

## **STRUCTURAL CONTROL AND DISTRIBUTION OF THE GROUNDWATER IN THE MUNICIPALITY OF CURITIBA (PR), SOUTHERN BRAZIL**

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Guabirotuba and Tinguis Formations of Tertiary and Quaternary ages, as well as the overlying Holocene alluvial deposits are the main components of the Curitiba Basin. The most outstanding sediments of the Guabirotuba Formation are clays, arkoses and basal rudaceous layers, while the Tinguis Formation is made up by allocthonous clay deposits, reworked from the former one.

The Proterozoic basement is formed mainly by schists, quartzites, gneisses, migmatites, amphibolites. As the clay deposits are largely aquicludes, the groundwater production is related to the structural discontinuities of the basement, responsible for its framework. Transitory storage and circulation of the groundwater is performed through the network built up by the faults and joints. Main structural lineaments strike NE-SW and NW-SE.

Large volumes of water are obtained along the structural lineaments, as it was verified in the north, south-southeast, and in the west parts of the basin. Some instances of highly productive wells also occur in the central portion of the basin, since influenced by structural features. Otherwise, in this portion the average production is generally low. The groundwater exploitation has greatly increased in the Municipality of Curitiba, since the beginning of the last decade due to the population growth and to the industrial boom. Besides this, the abnormal occupation of the peripheral belts of the city resulted in a great number of boreholes and wells.