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

GB/T 17766-2020

Replacing GB/T 17766-1999

Classification for mineral resources and mineral reserves

固体矿产资源储量分类

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009. This Standard replaces GB/T 17766-1999 "Solid Mineral Resources/Reserve Classification". Compared with GB/T 17766-1999, the main technical changes are as follows: - ADJUST the mineral resources exploration stage from the original four stages of pre-exploration, general exploration, detailed exploration and advanced exploration TO three stages of general exploration, detailed exploration and advanced exploration (see Clause 2 of this Standard,

2.2 of the 1999 edition); - MODIFY the basis for the classification of types of resources and reserves, changing to divide resources according to geological confidence, and divide reserves considering geological confidence and according to the confidence of modifying factors (see Clause 3 of this Standard, Clause 3 of the 1999 edition); - MODIFY the classification system of resources and reserves, adjusting from the original 16 types to 5 types (see Clause 3 of this Standard, Clause 3 of the 1999 edition). This Standard was proposed by Ministry of Natural Resources of the People's Republic of China. This Standard shall be under the jurisdiction of National Technical Committee on Land and Resources of Standardization Administration of China (SAC/TC 93). Drafting organizations of this Standard. Department of Mineral Resources Protection and Supervision of Ministry of Natural Resources, Mineral Resources and Reserves Evaluation Center of Ministry of Natural Resources, China Non-ferrous Metals Resource Geological Survey Center, China Nonferrous Metal Mining Group Co., Ltd., National Energy Investment Group Co., Ltd., Zhongye Changtian International Engineering Co., Ltd., China National Geological Exploration Center of Building Materials Industry, China Enfi Engineering Technology Co., Ltd., Shandong Gold Group Co., Ltd., Hunan Land and Resources Planning Institute. Main drafters of this Standard. Li Jian, Ju Jianhua, Bo Zhiping, Wang Feng, Yang Qiang, Gao Limin, Chen Hong, Liu Yongqiang, Zhou Shenghua, Liu Guoping, Zhang Wenyi, Fan Jiajie, Sun Yujian, Chen Zhengguo, Guo Xudong, Tang Weiguo, Zhang Haibo, Song Han, Wang

Wusheng, Liu Jianfen, Wan Hui, Ma Yanping, Liu Minghui, Liu Hongfu, Wang Yunpeng, Qiu Xianhai, Zhang Hao. The previous released version replaced by this Standard is as follows:
- GB/T 17766-1999. Classifications for mineral resources and mineral reserves

1 Scope

China's national classification of solid mineral resources and reserves - the terms in which a deposit is reported, valued and permitted. It specifies the terms and definitions, the classification of resources and reserves, the relationship between them, and the rules for releasing and using the terms. The distinction the classification exists to enforce is the one between what is in the ground and what can be mined at a profit. A resource is a concentration of mineral of intrinsic economic interest, estimated with a stated degree of geological confidence. A reserve is the part of it that a modifying study has shown to be economically extractable under defined technical, processing, infrastructural, legal, environmental, social and governmental assumptions. The two figures for the same deposit can differ by an order of magnitude, and conflating them is the central mechanism of mining fraud - which is why every serious jurisdiction has a code of this kind and why the terms are legally protected. The 2020 edition rebuilt the Chinese classification along the lines that the international reporting codes use. Resources are graded by geological confidence into inferred, indicated and measured; reserves into probable and proved, carrying forward the confidence of the resource they came from. The relationship chapter fixes how a resource converts to a reserve and how it may not, and the chapter on releasing and using the terms fixes who may state a figure, on what basis, and how the assumptions behind it must be disclosed - which is what makes a published resource statement comparable between two companies. An informative annex lists the types of mineral resource covered. Issued on 31 March 2020 and in force since 1 May 2020, it replaces GB/T 17766-1999.

This Standard specifies the classification of mineral resources and reserves, their relationship, release and use of terms. This Standard applies to the statistics and release of mineral resources; mineral resource management and planning, policy formulation; formulation of mineral exploration and development related technical standards; estimation, evaluation and information release of resources and reserves.

2 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

2.1 mineral resource A solid natural enrichment of useful value formed by geological processes in the crust or on the surface.

2.2 mineral exploration An activity to discover mineral resources, ascertain their spatial distribution, shape, occurrence, quantity, quality, mining and utilization conditions, and evaluate their industrial utilization value.

2.3 general exploration The initial stage of mineral exploration. Through effective exploration methods and sparse sampling projects, discovery and preliminary ascertain the geological characteristics of ore bodies or deposits and the performance of ore processing and smelting, and initially understand the mining technical conditions;

2.4 detailed exploration The intermediate stage of mineral exploration. Through effective exploration methods, systematic sampling projects and experimental research, basically ascertain the geological characteristics of deposits, the performance of ore processing and smelting and the mining technical conditions; carry out general research to estimate inferred resources and indicated resources, and propose the scope for exploration; it may also carry out pre-feasibility studies or feasibility studies to estimate reserves and make an evaluation of whether it has economic value.

2.5 advanced exploration The advanced stage of mineral exploration. Through effective exploration methods, dense sampling projects and in-depth experimental research, ascertain the geological characteristics of deposits, the performance of ore processing and smelting and the mining technical conditions in detail;

3 Classification of resources and reserves

3.1 Classification of resource types According to the geological confidence from low to high, resources are divided into inferred resources, indicated resources and measured resources, as shown in Figure

1. Refer to Annex A for the relationship between resources and mineral resources.

4 Relationship between resources and reserves

4.1 Resources and reserves can be converted mutually, see Figure 1.

4.2 Measured and indicated resources can be converted into reserves.

4.3 The conversion of resources to reserves requires at least a pre-feasibility study or equivalent technical and economic evaluation.

5 Release and use of terms

5.1 When releasing mineral resource and reserve data, the type terms of resources and reserves can only use the terms such as inferred resources, indicated resources, measured resources, probable mineral reserves and proved mineral reserves defined in this Standard.

5.4 When releasing reserve data, proved mineral reserves and probable mineral reserves shall be listed separately, and proved mineral reserves and probable mineral reserves can be added together.