



Designation: D5612 – 94 (Reapproved 2018)

Standard Guide for Quality Planning and Field Implementation of a Water Quality Measurement Program¹

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1. Scope

1.1 This guide covers planning and implementation of the sampling aspects of environmental data generation activities. Environmental data generation efforts are comprised of four parts: (1) establishment of data quality objectives (DQOs); (2) design of field sampling and measurement strategies and specification of laboratory analyses and data acceptance criteria; (3) implementation of sampling and analysis strategies; and (4) data quality assessment.

1.2 This guide defines the criteria that must be considered to ensure the quality of the field aspects of environmental data and sample generation activities.

1.3 DQOs should be adopted prior to the application of this guide. The data generated in accordance with this guide are subject to a final assessment to determine whether the DQOs were met. For example, many screening activities do not require all of the quality assurance (QA) and quality control (QC) steps found in this guide to generate data adequate to meet the project needs. 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 guide presents extensive management requirements designed to ensure high-quality samples and data. The words “must,” “shall,” “may,” and “should” have been selected carefully to reflect the importance placed on many of the statements made in this guide.

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 Recom-*

mendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

D596 Guide for Reporting Results of Analysis of Water

D1129 Terminology Relating to Water

D2777 Practice for Determination of Precision and Bias of Applicable Test Methods of Committee D19 on Water

D3370 Practices for Sampling Water from Closed Conduits

D3856 Guide for Management Systems in Laboratories Engaged in Analysis of Water

D4210 Practice for Intralaboratory Quality Control Procedures and a Discussion on Reporting Low-Level Data (Withdrawn 2002)³

D4447 Guide for Disposal of Laboratory Chemicals and Samples

D4448 Guide for Sampling Ground-Water Monitoring Wells

D4840 Guide for Sample Chain-of-Custody Procedures

D4841 Practice for Estimation of Holding Time for Water Samples Containing Organic and Inorganic Constituents

D5172 Guide for Documenting the Standard Operating Procedures Used for the Analysis of Water

D5283 Practice for Generation of Environmental Data Related to Waste Management Activities: Quality Assurance and Quality Control Planning and Implementation

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E178 Practice for Dealing With Outlying Observations

E1187 Terminology Relating to Conformity Assessment (Withdrawn 2006)³

2.2 U.S. Environmental Protection Agency Documents:⁴

QAMS-004/80 Guidelines and Specifications for Preparing Quality Assurance Program Plans, Office of Monitoring

¹ This guide is under the jurisdiction of ASTM Committee D19 on Water and is the direct responsibility of Subcommittee D19.02 on Quality Systems, Specification, and Statistics. Technical Resources, and Statistical Methods.

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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 DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.