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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 15218-2021

Replacing GB 15218-1994

Classification for reserves of groundwater resources

地下水资源储量分类分级

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1 Scope

GB/T 15218-2021 is the Chinese national standard on classification for reserves of groundwater resources, in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 March 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2021. Classification: ICS 07.060, CCS D14. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the classification and classification of groundwater resources reserves. This standard is applicable to groundwater resources planning, investigation and evaluation, development and utilization and protection management, groundwater resources survey and evaluation design and permission Mining volume calculation, results acceptance, report writing, review and approval can also be used as a reference.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 11615 Specification for Geological Prospecting of Geothermal Resources

GB/T 13727 Specification for Geological Prospecting of Natural Mineral Spring Water Resources

GB 50027 Hydrogeological Survey Specification for Water Supply DZ/T 0212 (all parts)

Specification for mineral geological exploration salt

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Groundwater resources Buried below the surface, the water volume, water quality, water temperature, etc. can be used at present or in the future. Gravity water with practical or potential economic significance.

Note. Including groundwater and mineral water in water and gas minerals, geothermal water in energy minerals, natural brine in mineral salt (referred to as underground brine in this standard), etc.

3.2 Identified resources Groundwater resources that have been discovered through exploration or mining verification.

Note. According to its accuracy, it can be divided into three levels. verified, proven, and controlled.

3.3 Potential resources undiscovered resources Unverified groundwater resources predicted based on geological and geophysical data.

Note. According to its accuracy, it can be divided into two levels. inferred and predicted.

3.4 Reserves of groundwater resources Under the current economic and technological environmental conditions, the quantity of groundwater resources in the aquifer has been found to a certain extent through survey work.

Note. Including storage volume, replenishment volume and mineable volume.

3.4.1 Storage The amount of water stored below the fluctuation zone of the water level in the aquifer or aquifer system.

Note. Divided into volume storage and elastic storage.

3.4.2 Recharge Under natural or mining conditions, the amount of water entering the aquifer in various ways per unit time.

3.4.3 Workable reserves; exploitable reserves The quantity that can be mined from the aquifer through exploration or mining verification. **Note**

1. The recoverable volume is part of the groundwater storage and recharge volume. **Note**

4 General

4.1 The classification and grading of groundwater resources are designed to unify and standardize various types of groundwater resources with the same or similar attributes. Check and evaluate the principles to be followed when submitting the allowable mining

volume.

4.2 Groundwater in water, gas and minerals is often used as a water source for urban, industrial and agricultural production and domestic water supply, and is called general groundwater. Water and gas minerals Mineral water, geothermal water in energy minerals, natural brine in mineral salt (referred to as underground brine in this standard) are called special groundwater. Groundwater See Appendix A for classes.

4.3 According to the accuracy of hydrogeological work, the exploration of groundwater resources is divided into three stages. general survey, detailed investigation, and exploration. Ming's three-level accuracy, the geological survey and mining phase correspond to the predicted and verified two-level accuracy. According to the actual situation, the stage can be simplified and combined In addition, the allowable mining volume submitted after the simplification and merger should meet its high-level accuracy requirements.

4.4 The reserves of groundwater resources are classified according to the attributes of water volume, and the allowable mining volume is classified according to the working accuracy. Calculation of storage and replenishment The purpose is to demonstrate the reliability of the allowable mining volume, and the storage volume and replenishment volume are not classified.

4.5 The determination of the allowable mining volume should be treated differently. The general groundwater allowable extraction volume submitted by the survey and evaluation of groundwater for water supply is based on Determined by GB 50027; the allowable mining volume submitted for exploration and evaluation of geothermal water, mineral water, and underground brine shall be in accordance with GB/T 11615, GB/T 13727, DZ/T 0212 (all parts) confirmed.

4.6 Surface brine, according to its mobility characteristics, can be classified with reference to this standard for its allowable mining volume.

5 Classification

5.1 Classification The reserves of groundwater resources are divided into three categories. storage, replenishment and exploitable capacity. The recoverable volume is part of the replenishment volume and storage volume. allow Permissible mining volume is part of the mining volume.

5.2 Classification The storage volume and supply volume are not classified. The allowable mining volume is divided into five levels. verified, proven, controlled, inferred, and predicted. Should be A, B, C, D, E five-level accuracy. See Appendix B for the credibility of each level of accuracy.

5.3 Classification table The reserves of groundwater resources are divided into three

categories and five levels (see Table 1).

5.4 Allowable mining volume levels at different stages There are five levels of allowable mining volume submitted at different stages of groundwater resources survey and evaluation.

- a) In the mining stage, the permitted mining volume (level A) is mainly submitted for verification;
- b) During the exploration stage, the proven (level B) allowable mining volume is mainly submitted;
- c) In the detailed investigation stage, the permitted mining volume is mainly submitted for control (Level C);
- d) In the census stage, the inferred (level D) allowable mining volume is mainly submitted;
- e) During the geological survey stage, the predicted (level E) allowable mining volume can be submitted. For regional groundwater resources evaluation, the allowable mining volume of the corresponding level can be submitted according to the degree of groundwater exploration in different blocks.