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HYDROCHEMISTRY AND MAPPING OF THE GROUNDWATER CONTAMINATION INDEX IN CHANGCHUN CITY, CHINA

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ABSTRACT
Groundwater quality is changing in Changchun City. The Ca-HCO3 or Ca-Cl facies type tends to be influenced by release of anthropogenic nitrate, calcium, sulfide, and chloride. A scatter analysis shows a strong positive correlation between the ions Ca, Cl and nitrate and a weak negative correlation between the thickness of the unsaturated zone and the Ca, SO4, Cl and nitrate ions. A mapping of contaminant index based on the Chinese standard for groundwater quality classifies the groundwater of most parts of the city in the worst classes, and reveals a growth of the heavily polluted zone from 1995 to 1998. The groundwater is not suitable for drinking due to the presence of high concentrations of nitrate, nitrite, iron and manganese, but can be used for irrigation.

Reference: Bokar, H., T. Jie and L. Nianfeng Hydrochemistry and Mapping of the Groundwater Contamination Index in Changchun City, China, Journal of Environmental Hydrology, Vol. 11, Paper 15, December 2003.

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