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Specifications for marine sediment interstitial biota survey

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard proposed by the State Oceanic Administration. This standard by the National Marine Standardization Technical Committee (SAC/TC283) centralized. This standard drafting unit. Institute of Oceanology, Chinese Academy of Sciences, Tongji University, China Geological Survey Qingdao Institute of Marine Geology, the State Ocean First Bureau of Oceanography, State Oceanic Administration, Second Institute of Oceanography, State Oceanic Administration Third Institute of Oceanography, Chinese Academy of Sciences South China Sea Institute, China University of Geosciences (Beijing), Nanjing Institute of Geology and Palaeontology, Chinese Ocean University. The main drafters of this standard. Class Yan Li, Xu Kuidong, Sun Song, Li Tigang, know , Liu Jian, Li Ruixiang, Wang Chunsheng, Luo Zhuhua, Chen Muhong, Su Xin, Li Baohua, Qiao Lulu.

Marine sediment gap organisms cover six "circles" of life forms in the three-domain taxonomy of organisms. Archaea, Bacteriological, Protozoan Material, pigment, fungal and animal kingdoms, as well as benthic viruses. Sediment gap organisms are estuaries, intertidal zone, shelf shallow sea to The largest and most complex living groups in deep-sea benthic ecosystems are the material basis and energy flow for sustaining the operation of benthic life systems The essential. Marine sediment gap organisms through conventional means of ocean survey is not easy to obtain, the development of this standard is to fill the national standard GB/T 12763 "ocean survey norms" lack of investigation of sedimentary system requirements. In order to adapt to the development of modern marine science and technology and improve the contents of marine surveys in China, the State Oceanic Administration has organized the national standard "Marine Sedimentation Species Interval Biological Survey Norms "for the development of marine biodiversity, the exploration and utilization of marine strategic biological resources, integrated deep-sea resources and the environment Exploration, monitoring and evaluation of ecological environment, protection and management provide theoretical basis and technical support. Marine sediment gap biological survey specification

1 Scope

China's national specification for surveying the interstitial biota of marine sediments. It sets out how the survey is designed, how samples are collected, how the organisms are extracted, identified and counted, and how the results are recorded. Interstitial fauna - the meiofauna - are the animals that live in the water-filled spaces between grains of sand and mud: nematodes, harpacticoid copepods, ostracods, turbellarians, mostly under a millimetre long and present in the thousands per handful of sediment. They are surveyed because they are the best sediment bioindicators there are. They are abundant everywhere, they cannot swim away from a disturbance, they have short generation times so a community responds within weeks rather than years, and their composition shifts predictably with organic enrichment, hypoxia and contamination. That makes them the sediment equivalent of a canary. What such a survey needs above all is a fixed protocol, because meiofauna counts are exquisitely sensitive to the mesh size used, the depth sampled and the extraction method.

This standard determines the marine sediment gap biological investigation of the basic requirements established by the sediment, suspended solids, foraminifera, ostracods, put Bursts, sedimentary diatoms, coccolithiasis, sedimentary pollen, benthic viruses, benthic microorganisms (including bacteria, archaea and fungi), benthic microalgae, primitive benthic movements Objects, small benthic animals and other investigation of the general provisions and methods. This standard applies to coastal areas, shallow seas and deep sea offshore and distant seas of different marine benthos survey.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 12763.1 Marine survey code - Part 1. General principles

GB/T 12763.4 Code of practice for marine survey - Part 4. Survey of chemical elements of seawater

GB/T 12763.6 Marine survey code - Part 6. Marine life survey

GB/T 12763.8 Marine survey code - Part 8. Marine geophysical survey

GB 17378.4 Marine monitoring code Part 4. Seawater analysis

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Marine sediment marinesediment Weathering products of parent rocks (magmatic rocks, metamorphic rocks, pre-existing sedimentary rocks) under the influence of the surface crustal geology, biogenic materials, volcanoes The original materials of matter,

cosmic matter and so on have been loose, unconsolidated on the coast or the seafloor after being transported, settled or precipitated Accumulation.

3.2 Sedimentary rock sedimentaryrock It is one of the three major types of rocks that make up the lithosphere (the other two are magmatic rocks and metamorphic rocks). It consists of the parent rock (Or any pre-rock) weathering products, biogenic materials, volcanic materials, cosmic materials and other raw materials after the removal of the role of sedimentation And sedimentary diagenesis and the formation of rocks.

3.3 Sediment interstitial biota interstitialbiota All benthic life forms that inhabit or deposit in the interstices between sediment particles. Notes include marine microorganism, benthicvirus, microbenthos, miniature and small Type benthic metazoan (micro-and meiobenthicmetazoa) and so on. From the individual size, marine sediment gap bio-covers a particle size of less than 0.2 μm (Femto-grade) of 0.2 μm to 2 μm, pico-order of 0.2 μm to 2 μm, nano-order of 2 μm to 20 μm and micro Micro-level single-cell benthos and meio-level benthic metazoans.