



Standard Practice for Direct Push Technology for Volatile Contaminant Logging with the Membrane Interface Probe (MIP)^{1,2}

This standard is issued under the fixed designation D7352; 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 standard practice describes a method for rapid delineation of volatile organic contaminants (VOC) in the subsurface using a membrane interface probe. Logging with the membrane interface probe is usually performed with direct push equipment.

1.2 This standard practice describes how to obtain a real time vertical log of volatile organic contaminants with depth. The data obtained is indicative of the total volatile organic contaminant concentration in the subsurface at depth.

1.3 Other sensors, such as electrical conductivity, fluorescence detectors, and cone penetration tools may be included to provide additional information. The use of a lithologic logging tool is highly recommended to define hydrostratigraphic conditions, such as migration pathways, and to guide confirmation sampling.

1.4 *Limitations*—The MIP system does not provide specificity of analytes. This tool is to be used as a total volatile organic contaminant-screening tool. Soil and/or water sampling (Guides [D6001](#), [D6282](#), [D6724](#), and Practice [D6725](#)) must be performed to identify specific analytes and exact concentrations. Only VOCs are detected by the MIP system in the subsurface. Detection limits are subject to the selectivity of the gas phase detector applied and characteristics of the formation being penetrated (for example, clay and organic carbon content).

1.5 *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 the consideration of a project's many unique aspects. The word "standard" in the title means that the document has been approved through the ASTM consensus process.

1.6 *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.*

2. Referenced Documents

2.1 ASTM Standards:³

- [D653 Terminology Relating to Soil, Rock, and Contained Fluids](#)
- [D5299 Guide for Decommissioning of Groundwater Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities](#)
- [D6001 Guide for Direct-Push Groundwater Sampling for Environmental Site Characterization](#)
- [D6282 Guide for Direct Push Soil Sampling for Environmental Site Characterizations](#)
- [D6724 Guide for Installation of Direct Push Groundwater Monitoring Wells](#)
- [D6725 Practice for Direct Push Installation of Prepacked Screen Monitoring Wells in Unconsolidated Aquifers](#)
- [E355 Practice for Gas Chromatography Terms and Relationships](#)

3. Terminology

3.1 Terminology used within this practice is in accordance with Terminology [D653](#) with the addition of the following:

3.2 Definitions:

3.2.1 *carry over*—retention of contaminant in the membrane and trunkline which may result in false positive results or an increased detector baseline at subsequent depth intervals.

¹ This practice 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 Oct. 15, 2012. Published November 2012. Originally approved in 2007. Last previous edition approved in 2007 as D7352–07. DOI: 10.1520/D7352-07R12.

² The Membrane Interface Probe is covered by a patent. Interested parties are invited to submit information regarding the identification of an alternative(s) to this patented item to the ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

³ 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.