungai Luit, Sungai Jempul, Sungai Tekam, Sungai Bentong and Sungai Chenderoh, all of which fall in Class III, water. Results of this study indicate that the river is contaminated not only from human activities but also from natural resources viz. rock types. A total of 47 groundwater samples have been collected from twelve boreholes around Pekan for various physical and chemical tests. Groundwater analyses show that there is some salt water intrusion around the Kuala Pahang and Kampung Bentan areas. The quality of the groundwater in other boreholes shows normal groundwater quality, which can be utilized for domestic purposes.
