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Effects of Urbanization on Groundwater Quality of Laolongdong Watershed

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Based on the analysis of nearly three years' hydrological data, the field investigation of land use in the study area, research the impact on groundwater quality due to urban development in Nanshan LaoLongdong watershed, and explore its causes. The results show that with the development of city, the quality of groundwater is further deteriorating, but some contamination index decreased. Embodied in: (1) Main source of dissolved components of karst groundwater, in Chongqing, come from the dissolution of carbonate rocks, the hydrochemistry types are Ca-HCO₃ or Ca·Mg-HCO₃. However, the hydrochemistry types of G1, G2, G3 and S1 is respectively Ca-HCO₃, Ca·Mg-HCO₃, Ca·Na-HCO₃·SO₄

and Ca·Na-HCO₃·Cl types, this illustrates urbanization has seriously affected the groundwater quality. (2) The contents of K⁺, Na⁺, SO₄²⁻ and PO₄³⁻ in G1, G2, G3, NO₃⁻ of G1, G2 sampling points increased significantly, this may be related to direct discharge of waste, three industrial wastes and overuse of pesticide and fertilizer in vegetable patch. (3) May be the construction of sewage ponds and sewage pipelines, the contents of Na⁺, SO₄²⁻, NO₃⁻ and PO₄³⁻ present a tendency of decrease in S2 sampling point.

Key words: groundwater quality, urbanization, LaoLongdong watershed, karstic groundwater

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