SW-846 Method Implementation Policy

(NC WW/GW LC 07/22/2020)

The EPA publication, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, also known as SW-846, is the Office of Solid Waste's (OSW's) official compendium of analytical and sampling methods that have been evaluated and approved for use in complying with the Resource Conservation and Recovery Act (RCRA) regulations. The North Carolina Administrative Code, 15A NCAC 02L .0112 lists *Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods, 3rd Edition, 1986, U.S. Environmental Protection Agency publication number SW-846* as an approved procedures document for determination of compliance or noncompliance with the standards established in Rule .0202 of this Subchapter. Therefore, only methods included in the 3rd Edition and applicable updates to the 3rd Edition are to be used for North Carolina compliance monitoring.

SW-846 contains the analytical and test methods that EPA has evaluated and found to be among those acceptable for testing under subtitle C of the RCRA regulations. In most situations, SW-846 functions as a guidance document setting forth acceptable, although not required, methods to be implemented by the user, as appropriate, in responding to RCRA-related sampling and analysis requirements. As such, the Quality Assurance/Quality Control (QA/QC) requirements in SW-846 are stated as guidelines.

When SW-846 methods were developed, it was anticipated that most projects utilizing these methods would have an associated Quality Assurance Project Plan (QAPP), which would document the specific QA/QC requirements for the project. However, in practice most projects did not have a QAPP and now SW-846 methods are widely used for a variety of environmental regulatory programs.

SW-846 QA/QC Policy

The NC WW/GW Laboratory Certification Branch must confirm that analytical data is valid by reviewing the QA/QC data generated during the sampling and analysis procedures when implementing SW-846 methods in order to be assured that scientifically sound decisions are made which will be protective of human health and the environment. To promote consistency with the use of SW-846 methods and to assure generation of data of known quality, the minimum recommended quality control benchmarks in the methods will be considered the minimum QA/QC requirements. For example, where a method states, "*Documenting the effect of the matrix on target analyte measurements should include the analysis of at least one matrix spike and one duplicate unspiked samples or one matrix spike/matrix spike duplicate pair*.", the laboratory must analyze at least one matrix spike and one duplicate unspiked sample or one matrix spike/matrix spike duplicate pair. Laboratories may adopt more stringent QC acceptance criteria for method performance but may not omit or use less stringent criteria than that stated in SW-846 methods.

QA/QC Precedence

Chapter One contains general QC guidance for analyses using SW-846 methods. QC guidance specific to a given analytical technique (e.g., extraction, cleanup, sample introduction, or analysis) may be found in Methods 3500, 3600, 5000, 7000, and 8000. Method-specific QC criteria may be found in Sec. 8.0 of most older individual methods, in Sec. 9.0 of newer methods. When inconsistencies exist between the information in these locations, method-specific QC criteria take precedence over both technique-specific criteria and those criteria given in Chapter One, and technique-specific QC criteria take precedence over the criteria in Chapter One.

Procedural Modifications

In addition, for procedural modifications, we will follow the conventions for allowed flexibility in 40 CFR Part 136.6. Modifications will be allowed if the underlying chemistry and determinative technique in a modified method are essentially the same as the referenced method.

Where modifications meet these requirements, the method must be fully validated with analyses of standards employing those modifications to document that the performance of the modified method, in the matrix to which the modified method will be applied, is equivalent to the performance of the referenced method. Supporting documentation must include the routine initial demonstration of capability and ongoing QC including determination of precision and accuracy, detection limits, and matrix spike recoveries. The method user's Standard Operating Procedure (SOP) must clearly document the modifications made to the reference method.

Method-defined Parameters

SW-846 also contains procedures for method-defined parameters, where the analytical result is wholly dependent on the process used to make the measurement. These methods (listed below) must be followed exactly as written, or the resulting data cannot be used to ensure regulatory compliance.

Table I. Method-defined Parameters in SW-846 Applicable to NC WW/GW Laboratory Certification

1010B	1311	9010C	9050A	9070A
1020C	1312	9040C	9060A	9071B
1030		9045D		9095B