



Water Quality Analysis

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ABSTRACT:

Water is probably the second most valuable natural resource after air. The Earth's surface This resource is limited as it consists mostly of water and only a small part is available. Therefore, this valuable and limited resource should be used with caution. B. Water required for various uses For uses, it is necessary to confirm compatibility before use. The water source must also be monitored. Check regularly to see if they are healthy. The condition of the water area is poor This is not only an indicator of environmental degradation, but also a threat to the ecosystem. In industry Poor water quality can lead to hazards and serious economic losses. So water quality Very important from both an ecological and an economic point of view. So the Essential water quality test is suitable for all purposes. After many years of research, there are now Some standard protocols for water quality testing. There are guidelines for sampling, storage, and analysis of the assay. Here is a brief description of the default chain of action to assist analysts. And an investigator.

WHAT IS WATER QUALITY ?

Water quality can be defined as the chemical physical and biological property of water, generally in relation to a specific serviceability. The water is used for recreation, drinking, fishing, agriculture or industry. Each of these uses includes a variety of defined chemicals. Required physical and biological standards Support this use. For example, strict standards for drinking water or swimming or swimming compared to those used in the agriculture industry.

WHAT IS WATER QUALITY ANALYSIS ?

After many years of research, water quality standards have been established to ensure compliance and efficient use of water for specific purposes. Water quality analysis required for measurement Water parameters by standard method, To check if they conform to standard.

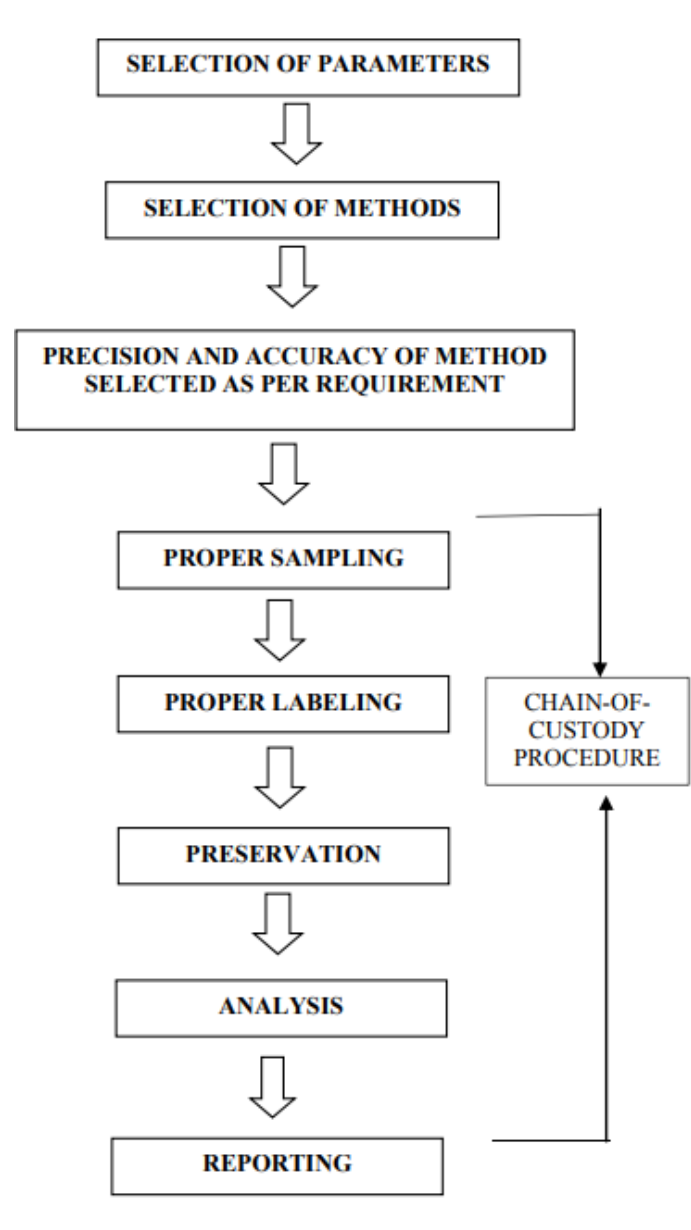
WHY DO WE NEED WATER QUALITY ANALYSIS ?

Water quality testing is primarily for monitoring purposes. Some meanings such as the qualifications include:

1. Check if there is a problem with the quality of the water standards and compliance if it is fit for purpose.
2. Monitoring the efficiency of the system in operation To maintain water quality .
3. How to check if you are upgrading/moving to You need an existing system and decide whatto do. changes are made.
4. Monitor water quality issues compliance with standards and regulations.

Analysis of water quality is very necessary In the following areas

1. Public health (especially for drinking water)
2. For industrial use.

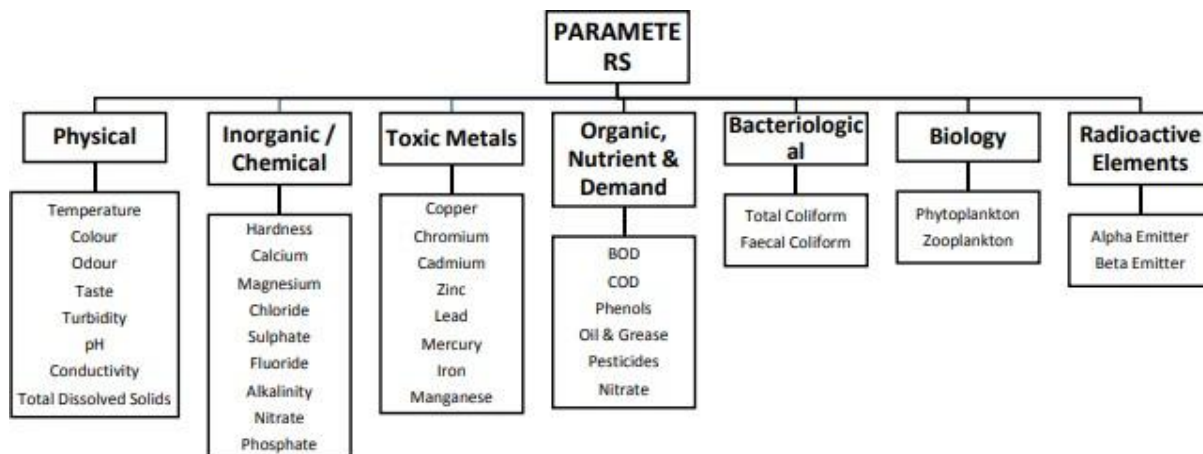
PROCEDURES OF WATER QUALITY ANALYSIS**SELECTION OF PARAMETERS**

Selected water quality parameter Depending on the specific needs of using This water. Here are some examples:

Drinking: As per WHO/CPCB

Irrigation: pH Conductivity Sodium & Potassium Nutrients Specific compounds

Industries: As per specific requirement Domestic Consumption: As per BIS Standards Water Bodies: As per CPCB guidelines However, some of the most common parameters followed for checking potability and industrial use in India are in Chart-2



SELECTION OF METHODS

The water quality analysis method is selected according to your requirements. Factors playing the main roles in method selection are:

- (I) Amount and number of samples to be analyzed
- (II) Cost of analysis (iii) Precision required
- (iv) Speed of analysis as required

CHAINS OF CUSTODY PROCEDURES

A well-designed and well-executed management suite form ensures the integrity of the sample collection for data reporting. This includes the ability to track ownership and handling of -era samples for analysis and final collection of placement. This process is called "CoC" and is required to display the Control Pattern when the data is used for regulation OR a procedure. Unless there is a demand A number of handling steps are useful for everyday purposes.

Specimens are considered to be under an individual's custody when in the person's body Secured property from an individual perspective Inviolability or personal protection Area reserved for authorized personnel.O The following steps are a compilation of the most important steps A number of management aspects:

- (I) Sample Label: The label is used to avoid a sample with incorrect identification of the collector . In other words, the label ensures the responsibility of the collector and the responsibility of the .
- (ii) Stamp sample: The stamp sample is used for verification. Manipulation of the largest sample Analysis time. Therefore, it is important to seal the specimen before placing it in the care of collectors. Sealing should be done as needed. Break the seal and get a sample.
- (iii) Field Records: It is good practice to record all information related to boundary field surveys or sampling journals. The logbook must contain at least the following data:
 - (A) Purpose of sampling
 - (B) Location of sampling points
 - (C) Name and address of on-site contact person
 - (D) Manufacturer of the sampled material and address, if different from Location
 - (E) Type of sample
 - (F) Storage method, date and time.
- (iv) Sample Analysis Request Form: The Sample Analysis Request Form is included in the Sample Laboratory. The collector fills in the fields of . Some of the more comprehensive forms of this type -related information can be found in the logbook. OR Laboratory report as such To be completed by laboratory staff and includes: Name of sample recipient, laboratory Sample number, date of sample receipt, condition Of each sample When the container is full, if there are several, color it There are phases etc.) and done.
- (V) Sample delivery to laboratory: Samples must be sent to the laboratory as follows: Usually as soon as possible after collection Within 2 days.For short sampling time is required, special precautions must be taken to ensure timely delivery to the laboratory.
- (vi) Receiving and registering samples: laboratory, the standards officer examines the sample and state of compliance and seals the information and

seals it with the chain of custody protocol before the sample is accepted. analyses. Upon acceptance, the custodian will retain the lab number, sample lab records, the logbook, and/or the computer lab the information management system and keep it in secure storage or cabinet or refrigerator at a specified temperature until assigned to him as an analyst.

(vii) Assignment of samples for analysis: The assignment of samples is usually made by the laboratory manager. For analysis. When the sample enters the lab, the supervisor or analyst is responsible for its care and retention.

(Viii) Provision: Samples Scope and duration of project o Until data is validated and accepted. Specimens are typically discarded per documentation but must include a discard.

PROPER SAMPLING

1. Representative: The data are wastewater or environmental samples. Therefore, the following factors must be properly planned:

Sampling:

(I) Sampling method (ii) Sample

size/volume

(iii) Number of sampling points (iv) Number of samples

(V) Characteristics of the sample

(vi) Time interval These factors should also be considered when sampling Caution:

(A) Choosing the right sampling container

(B) Avoiding contamination

(C) Ensuring the safety of sampling personnel

2. Reproducibility: The data collected is reproducible by others, following the same sampling and analysis protocol.

3. Justification: The document must be available Validation of the sampling procedure. Data Requires known precision, precision.

4. Desirability: use of data, purpose of monitoring plan.

PROPER LABELING

Proper identification prevents misidentification of the sample and ensures collector accountability and responsibility. Sample Sample It is a good idea to properly label the container. Attach a properly written label or label. Alternatively, you can write directly on the bottle with an oil-based pen. Barcode label still exists today. Information on sample containers or labels Must contain at least: (I) sample code number (location identification) (ii) date and time of sample collection (iii) source and type of sample (iv) performance of pretreatment or preservation sample, Sample (V) Special Note to Analysts.

PRESERVATION

There is usually a delay between collections analysis of the sample. Sample type Subject to change. For this reason The method requires adequate storage Cash on delivery laboratory and laboratory Pending the start of the analysis. Complete and clear preservation of Whether sample, domestic waste water, industrial waste water or natural water is practically impossible, absolute stability for all The component is unattainable. At best, preservation techniques delay chemicals (particularly hydrolysis of ingredients) and unavoidable biological changes sampling. Single storage method is not perfect satisfaction; Preservatives are carefully selected in relation to the choices made. Storage method is limited to pH control. chemical addition, use of amber and opaque bottles, refrigerate, filter, freeze. Analysis The sample upon arrival at the laboratory Analyzed according to the required parameters The following standard methods and protocols.

REPORTING

The latest method of water analysis Prepare for the new publication suitable for the presented requirements. Returns must be authenticated. Filed before the adult guardianship system was delivered. sample for testing. All laboratory record data, preferably in the laboratory database Another way to represent the overall quality of water is to express it using the Water Quality Index (WQI). WQI is a concise number representation of the general water quality of the body

of water Convenient place for interpretation and use removed. WQI expresses the overall quality of water in single digits instead of multiple digits for all WQPs. Therefore, it is easy to think of z ordinary people.

CONCLUSION

Assessing water quality is essential. Compatibility of specified water source usage. Some water quality parameters are evaluated and compared to their normal values Determine the tolerance of the water source. After a long study There was also an assessment of the water. It is standardized for various purposes. Such a directive is briefly explained in relation to Article . A place for the comfort of researchers Analyst. So getting them can be helpful. Water Quality Assessment Overview Standards and Procedures.