



Designation: D 5792 – 9502

Standard Practice for Generation of Environmental Data Related to Waste Management Activities: Development of Data Quality Objectives¹

This standard is issued under the fixed designation D 5792; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers the process of development of data quality objectives (DQOs) for the acquisition of environmental data. Optimization of sampling and analysis design is a part of the DQO process. This practice describes the DQO process in detail. The various strategies for design optimization are too numerous to include in this practice. Many other documents outline alternatives for optimizing sampling and analysis design. Therefore, only an overview of design optimization is included. Some design aspects are included in the practice's examples for illustration purposes.

1.2 DQO development is the first of three parts of data generation activities. The other two aspects are (1) implementation of the sampling and analysis strategies, see Guide D 6311 and (2) data quality assessment, see Guide D 6233.

1.3 This guide should be used in concert with Practices D 5283, ~~which~~ D 6250, and Guide D 6044. Practice D 5283 outlines the quality assurance (QA) processes specified during planning and used during implementation. Guide D 6044 outlines a process by which a representative sample may be obtained from a population, identifies sources that can affect representativeness and describes the attributes of a representative sample. Practice D 6250 describes how a decision point can be calculated.

1.34 Environmental data related to waste management activities include, but are not limited to, the results from the sampling and analyses of air, soil, water, biota, process or general waste samples, or any combinations thereof.

1.45 The DQO process is a planning process and should be ~~developed and initiated~~ completed prior to ~~the application of planning, implementation, and assessment of sampling and analysis activities.~~

1.56 This practice presents extensive requirements of management, designed to ensure high-quality environmental data. The words “must” and “shall” (requirements), “should” (recommendation), and “may” (optional), have been selected carefully to reflect the importance placed on many of the statements in this practice. The extent to which all requirements will be met remains a matter of technical judgement.

1.67 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.78 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

~~C 970~~ Guide 1215 Guide for Sampling Special Nuclear Materials Preparing and Interpreting Precision and Bias Statements in

¹ This practice is under the jurisdiction of ASTM Committee D-34 on Waste Management and is the direct responsibility of Subcommittee D34.02₁ on Physical and Chemical Characterization.

Current edition approved ~~Nov. Feb. 10, 1995, 2002~~. Published ~~January 1996, May 2002~~. Originally published as D 5792-95. Last previous edition D 5792-95.