



Designation: D5283 – 18

Standard Practice for Generation of Environmental Data Related to Waste Management Activities: Quality Assurance and Quality Control Planning and Implementation¹

This standard is issued under the fixed designation D5283; 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 Environmental data generation efforts are composed of four parts: (1) establishment of data quality objectives (DQOs); (2) design of field measurement and sampling strategies and specification of laboratory analyses and data acceptance criteria; (3) implementation of sampling and analysis strategies; and (4) data quality assessment. This practice addresses the planning and implementation of the sampling and analysis aspects of environmental data generation activities (Parts (1) and (2) above).

1.2 This practice defines the criteria that must be considered to ensure the quality of the field and analytical aspects of environmental data generation activities. Environmental data include, but are not limited to, the results from analyses of samples of air, soil, water, biota, waste, or any combinations thereof.

1.3 Adoption of a quality assurance project plan (QAPP) containing the goals, policies, procedures, organizational responsibilities, evaluation and reporting requirements, and other attributes of a quality management system including statement of DQOs should be adopted prior to application of this practice. Data generated in accordance with this practice are subject to a final assessment to determine whether the DQOs were met through application of quality control (QC) procedures that produce data that are scientifically valid for the purposes to which the data are intended. For example, many screening activities do not require all of the mandatory quality assurance (QA) and quality control (QC) steps found in this practice to generate data adequate to meet the project DQOs. The extent to which all of the requirements must be met remains a matter of technical judgement as it relates to the established DQOs.

1.4 This practice presents extensive management requirements designed to ensure high-quality environmental data. The

¹ This practice is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.01 on Planning for Sampling.

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words “must,” “shall,” “may,” and “should” have been selected carefully to reflect the importance placed on many of the statements made in this practice.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D1129 Terminology Relating to Water
D5681 Terminology for Waste and Waste Management
E1187 Terminology Relating to Conformity Assessment
(Withdrawn 2006)³

2.2 U.S. Environmental Protection Agency Documents:⁴

SW-846 Test Methods for Evaluating Solid Waste, Vol 1, Third Edition (NTIS No. PB88239223/LL), November 1986
EPA/QAMS Development of Data Quality Objectives, Description of Stages I and II, July 16, 1986
EPA QA/R-2 EPA Requirements for Quality Management Plans, March 2001
EPA QA/R-5 EPA Requirements for Quality Assurance Project Plans, March 2001

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from U.S. Government Printing Office, Superintendent of Documents, 732 N. Capitol St., NW, Washington, DC 20401-0001, <http://www.access.gpo.gov>.