



Designation: D6286/D6286M – 20

Standard Guide for Selection of Drilling and Direct Push Methods for Geotechnical and Environmental Subsurface Site Characterization¹

This standard is issued under the fixed designation D6286/D6286M; 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 methods for site characterization along with advantages and disadvantages associated with each method discussed. This guide is intended to aid in the selection of drilling method(s) for geotechnical and environmental soil and rock borings for sampling, testing, and installation of wells, or other instrumentation. It does not address drilling for foundation improvement, drinking water wells, or special horizontal drilling techniques for utilities.

1.2 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. Soil and rock sampling in drill holes is addressed in Guide D6169/D6169M. Pertinent guides and practices addressing specific drilling methods, equipment, and procedures are listed in Section 2. Guide D5730 provides information on most all aspects of environmental site characterization.

1.3 The values stated in either SI units or inch-pound units (given in brackets) are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.4 This guide does not purport to comprehensively address all methods and the issues associated with drilling for geotechnical and 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 these methods 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.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5.1 Drilling operators generally are required to be trained for safety requirements such as those of construction and environmental occupational safety programs dictated by country, regional, or local requirements such as the US. OSHA training programs. Drilling safety programs are also available from the National Drilling Association (NDA4U.com) or other country drilling associations.²

1.6 *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.*

1.7 *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.*

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 "Drilling Safety Guide," National Drilling Federation, Columbia, SC, 1985, p. 36.