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## Standard Guide for Field Quality Assurance in a Groundwater Sampling Event<sup>1</sup>

This standard is issued under the fixed designation D7069; 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~~ Scope\*

1.1 This guide covers the quality assurance (QA) methods that may be used to assure the validity of data obtained during the sampling of a groundwater monitoring well. QA is any action taken to ensure that performance requirements are met by following standards and procedures. Following QA practices becomes even more critical if the data must be validated in a court of law. Under certain conditions, it may be necessary to follow additional or different QA practices from those listed in this guide. QA practices should be based upon data quality objectives, site-specific conditions, and regulatory requirements.

1.2 *This standard addresses QA procedures used in the field and does not refer to laboratory QA procedures.*

1.3 *This standard ~~also~~ 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 to~~ safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This standard provides guidance for selecting and performing various field QA procedures. This document cannot replace education or experience and should be used in conjunction with professional judgement. Not all of the procedures are applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "standard" in the title of this document means only that the document has been approved through the ASTM consensus process.* <https://standards.iteh.ai/catalog/standards/astm/5c8428ac-61b9-409a-abf2-bf7860911d3a/astm-d7069-24>

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.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

[D653 Terminology Relating to Soil, Rock, and Contained Fluids](#)

[D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction](#)

[D5088 Practice for Decontamination of Field Equipment Used at Waste Sites](#)

[D5608 Practices for Decontamination of Sampling and Non Sample Contacting Equipment Used at Low Level Radioactive Waste Sites](#)

[D5903 Guide for Planning and Preparing for a Groundwater Sampling Event](#)

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.21 on Groundwater and Vadose Zone Investigations.

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<sup>2</sup> 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.

\*A Summary of Changes section appears at the end of this standard

- D6089 Guide for Documenting a Groundwater Sampling Event
- D6452 Guide for Purging Methods for Wells Used for Ground Water Quality Investigations
- D6517 Guide for Field Preservation of Ground Water Samples
- D6564 Guide for Field Filtration of Groundwater Samples
- D6771 Practice for Low-Flow Purging and Sampling Used for Groundwater Monitoring
- [D7929 Guide for Selection of Passive Techniques for Sampling Groundwater Monitoring Wells](#)

### 3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology [D653](#).

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 ~~Note that these are basic definitions. Information on the purposes of the various QA samples is provided in section~~ Section 5.

3.2.2 *equipment blank or rinsate blank, n*—deionized water that is passed sequentially through each component of the equipment system used for collecting and processing the environmental samples.

3.2.3 *quality assurance (QA)—field blank or ambient blank, n*—actions taken to ensure that standards and procedures are adhered to and that delivered products or services meet performance requirements (reference 1); laboratory water that is exposed to the same environmental conditions as the samples.

3.2.3.1 *Discussion*—

Both terms are used by different entities and are included here for completeness.

3.2.4 *Field Duplicates—field duplicates, n*—a set of samples that are collected close in time and space and in a manner so that the samples are thought to be representative of the ambient water composition at the time of collection.

3.2.5 *Field Split Samples—field split samples, n*—samples obtained by dividing one sample into two or more subsamples either before or after sample preservation and are subject to identical handling and analysis.

3.2.6 *matrix spike, n*—a groundwater sample to which a spike solution of known concentrations of selected analytes is added either in the field or in the laboratory.

3.2.7 *microbiological blank or sterile container blank, n*—deionized water in a sterile container that is taken to the field and opened prior to being shipped to the laboratory with the other groundwater samples.

3.2.8 *quality assurance (QA), n*—actions taken to increase the likelihood that standards and procedures are adhered to and that delivered products or services meet performance requirements (reference 1).

3.2.9 *Field Blank or Ambient Blank—temperature blank or temperature control, n*—laboratory containerized water that is exposed to the same environmental conditions as the samples kept with the samples from the time of collection until the samples are refrigerated at the laboratory.

3.2.9.1 *Discussion*—

Both terms are used by different entities and are included here for completeness.

3.2.6 ~~*Equipment Blank or Rinsate Blank*—deionized water that is passed sequentially through each component of the equipment system used for collecting and processing the environmental samples.~~

3.2.10 *Trip Blank or Travel Blank—trip blank or travel blank, n*—laboratory-grade water that is poured into the sample bottle at the laboratory prior to the sampling event and remains unopened as it travels with the sample containers to the field and is stored and shipped with the samples.

3.2.10.1 *Discussion*—

Both terms are used by different entities and are included here for completeness.

3.2.8 ~~*Microbiological Blank or Sterile Container Blank*—deionized water in a sterile container that is taken to the field and opened prior to being shipped to the laboratory with the other groundwater samples.~~