



Standard Practice for Rock Core Drilling and Sampling of Rock for Site Investigation¹

This standard is issued under the fixed designation D 2113; 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 practice covers the guidelines, requirements, and procedures for core drilling, coring, and sampling of rock for the purposes of site investigation. The borehole could be vertical, horizontal, or angled.

1.2 This practice is described in the context of obtaining data for the design, construction, or maintenance of structures, and applies to surface drilling and drilling from adits and exploratory tunnels.

1.3 This practice applies to core drilling in hard and soft rock.

1.4 This practice does not address considerations for core drilling for geo-environmental site characterization and installation of water quality monitoring devices (see Section 2).

1.5 The values stated in inch-pound units are to be regarded as standard. The SI values given in parentheses are provided for information purposes only.

1.6 This practice does not purport to comprehensively address all of the methods and the issues associated with coring and sampling of rock. 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 sampling of rock, and qualified professionals should have flexibility to exercise judgment as to possible alternatives not covered in this practice. This practice 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 *This practice offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this practice 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.

1.8 *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.* Also, the user must comply with prevalent regulatory codes, such as OSHA (Occupational Health and Safety Administration) guidelines, while using this practice. For good safety practice, consult applicable OSHA regulations and other safety guides on drilling (1).

2. Referenced Documents

2.1 ASTM Standards:

D 420 Guide to Site Characterization for Engineering Design, and Construction Purposes²

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

D 4630 Test Method for Determining Transmissivity and Storage Coefficient of Low Permeability Rocks by In Situ Measurements Using the Constant Head Injection Test²

D 5079 Practices for Preserving and Transporting Rock Core Samples²

D 5434 Guide for Field Logging of Subsurface Explorations of Soil and Rock³

D 5782 Guide for the Use of Direct Air-Rotary Drilling for Geoenvironmental Exploration and Installation of Subsurface Water Quality Monitoring Devices³

D 5783 Guide for Use of Direct Rotary Drilling With Water-Based Drilling Fluid for Geoenvironmental Exploration and Installation of Subsurface Water Quality Monitoring Devices³

D 5876 Guide for Use of Direct Rotary Wireline Casing Advancement Drilling Methods for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices³

D 6032 Test Method for Determining Rock Quality Designation (RQD) of Rock Core³

D 6151 Practice for Using Hollow-Stem Augers for Geotechnical Exploration and Soil Sampling³

2.2 American Petroleum Institute Standard:

¹ This Practice is under the jurisdiction of ASTM Committee D-18 on Soil and Rock and is the direct responsibility of Subcommittee D18.02 on Sampling and Related Field Testing for Soil Investigations.

Current edition approved May 10, 1998 and January 10, 1999. Published October 1999. Originally published as D 2113 – 62T. Last previous edition D 2113 – 83 (1993)^{ε1}.

² *Annual Book of ASTM Standards*, Vol 04.08.

³ *Annual Book of ASTM Standards*, Vol 04.09.