4740.2087 SAMPLE HANDLING, RECEIPT, AND ACCEPTANCE.

Subpart 1. **Handling samples.**

A. A laboratory must have procedures for the transportation, receipt, handling, protection, storage, retention, and disposal of samples. The procedures must include provisions necessary to protect the integrity of the sample and to protect the interests of the laboratory and the client.

B. A laboratory must have a system for identifying samples. The sample's identification must be retained throughout the life of the sample in the laboratory. The identification system must be designed and operated so as to ensure that samples cannot be confused physically or when referred to in laboratory documentation. The identification of samples must accommodate a subdivision of groups of samples and the transfer of samples between laboratories.

C. Upon receipt of samples, the condition, including any abnormalities or departures from specified conditions as described in the laboratory's quality assurance manual, must be recorded. When there is doubt as to the suitability of a sample for environmental testing, when a sample does not conform to the description provided, or when the environmental test required is not specified in sufficient detail, the laboratory must consult the client for further instructions before proceeding and must maintain a written record of the discussion.

D. When an insufficient amount of sample is received, a laboratory may choose to subsample if subsampling would not cause loss of sample integrity. Information concerning the insufficient amount of sample and any decision to subsample must be indicated with the test results.

E. A laboratory must have procedures and appropriate facilities for avoiding deterioration, contamination, loss, or damage to the sample during storage, handling, preparation, and testing.

F. When samples require storage under specified environmental conditions, the conditions must be maintained, monitored, and recorded. When a sample or a portion of a sample is to be held secure, a laboratory must have arrangements for storage and security that protect the condition and integrity of the secured samples or portions concerned.

G. Samples, sample fractions, extracts, leachates, and other products of sample preparation must be kept in storage units, such as cabinets, refrigerators, or freezers, that are separate from the storage units for all standards, reagents, food, and other potentially contaminating sources. Samples must be stored in such a manner to prevent contamination between samples.

Subp. 2. **Sample receipt protocols.** The following items must be verified and the results documented:

A. all samples that require thermal preservation are considered acceptable if the arrival temperature is within the range required by the approved method or within 2 degrees Celsius of the temperature required by the applicable permit, program, or rule;

B. all samples that require chemical preservation are considered acceptable if the laboratory verifies that the preservation meets the requirements of the approved method. A laboratory must implement procedures for checking chemical preservation before sample preparation or analysis except for methods where postanalysis preservation checks are required to ensure that sample integrity is not compromised. When specified in permit, program, or rule, chemical preservation must be verified upon receipt;

C. bacteriological samples from chlorinated water systems do not require an additional chlorine residual check in the laboratory if:

(1) sufficient sodium thiosulfate is added to each container to neutralize at minimum 5 milligrams per liter of chlorine for drinking water and 15 milligrams per liter of chlorine for wastewater samples;

(2) one container from each batch of laboratory prepared containers or lot of purchased ready-to-use containers is checked to ensure efficacy of the sodium thiosulfate to 5 milligrams per liter chlorine or 15 milligrams per liter chlorine, as appropriate, and the check is documented; or

(3) chlorine residual is verified by the collector and the recorded concentration is less than or equal to 0.1 mg/L; and

D. a laboratory must maintain chronological records, either paper-based or electronic, such as a log book or database, to document receipt of all samples, including the number and types of containers received for each field of testing. The records must include:

(1) the client and project name, if applicable;

(2) the date and time of laboratory receipt;

(3) a unique laboratory-assigned identification code;

(4) the signature, initials, or equivalent electronic identification of the person making the entries;

(5) the field identification code, which identifies each container, linked to the laboratory-assigned identification code in the sample receipt log;

(6) the date and time of sample collection, linked to the sample container and to the date and time of receipt in the laboratory;

(7) the requested field of testing, linked to the laboratory-assigned identification code; and

(8) any comments resulting from inspection for sample rejection, linked to the laboratory-assigned identification code.

Subp. 3. **Sample acceptance policy.**

A. A laboratory must have a written sample acceptance policy that clearly outlines the circumstances under which samples will be accepted or rejected by the laboratory. Data from samples that do not meet the laboratory's criteria must be recorded in an unambiguous manner clearly defining the nature and substance of the deviation from acceptable procedures.

B. A laboratory's sample acceptance policy must be made available to sample collection personnel and must address, at a minimum:

(1) documentation, including sample identification; location, date, and time of collection; collector's name; preservation type; sample type; and any special remarks concerning the sample;

(2) sample labeling, to include unique identification, and a labeling system for the samples with requirements concerning the durability of the labels (water resistant) and the use of indelible ink;

(3) use of appropriate sample containers;

(4) adherence to specified holding times;

(5) adequate sample volume to perform the requested tests and relevant quality control determinations; and

(6) procedures to be used when samples show signs of damage, contamination, inadequate preservation, or loss of integrity.

C. If the sample does not meet the sample receipt acceptance criteria listed in the laboratory's quality assurance manual, the laboratory must retain correspondence and records of conversations concerning the final disposition of rejected samples or fully document any decision to proceed with the analysis of samples not meeting acceptance criteria. The report of samples analyzed without meeting the sample acceptance criteria must indicate, at a minimum, the condition of the samples on the chain-of-custody, transmittal form, or the laboratory receipt documents in addition to appropriately qualifying the analysis data on the final report.

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