



Standard Guide for Planning and Preparing for a Groundwater Sampling Event¹

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1. Scope

1.1 This guide covers planning and preparing for a ground-water sampling event. It includes technical and administrative considerations and procedures. Example checklists are also provided as Appendices.

1.2 This guide may not cover every consideration procedure, or both, that is necessary before all ground-water sampling projects. In karst or fractured rock terranes, it may be appropriate to collect ground water samples from springs (see Guide D 5717). This guide focuses on sampling of ground water from monitoring wells; however, most of the guidance herein can apply to the sampling of springs as well.

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.*

2. Referenced Documents

2.1 ASTM Standards:

D 653 Terminology Relating to Soil, Rock, and Contained Fluids²

D 5717 Guide to the Design of Ground-Water Monitoring Systems in Karst and Fractured-Rock Aquifers³

3. Significance and Use

3.1 The success of a sampling event is influenced by adequate planning and preparation. Use of this guide will help the ground-water sampler to methodically execute the planning and preparation.

3.2 This guide should be used by a professional or technician that has training or experience in ground-water sampling.

4. Considerations and Procedures

4.1 Evaluate the scope of the sampling and analysis program.

4.1.1 Review plans, protocols, and objectives of the sampling program and event. The sampler should review the sampling and analysis plan, site health and safety plan, sampling protocol, and quality assurance/quality control plan, when available. These documents will provide information on required sampling procedures and also should provide the information in the following paragraphs.

4.1.2 Determine which wells will be sampled. The sampler should have a map or diagram showing the locations of the wells to be sampled. Determine if there is a preferred well sampling sequence specified in the sampling and analysis plan.

4.1.3 Identify the laboratory analyses to be performed on samples from each well. The analytical requirements are often, but not always, the same for each well. Determine if there is a preferred order in filling containers based on analytes.

4.1.4 Identify data to be collected in the field. The sampler must know in advance what types of data must be collected in the field (that is, chemical measurements, water level measurements, etc.) Many samplers use a form to record field data and other observations. The use of a form can help the sampler to collect and record information in a consistent manner and can reduce the chance of failure to collect needed data.

4.1.5 Determine from what depth range within the well the samples will be collected.

4.1.6 Evaluate the need for specialized handling of purged water and decontamination wastewater. The waters may be released to the ground surface, discharged to a sanitary or industrial sewer, or containerized and handled as a potentially hazardous waste. Hazardous wastes will require specialized labeling, storage, transportation, and disposal.

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 Ground Water and Vadose Zone Investigations.

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² Annual Book of ASTM Standards, Vol 04.08.

³ Annual Book of ASTM Standards, Vol 04.09.