ICS 07.060
CCS D14

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14157-2023

Replacing GB/T 14157-1993

Terminology of hydrogeology

水文地质术语

Issued on: November 27, 2023 **Implemented on: March 1, 2024**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

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Foreword

This document complies with the provisions of GB/T 1:1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting: This document replaces GB/T 14157-1993 "Hydrogeological Terminology": Compared with GB/T 14157-1993, except for structural adjustment and editing In addition to sexual changes, the main technical changes are as follows:

a) The scope has been increased and is applicable to hydrogeological survey and evaluation, groundwater protection and other work (see Chapter 1, Chapter 1 of the:1993 edition);

b) Added 588 terms and definitions, focusing on pollution hydrogeology, ecological hydrogeology, hydrogeological survey and groundwater monitoring, Hydrogeological technical methods, hydrogeological informatization, etc:;

c) 365 terms and definitions were deleted, mainly including three aspects: first, terms that are no longer applicable at present, and second, some general terms Basic terminology, and the third is some detailed groundwater classifications in GB/T 15218-2021 "Classification and Grading of Groundwater Resources Reserves" name;

d) 481 terms and definitions have been changed, mainly for hydrogeological surveys, groundwater resource evaluation and development and utilization, and ecological protection and restoration: The terms and definitions of double equivalency have been standardized and improved: Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents: This document is proposed by the Ministry of Natural Resources of the People's Republic of China: This document is under the jurisdiction of the National Natural Resources and Land

Spatial Planning Standardization Technical Committee (SAC/TC93): This document was drafted by: China Geological Survey, China Geological Environment Monitoring Institute, China Geological Survey Tianjin Geological Survey Center, Water Conservancy Ministry Information Center (Hydrology and Water Resources Monitoring and Forecasting Center of the Ministry of Water Resources), China Geological Survey Xi'an Geological Survey Center (Northwest Geological Science and Technology Innovation Center), Institute of Hydrogeology and Environmental Geology, Chinese Academy of Geological Sciences, Hydrogeology and Environmental Geology Survey Center of China Geological Survey, China Geological Survey Institute of Karst Geology, Academy of Physical Sciences, China University of Geosciences (Beijing), China University of Geosciences (Wuhan), and Hebei University of Geosciences: The main drafters of this document: Hao Aibing, Wu Aimin, Zhang Eryong, Liang Xing, Wang Xusheng, He Jiangtao, Chen Zongyu, Cai Wutian, Li Xiangquan, Zhang Shuan, Yin Lihe, Zhang Guanghui, Zhang Fucun, Xia Xiayuan, Wang Guiling, Wang Yu, Ye Chengming, Zhu Qingjun, Li Changqing, Nie Zhenlong, Zhang Lizhong, Yu Kaining, Chen Peng, Wang Huang, Liu Hongwei, Miao Jinjie, Wang Jiasong, Yang Guilian, Yin Xiulan, Meng Hui, Sun Long, Li Wenjuan, Yan Baizhong, Li Xiaojie, Xing Bo, Jin Xilai, Wang Qian, Li Man, Pan Jianyong, Wang Xuqing: The previous versions of this document and the documents it replaces are as follows:

---First published as GB/T 14157-1993 in:1993;

---This is the first revision:

This document is based on GB/T 14157-1993 and is based on the development and research work of hydrogeology in recent decades: It was revised according to the actual situation and relevant research results, with the purpose of further standardizing hydrogeological survey and evaluation and groundwater exploration, development, utilization, protection, Relevant terminology in planning management, scientific research, teaching, international exchange and other work fields: hydrogeological terminology

1 Scope

GB/T 14157-2023 is the Chinese terminology standard for hydrogeology: a bilingual dictionary of the field, giving each term in Chinese with its English equivalent and its definition. It covers the fundamental theory - general terms, principles, groundwater hydraulics, hydrogeochemistry - and then the specialised branches: environmental, contaminant, ecological, agricultural, mine, karst, geothermal, bedrock, loess and permafrost hydrogeology. Further clauses define the vocabulary of hydrogeological survey and groundwater monitoring, of resource assessment, of development, protection and management, of the techniques used in the field (remote sensing, geophysical prospecting, drilling, testing, isotope methods, modelling), and of hydrogeological informatisation. It replaces GB/T 14157-1993: 588 terms have been added, 365 removed and 481 revised, so a translation prepared against the old edition is out of date across most of the vocabulary.

Issued on 27 November 2023 by SAMR and SAC, in force since 1 March 2024. Classification: ICS 07.060, CCS D14. The document runs to 164 pages, delivered complete in English translation.

This document defines basic hydrogeological theories, specialized hydrogeological theories, hydrogeological surveys and groundwater monitoring, groundwater resources Related terms in hydrogeological fields such as evaluation, groundwater resource development and protection, hydrogeological technical methods, and hydrogeological informatization: This document is applicable to hydrogeological survey evaluation and groundwater exploration, development, utilization, protection, planning and management, scientific research, teaching, and international exchanges: Work in flow and other fields:

2 Normative reference documents

This document has no normative references:

3 Basic theories of hydrogeology

1 General terminology 3:1:

1 HydrogeologyHydrogeology A branch of geology with groundwater as its research object:

Note: Mainly studies the spatiotemporal distribution, formation and evolution rules and movement characteristics of groundwater, geotechnical and hydrological properties, and hydrogeology under the influence of natural and human activities: Parameters and their spatial changes, physical and chemical interactions between groundwater and rock and soil, ecological environmental attributes and functions of groundwater, rational development of groundwater resources Utilization methods and protection technologies, etc: 3:1:1:

1 Basic concepts, basic principles and basic analysis methods in hydrogeology:

Note: Also known as general hydrogeology or principles of hydrogeology: 3:1:1:2 A discipline that studies the movement of groundwater in rock and soil: 3:1:1:3 hydrogeochemistryhydrogeochemistry Study the formation and evolution of the chemical composition of groundwater, the migration, transformation, and aggregation processes of chemical elements in groundwater, as well as the The subject of geochemical processes in rock formations: 3:1:

2 Specialized hydrogeologyappliedhydrogeology Hydrogeological survey evaluation and scientific research conducted for specific purposes or specialized objects:

Note: Some of these fields have established relatively complete theoretical and technical method systems after long-term development, such as environmental hydrogeology, mining hydrogeology, karst water Geology, etc: 3:1:2:1 regional hydrogeologyregionalhydrogeology With the purpose of understanding and revealing the general laws of spatiotemporal distribution, formation and evolution of groundwater, the overall status of resources and

related ecological and environmental effects are analyzed: