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

HJ 442.4-2020

Replacing HJ 442-2008

**Technical specifications for environmental monitoring in
coastal waters - Part 4: Sediment monitoring in coastal waters**

近岸海域环境监测技术规范 第四部分 近岸海域沉积物监测

(English Translation)

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Foreword

To implement the Environmental Protection Law of the People's Republic of China, the Marine Environmental Protection Law of the People's Republic of China, and the "Regulations on the Administration of the Prevention and Control of Land-Source Pollutants Pollution and Damage to the Marine Environment" of the People's Republic of China "Regulations on the Management of Pollution Damage to the Marine Environment" and "Administrative Measures for Environmental Functional Zones in Coastal Sea Areas" to regulate the quality of the ecological environment in the coastal sea Monitoring, protecting the ecological environment, and ensuring the scientific, accurate, systematic, comparable and representative it is indicative of this standard.

This standard was first published in 2008. The original standard drafting unit was China Environmental Monitoring Station and Zhoushan Marine Biotechnology Environmental Monitoring Station. This is the first revision. The revised standard consists of the following ten parts.

Part One General Provisions Part Two. Data Processing and Information Management Part III Water Quality Monitoring of Inshore Waters Part Four. Monitoring of Sediment in Coastal Seas Part V Monitoring of Biological Quality in Coastal Waters Part VI Biological Monitoring in Inshore Waters Part VII Monitoring of rivers entering the sea Part 8: Monitoring of Direct Discharge of Sea Pollution Sources and Impact on the Water Environment of Inshore Waters Part IX Emergency and Special Monitoring in Coastal Waters Part 10 Evaluation and Report this standard is the fourth part of the revised standard. The revision mainly focuses on the collection and the methods and procedures of preservation, transportation, laboratory analysis, and quality control are mainly revised in the following aspects.

--Adjusted required test items and selective test items;

--Added relevant standard analysis methods and requirements that can be selected;

--Improved related requirements related to quality management, and increased self-control requirements for analysts;

- Two analytical methods have been added as informative appendices.

Appendix A, Appendix B and Appendix C of this standard are informative appendices.

From the date of implementation of this standard, the "Environmental Monitoring Specifications for Coastal Sea Areas" (HJ 442-2008) shall be abolished.

This standard was formulated by the Department of Ecological Environment Monitoring and the Department of Regulations and Standards of the Ministry of Ecology and Environment.

Drafting organizations of this standard. China National Environmental Monitoring Station, Zhejiang Zhoushan Marine Ecological Environment Monitoring Station, Tianjin Ecological Environment Environmental Monitoring Center, Dalian Ecological Environment Monitoring Center of Liaoning Province.

This standard was approved by the Ministry of Ecology and Environment on December 16, 2020.

This standard will be implemented on March 1, 2021.

This standard is interpreted by the Ministry of Ecology and Environment.

1 Technical specifications for environmental monitoring in coastal waters

Part Four. Monitoring of Sediment in Coastal Seas

1 Scope of application this standard specifies the basic methods for the collection, preservation, transportation, laboratory analysis and quality control of sediment samples in coastal seas.

Laws and procedures.

This standard is applicable to the collection, pretreatment, laboratory analysis, quality of sediment samples in offshore, estuaries and salty and brackish waters.

Control work.

2 Normative references

The content of this standard refers to the terms in the following documents. For undated references, the effective version is applicable to this standard.

GB 17378.3 Marine Monitoring Specification Part 3: Sample Collection, Storage and Transportation GB 18668 Marine sediment quality HJ 168 Technical Guidelines for the Preparation and Revision of Environmental Monitoring and Analysis Methods HJ 442.1 The

general rules of the first part of the technical specifications for environmental monitoring in coastal waters HJ 442.2 Technical Specification for Environmental Monitoring in Coastal Seas Part 2 Data Processing and Information Management HJ 442.10 Technical Specifications for Environmental Monitoring in Coastal Seas Part Ten Evaluation and Report HJ 730 Technical Specification for Layout of Environmental Monitoring Points in Coastal Waters

3 General requirements for quality monitoring of sediments in coastal waters

The implementation plan for routine monitoring of sediments in coastal seas is formulated and implemented in accordance with the relevant requirements of HJ 442.1, and the layout of monitoring points is in accordance with HJ 730 related requirements are implemented, data processing and data reporting shall be implemented in accordance with HJ 442.2 requirements, evaluation and reporting shall be implemented in accordance with HJ 442.10 Seek execution.

The frequency of routine monitoring of sediments in important estuaries, bays and key areas as determined by the state is once a year, and in other areas According to the monitoring conditions and evaluation requirements, it can be performed once a year or once every two years. The sampling time is generally arranged in July to August.

Combine water quality monitoring.

The compulsory items for routine monitoring of sediments in coastal seas are the items with the limits specified in GB 18668 and total phosphorus and total nitrogen;

Test items include waste and color (olfactory, structure), coliform, fecal coliform, pathogen, redox potential, sedimentation Type of deposits, etc.

Sediment monitoring items, time, frequency, etc. in other monitoring are determined according to the monitoring purpose.

24 Collection, preservation and transportation of sediment samples

4.1 Sample collection

4.1.1 Sampler and auxiliary equipment

a) Sediment sampler

Generally, it is required to be made of steel with high strength and good wear resistance. The grease should be removed and cleaned before use. root According to different needs, digging (grab) dredgers, cone (drilling) dredgers, tubular dredgers and box mining can be used.

Mud. Among them, the excavation type (grab type) mud dredger is suitable for collecting

large area surface samples; the cone type (drill type) mud mining the trap is suitable for collecting less sediment samples; the tubular dredger is suitable for collecting cylindrical samples; the box-type dredger is suitable for Collection of large area and certain depth sediment samples.

b) Auxiliary equipment Generally include winches (electric or hand-cranked winches), sample trays (made of wood or plastic), knives, spoons, beakers, Record forms, plastic label cards, pencils, markers, steel tapes, sample boxes, etc.

4.1.2 Sample container selection and handling the containers used to store sediment samples are mainly wide-mouth borosilicate glass bottles, polyethylene bags or polystyrene bags (or containers).

a) Polyethylene and polystyrene containers are suitable for storage of trace metal samples;

b) The brown wide-mouth glass bottle as a container can be used for wet sample measurement items and the storage of sulfide and other samples.

Polyethylene bags should not be used for product storage; sediment samples used for organic analysis should be placed in brown glass bottles.

The cover should be lined with clean aluminum foil or polytetrafluoroethylene film;

c) The strength of the polyethylene bag is limited. Two bags can be used for double-layer reinforcement. A new bag should be used without any printing Logo and handwriting;

d) The sample container must be soaked in (1 2) nitric acid for 2 to 3 d before use, washed with deionized water, and (1 2) hydrochloric acid Soak for 2 d, rinse with deionized water, and dry.

4.1.3 Surface sample collection operation Surface sediment samples are generally collected by excavator. Specific operation. connect the mud picker to the end of the wire rope, check whether it is reliable, measure the water depth at the sampling point; start the winch slowly, lift the open mud picker, and put it into the water slowly with your hand.

After stabilization, put it at a constant speed to 3 m~5 m from the bottom, then put it into the bottom at full speed, then lift the mud dredger slowly, and lift it quickly after leaving the bottom;

Lower the mud picker to the sampling tray, open the ear cover of the mud picker, tilt the mud picker to make the upper water flow out slowly, and then make a qualitative description and sub-packaging.

Analytical samples of surface sediments are generally taken from the top 0 cm~2 cm sediments. Refer to Table 1 for the sampling amount. Like a one-time pick the sample volume is insufficient and should be sampled again.