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Study on the Chemic Features and Interchange Between the Surface Water and Groundwater in the Typical Karst Valley Area

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In order to investigate the chemic features and interchange between the surface water and groundwater in typical karst valley area, a case study on the Qingmuguan was carried out. The study found that the hydrochemical types of different kind of water in study area are quite different. The hydrochemical type of surface water, groundwater, cave fissure water, spring fissure water, bushes water and dryland soil water are Ca-HCO₃. Grassland and coniferous forest soil water are Ca-SO₄. Reforestation soil water is Ca-SO₄.HCO₃. Different kind of water have sharp distinction between seasons. Surface water and ground water have a higher TDS level in dry season than rainy season, it shows the opposite tendency

for other types of water. It indicates that the dilution effect of surface water and groundwater in rainy season is stronger than CO₂ effect. The hydrochemical dynamic changes of karst fissure water and soil water are controlled by water-rock-gas interaction no matter in dry season or rainy season. In study area, the surface water recharges the groundwater by inject sinkhole and disperse through fissure. The hydrologic features of the area reflect the transfer relationship between fissure water and conduit flow.

Key words: Karst valley area, Hydrochemical features, Qingmuguan

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