



Standard Guide for Use of Cable-Tool Drilling and Sampling Methods for Geoenvironmental Exploration and Installation of Subsurface Water-Quality Monitoring Devices¹

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1. Scope

1.1 This guide covers cable-tool drilling and sampling procedures used for geoenvironmental exploration and installation of subsurface water-quality monitoring devices.

1.2 Several sampling methods exist for obtaining samples from drill holes for geoenvironmental purposes and subsequent laboratory testing. Selection of a particular drilling procedure should be made on the basis of sample types needed and geohydrologic conditions observed at the study site.

1.3 Drilling procedures for geoenvironmental exploration often will involve safety planning, administration and documentation. This guide does not purport to specifically address exploration and site safety.

NOTE 1—This guide does not include considerations for geotechnical site characterizations that are addressed in a separate guide.

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

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

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 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:

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

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

D 1452 Practice for Soil Investigation and Sampling by Auger Borings²

D 1586 Test Method for Penetration Test and Split-Barrel Sampling of Soils²

D 1587 Practice for Thin-Walled Tube Geotechnical Sampling of Soils²

D 2113 Practice for Diamond Core Drilling for Site Investigation²

D 2487 Test Method for Classification of Soils for Engineering Purposes (Unified Soil Classification System)²

D 2488 Practice for Description and Identification of Soils (Visual-Manual Procedure)²

D 3550 Practice for Ring-Lined Barrel Sampling of Soils²

D 4220 Practices for Preserving and Transporting Soil Samples²

D 4428/D4428M Test Methods for Crosshole Seismic Testing²

D 4700 Guide for Soil Sampling from the Vadose Zone²

D 4750 Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well)²

D 5079 Practices for Preserving and Transporting of Rock Core Samples³

D 5088 Practice for Decontamination of Field Equipment Used at Non-Radioactive Waste Sites³

D 5092 Practice for Design and Installation of Groundwater Monitoring Wells in Aquifers³

D 5299 Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities³

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

D 5730 Guide for Site Characterization for Environmental Purposes

D 5521 Development of Ground Water Monitoring Wells in Granular Aquifers

² Annual Book of ASTM Standards, Vol 04.08.

³ Annual Book of ASTM Standards, Vol 04.09.

