

Determination of Water Resources in Tube Well Using Hydrofacies for Riverbank Filtration

ABSTRACT

The reliability of water in riverbank filtration application is hard to be determined since the source of water and what happen at below ground cannot be see. These difficulties give effect for application of riverbank filtration since it is important in determination of its water quality and quantity. Due to that, this method was suggested to be used to determine the source of water in pumping well (PW) at Lubok Buntar, Kedah. The soil and water samples were taken from the PW and river water to determine the soil type and major ion (anion and cations). The results show that most of PW soil type is sandy loam (52%). Based on the piper diagram of the hydrofacies showed that the RW and PW were connected for a certain period of time. The most predominant cation in the PW was Na^+ - Cl^- , consequently, the tube well water mostly came from groundwater rather than from river water. Therefore, this location is suitable for riverbank filtration applications as it has two reliable water sources. Due to that, for riverbank filtration water treatment, the river and groundwater water quality and quantity is important in order to make sure the system is reliable and sustainable.