

ENVIRONMENTAL PROTECTION OF URBAN GROUNDWATER FIELD

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This paper expatiates on the impact of variation of water quantity and water quality from different types of groundwater field, analyses the potential factors that possibly pollute groundwater and assess the potential factors that impact groundwater quality on the basis of the environmental hydrogeological characteristics of different types of groundwater field, and by means of prediction of permitted yield, trends of water level drawdown, life-span of utilization and influence range of water field exploitation. Then the protection range of groundwater field is determined and the reasonable and effective protection measures for water field protection zone are formulated as well. The main contents includes following aspects: 1. To determine that the pollution factors or potential factors of groundwater field and its main recharge area impact on the water quality of exploitation layer, to evaluate the reliability of exploitation layer as long-term water supply source; 2. To assess the protection ability of unsaturated zone on the basis of the depth, permeability, void ratio etc. of stratum; 3. To ascertain the impact range (radius) of groundwater exploitation wells(group) by using mathematical model; 4. To predict the impact of groundwater field on water quality; 5. To circumscribe the hygiene protection belt and water field protection zone on the scale of water field and hydrogeological conditions and 6. To formulate the reasonable and effective protection methods and countermeasures.