



Standard Guide for Selection of Drilling Methods for Environmental Site Characterization¹

This standard is issued under the fixed designation D6286; 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 provides descriptions of various drilling methods for environmental site characterization along with advantages and disadvantages associated with each method discussed. A comprehensive description of these drilling methods can be found in individual ASTM standards, see Section 2. This guide is intended to aid in the selection of drilling method(s) for environmental soil and rock borings and the installation of monitoring wells and other water-quality monitoring devices.

1.2 This guide does not address methods of well construction, well development, or well completion. These topics are covered in other ASTM documents, see Section 2.

1.3 This guide cannot address all possible subsurface conditions that may occur such as, geologic, topographic, climatic, or anthropogenic. Site evaluation for engineering, design, and construction purposes is addressed in Guide D420.

1.4 The values stated in SI units are to be regarded as the standard. Because dimensions of materials used in the drilling industry are given in inch-pound units by convention, rationalized inch-pound units also are used in this guide. Each system of units is to be regarded separately as standard.

1.5 This guide does not specifically address methods of lithologic sample collection, such as coring, that may require the use of a specific drilling method. Other ASTM guides should be consulted for sampling methods (see Guide D6169) and equipment necessary for specific projects.

1.6 This guide does not purport to comprehensively address all of the methods and the issues associated with drilling for environmental purposes. Users should seek qualified professionals for decisions as to the proper equipment and methods that would be most successful for their site investigation. Other methods may be available for drilling and qualified professionals should have flexibility to exercise judgment as to possible

alternatives not covered in this guide. The guide is current at the time of issue, but new alternative methods may become available prior to revisions; therefore, users should consult with manufacturers or producers prior to specifying program requirements.

1.7 Pertinent guides addressing specific drilling methods, equipment and procedures are listed in 2.1. A comprehensive list of guides, methods, practices, and terminology for drilling is contained in Guide D5730. Other documents covering procedures for environmental site investigations with specific objectives or in particular geographic settings may be available from federal, state, and other agencies or organizations. The appropriate agency or organization should be contacted to determine the availability and most current edition of such documents.

1.8 *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.*

1.9 *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 and 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:²

D420 Guide to Site Characterization for Engineering Design

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.

Current edition approved Sept. 1, 2012. Published November 2012. Originally approved in 1998. Last previous edition approved in 2006 as D6286 – 98(2006). DOI: 10.1520/D6286-12.

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.