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Standard Guide for Sampling Wastewater with Automatic Samplers¹

This standard is issued under the fixed designation D6538; 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 guide covers the selection and use of automatic wastewater samplers, including procedures for their use in obtaining representative samples. Automatic wastewater samplers are intended for the unattended collection of samples that are representative of the parameters of interest in the wastewater body. While this guide primarily addresses the sampling of wastewater, the same automatic samplers may be used to sample process streams and natural water bodies.

1.2 The guide does not address general guidelines for planning waste sampling activities (see Guide [D4687](#)), development of data quality objectives (see Practice [D5792](#)), the design of monitoring systems and determination of the number of samples to collect (see Guide [D6311](#)), operational details of any specific type of sampler, *in situ* measurement of parameters of interest, data assessment and statistical interpretation of resultant data (see Guide [D6233](#)), or sampling and field quality assurance (see Guide [D5612](#)). It also does not address sampling groundwater.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3.1 *Exception*—The inch-pound units given in parentheses are for information only.

1.4 *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.*

1.5 *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.*

¹ This guide is under the jurisdiction of ASTM Committee [D34](#) on Waste Management and is the direct responsibility of Subcommittee [D34.01.03](#) on Sampling Equipment.

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2. Referenced Documents

2.1 *ASTM Standards*:²

- [D4687](#) Guide for General Planning of Waste Sampling
- [D5088](#) Practice for Decontamination of Field Equipment Used at Waste Sites
- [D5612](#) Guide for Quality Planning and Field Implementation of a Water Quality Measurement Program
- [D5681](#) Terminology for Waste and Waste Management
- [D5792](#) Practice for Generation of Environmental Data Related to Waste Management Activities: Development of Data Quality Objectives
- [D6233](#) Guide for Data Assessment for Environmental Waste Management Activities (Withdrawn 2016)³
- [D6311](#) Guide for Generation of Environmental Data Related to Waste Management Activities: Selection and Optimization of Sampling Design

3. Terminology

3.1 *Definitions*—For definitions of terms used in this guide, refer to Terminology [D5681](#).

4. Significance and Use

4.1 This guide provides persons responsible for designing and implementing wastewater sampling programs with a summary of the types of automatic wastewater samplers, discusses the advantages and disadvantages of the different types of samplers, and addresses recommended procedures for their use. The field settings are primarily, but not limited to, open channel flows in enclosed (e.g., sewer) systems or open (e.g., streams or open ditches, and sampling pressure lines) systems.

5. Automatic versus Manual Sampling ([2](#), [3](#))⁴

5.1 The advantages and disadvantages of manual and automatic sampling are summarized in [Table 1](#). The decision as to whether to use manual or automatic sampling involves many considerations in addition to equipment costs. In general,

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. 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 The boldface numbers given in parentheses refer to a list of references at the end of the standard.