



Designation: D 6418 – 03

Standard Practice for Using the Disposable En Core Sampler for Sampling and Storing Soil for Volatile Organic Analysis¹

This standard is issued under the fixed designation D 6418; 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 is intended for application to soils that may contain volatile waste constituents.

1.2 This practice provides a procedure for using the disposable En Core² sampler to collect and store a soil sample for volatile organic analysis.

1.3 It is recommended that this standard be used in conjunction with Practice D 4547 and Guide D 4687.

1.4 *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.*

NOTE 1—ASTM takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

2. Referenced Documents

2.1 ASTM Standards:

D 2777 Practice for Determination of Precision and Bias of Applicable Methods of Committee D-19 on Water³

D 4547 Practice for Sampling Waste and Soils for Volatile Organics⁴

D 4687 Guide for General Planning of Waste Sampling⁴

¹ This practice is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.03 on Sampling Equipment.

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² En Core is a registered trademark of En Novative Technologies, Inc., Green Bay, WI. The En Core sampler 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 *Annual Book of ASTM Standards*, Vol 11.01.

⁴ *Annual Book of ASTM Standards*, Vol 11.04.

D 5792 Practice for Generation of Environmental Data Related to Waste Management Activities: Development of Data Quality Objectives⁴

3. Summary of Practice

3.1 This practice provides a procedure for using the disposable En Core sampler to collect and store a soil sample of approximately 5 or 25 g for volatile organic analysis. The En Core sampler, which consists of a coring body/storage chamber, O-ring sealed plunger, and O-ring sealed cap, is designed to collect and hold a soil sample during shipment to the laboratory for analysis.

3.2 After the sample is collected in the En Core sampler, the coring body/storage chamber is sealed with a slide-on cap and immediately becomes a sample storage chamber. To minimize loss of volatile compounds due to volatilization, or biodegradation, or both, from the time of collection until analysis or chemical preservation in the laboratory (see Practice D 4547), sample storage options are specified at $4 \pm 2^\circ\text{C}$ for up to 48 h; at $-12 \pm 2^\circ\text{C}$ for up to 14 days; or at $4 \pm 2^\circ\text{C}$ for up to 48 h followed by storage at $-12 \pm 2^\circ\text{C}$ for up to five days (see Appendix X1 and reports referenced in footnotes 5 and 6 for information on the performance of the En Core sampler under these storage conditions).^{5,6} Storage of samples in the En Core sampler at $4 \pm 2^\circ\text{C}$ or $-12 \pm 2^\circ\text{C}$ for longer holding times than those listed above is an option, provided it can be shown that the longer storage time used does not influence the concentrations of the volatile organic compounds (VOCs) of interest in the samples, or that the data generated by analysis of the samples meet the data quality objectives (DQOs), (see Practice D 5792). This practice does not use methanol preservation or other chemical preservatives in the field.

⁵ Hewitt, A. D., Frozen Storage of Soil Samples for Volatile Organic Compound Analysis, *Environmental Testing and Analysis*, Vol 8, No. 5, 1999, pp. 18–25.

⁶ A copy of the research report describing the study performed to evaluate the precision of the En Core sampler to store low VOC concentrations is available from ASTM Headquarters. Request RR: D34–1014.