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Standard Guide for Documenting a Groundwater Sampling Event¹

This standard is issued under the fixed designation D6089; 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 what and how information should be recorded in the field when sampling a groundwater monitoring well. Following these recommendations will provide adequate documentation in most monitoring programs. In some situations, it may be necessary to record additional or different information, or both, to thoroughly document the sampling event. In other cases, it may not be necessary to record all of the information recommended in this guide. The level of documentation will be based on site-specific conditions and regulatory requirements.

1.2 This guide is limited to written documentation of a groundwater sampling event. Other methods of documentation (that is, electronic and audiovisual) can be used but are not addressed in this guide. The specific activities addressed in this guide include documentation of static water level measurement, monitoring well purging, monitoring well sampling, field measurements, groundwater sample preparation, and groundwater sample shipment.

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.*

1.4 *This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be 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.*

¹ 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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2. Referenced Documents

2.1 ASTM Standards:²

D5088 Practice for Decontamination of Field Equipment Used at Waste Sites

D5608 Practices for Decontamination of Field Equipment Used at Low Level Radioactive Waste Sites

D5903 Guide for Planning and Preparing for a Groundwater Sampling Event

3. Terminology

3.1 *Definitions*—For definitions of terms used in this guide, refer to Terminology D653.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *chain of custody*—the process of maintaining accountability of the samples for the purpose of identifying potential breaches in sample integrity.

3.2.2 *chain of custody record*—a record of all individuals who possess the samples from the time of collection until analysis.

4. Significance and Use

4.1 When sampling groundwater monitoring wells, it is very important to thoroughly document all field activities. Sufficient field data should be retained to allow one to reconstruct the procedures and conditions that may have affected the integrity of a sample. The field data generated are vital to the interpretation of the chemical data obtained from laboratory analyses of samples. Field data and observations may also be useful to analytical laboratory personnel.

4.2 Due to the changing nature of regulations and other information, users are advised to thoroughly research requirements related to packaging and shipping prior to initiating a sampling event.

NOTE 1—The sampling of an individual groundwater monitoring well should be repeated as closely as possible each time the monitoring well is sampled. This reduces the variability of the chemical parameters due to sampling variability which is the desired result. The intent is to detect the change in chemistry by repeating the sampling protocol at each individual

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.

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