

Hydrogeochemistry investigation on groundwater in Kuala Langat, Banting, Selangor

ABSTRACT

This paper emphasized the hydro geochemistry of groundwater in Banting, Kuala Langat, Selangor and the hydrogeological properties which contribute to the potential degrading of the quality of the groundwater. The groundwater characteristics in Banting, Kuala Langat, Selangor are influenced by aquifer types and the geomorphology of the area. Groundwater samples were collected at thirteen monitoring wells from February 2017 to January 2018. The thirteen selected monitoring wells for this study is scattered in agricultural areas. The investigation of groundwater measured the physical parameters which are total dissolved solid, electrical conductivity, salinity and chemical oxygen demands. Major ions such as chloride, calcium, magnesium, potassium, sodium bicarbonate and strontium were also calculated. Iron, manganese and zinc which are heavy metal elements together with phosphate, nitrate and sulfate were considered as inorganic parameters in this analysis. The groundwater samples have influences from the seawater intrusions as significantly high major ions concentration were detected. Non-point pollution from the agricultural practices does not deteriorate the groundwater quality even though the monitoring wells are located in agricultural areas. Groundwater sources in the current study are suitable for domestic use and agricultural irrigation.

Keyword: Groundwater; Hydro geochemistry; Seawater intrusion