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## Source Apportionment of Three Nitrogen in Groundwater Based on Process Analysis

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Three nitrogen compounds are generally exceed the groundwater quality standards at present. The changes of nitrogen form and concentration are complex processes from the source emissions to the final receptor. But once in groundwater, it is difficult to change the nitrogen form. The pollutants exist stably and difficult to remove. Three nitrogen is currently the main pollutants in groundwater. This study attempts to identify the three nitrogen sources of pollutants in groundwater. Firstly, 7 indexes are selected (depth of water table, recharge, aquifer media, soil media, topography, impact of the vadose, hydraulic conductivity, pH and land use types) to build the improved DRASTIC model. By calculating the index of DRASTIC model and taking into account the reaction and reduction of three nitrogen in unsaturated zone, the infiltration rate

of pollutants is divided into 10 levels. Then ammonia nitrogen load in groundwater was calculated. The method is applied to JinJi water source of WuZhong province. The results show the life source of pollution load is 6.78t/a, which account for 3.05% of the total contribution. The livestock and poultry breeding source of pollution load is 2.82 t/a, which account for 1.27% of the total contribution. The agricultural non-point source of ammonia nitrogen pollution load is 68.5 t/a, which account for 30.82% of the total contribution. The emissions of ammonia nitrogen is 687.17 t/a. There are about 32% of the total emissions infiltrate into groundwater and ammonia nitrogen content was 222.23 t/a. the contents of three nitrogen in groundwater are mainly affected by the industry and agriculture.

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