



Standard Practices for Sampling Water from Closed Conduits¹

This standard is issued under the fixed designation D 3370; 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.

This standard has been approved for use by agencies of the Department of Defense.

^{ε1} NOTE—Warning notes were editorially moved into the standard text in January 2004.

1. Scope

1.1 These practices cover the equipment and methods for sampling water from closed conduits such as process streams at power stations for chemical, physical, microbiological, and radiological analyses. It does not cover specialized equipment required for and unique to a specific test or method of analysis. The following are included:

	Sections
Practice A—Grab Samples	9 to 17
Practice B—Composite Samples	18 to 23
Practice C—Continual Sampling	24 to 29

1.2 For information on specialized sampling equipment, tests or methods of analysis, reference should be made to volumes 11.01 and 11.02 of the *Annual Book of ASTM Standards*, relating to water.

1.3 *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.* For specific hazards statements, see 8.3 and 13.4.

2. Referenced Documents

2.1 ASTM Standards:²

- A 106 Specification for Seamless Carbon Steel Pipe for High-Temperature Service
- A 179/A179M Specification for Seamless Cold-Drawn Low-Carbon Steel Heat-Exchanger and Condenser Tubes
- A 269 Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service
- A 335/A335M Specification for Seamless Ferritic Alloy

¹ These practices are under the jurisdiction of ASTM Committee D19 on Water, and are the direct responsibility of Subcommittee D19.03 on Sampling of Water and Water-Formed Deposits, Analysis of Water for Power Generation and Process Use, On-Line Water Analysis, and Surveillance of Water.

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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.

Steel Pipe for High-Temperature Service

- D 1066 Practice for Sampling Steam
- D 1129 Terminology Relating to Water
- D 1193 Specification for Reagent Water
- D 3648 Practices for the Measurement of Radioactivity
- D 3694 Practices for Preparation of Sample Containers and for Preservation of Organic Constituents
- D 3856 Guide for Good Laboratory Practices in Laboratories Engaged in Sampling and Analysis of Water
- D 4453 Practice for Handling of Ultra-Pure Water Samples
- D 4515 Practice for Estimation of Holding Time for Water Samples Containing Organic Constituents
- D 4840 Guide for Sampling Chain-of-Custody Procedures
- D 4841 Practice for Estimation of Holding Time for Water Samples Containing Organic and Inorganic Constituents
- D 5540 Practice for Flow Control and Temperature Control for On-Line Water Sampling and Analysis

3. Terminology

3.1 *Definitions*—For definitions used in these practices, refer to Terminology D 1129.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *back pressure regulator*—a device designed to maintain a constant pressure upstream of itself (variable or fixed back pressure regulators are available) to maintain constant flow in analyzers in continual sampling.

3.2.2 *composite sample*—a series of grab samples integrated into a single sample or a sample collected at specific time intervals and integrated into a single sample. The goal of a composite sample is to characterize a process weighted average in proportion to process parameters.

3.2.3 *grab sample*—a single sample from a process stream (flowing) or from a source of confined geometry (stagnant) withdrawn at a specific time. The goal of withdrawing a grab sample is to obtain a small portion of the process stream or confined geometry source in order to characterize the entire system.

3.2.4 *head cup*—a method used to achieve constant pressure (see *back pressure regulator*). It incorporates plumbing of the sample to a selected height above the inlet to the analyzer inlet line(s) to achieve the required inlet pressure for the analyzers.