

Hydrochemical Characteristics of Groundwater System in Nuorigong Basin

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Abstract: The Nuorigong basin in the Alaxa area belongs to typical arid region where groundwater is the mainly source of water supply. Hydrogeochemical characteristics research has directive significance to groundwater flow process which provides a theoretical basis for sustainable exploitation of groundwater resources in arid areas. The groundwater in Nuorigong basin was taken as the research object to analyze the hydrogeochemical characteristics. The results show that the hydrochemical characteristics of the groundwater have certain regularities from northern bedrock to basin center. The dominant hydrochemical types change from $\text{Na}-\text{HCO}_3 \cdot \text{Cl}$ and $\text{Na}-\text{Cl} \cdot \text{HCO}_3$ in mountains to $\text{Na}-\text{SO}_4 \cdot \text{Cl}$ and $\text{Na}-\text{Cl} \cdot \text{SO}_4$ in the center of the basin. TDS increases gradually from northwest to southeast, which indicates the direction of groundwater flow in this area. The groundwater chemical composition is mainly controlled by evaporation, dissolution, ion exchange and anthropogenic activities. This research is of great significance for local governments that can make effective management and protection of groundwater in Alaxa area.

Key words: groundwater system; hydrochemical characteristics; hydrochemical component; spatial distribution characteristics

本 刊 启 事

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