



Standard Guide for Sampling Waste Piles¹

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1. Scope

1.1 This guide provides guidance for obtaining representative samples from waste piles. Guidance is provided for site evaluation, sampling design, selection of equipment, and data interpretation.

1.2 Waste piles include areas used primarily for waste storage or disposal, including above-grade dry land disposal units. This guide can be applied to sampling municipal waste piles.

1.3 This guide addresses how the choice of sampling design and sampling methods depends on specific features of the pile.

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.*

2. Referenced Documents

2.1 ASTM Standards:

- 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 4547 Practice for Sampling Waste and Soils for Volatile Organics³
- D 4687 Guide for General Planning of Waste Sampling³
- D 4700 Guide for Soil Sampling from the Vadose Zone²
- D 4823 Guide for Core-Sampling Submerged, Unconsolidated Sediments⁴
- D 5088 Practice for Decontamination of Field Equipment Used at Nonradioactive Sites⁵
- D 5314 Guide for Soil Gas Monitoring in the Vadose Zone⁵
- D 5451 Practice for Sampling Using a Trier Sampler³
- D 5518 Guide for Acquisition of File Aerial Photography and Imagery for Establishing Historic Site-Use and Surface Conditions⁵

¹ This guide is under the jurisdiction of ASTM Committee D-34 on Waste Management and is the direct responsibility of Subcommittee D34.01 on Sampling and Monitoring.

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² Annual Book of ASTM Standards, Vol 04.08.

³ Annual Book of ASTM Standards, Vol 11.04.

⁴ Annual Book of ASTM Standards, Vol 11.02.

⁵ Annual Book of ASTM Standards, Vol 04.09.

D 5730 Guide to Site Characterization for Environmental Purposes with Emphasis on Soil, Rock, the Vadose Zone and Ground Water⁵

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *hot spots*—strata that contain high concentrations of the characteristic of interest and are relatively small in size when compared with the total size of the materials being sampled.

3.1.2 *representative sample*—a sample collected such that it reflects one or more characteristics of interest (as defined by the project objectives) of the population from which it was collected.

3.1.2.1 *Discussion*—A representative sample can be a single sample, a set of samples, or one or more composite samples.

3.1.3 *waste pile*—unconfined storage of solid materials in an area of distinct boundaries, above grade and usually uncovered. This includes the following:

3.1.3.1 *chemical manufacturing waste pile*—a pile consisting primarily of discarded chemical products (whether marketable or not), by-products, radioactive wastes, or used or unused feedstocks.

3.1.3.2 *scrap metal or junk pile*—a pile consisting primarily of scrap metal or discarded durable goods such as appliances, automobiles, auto parts, or batteries.

3.1.3.3 *trash pile*—a pile of waste materials from municipal sources, consisting primarily of paper, garbage, or discarded nondurable goods that contain or have contained hazardous substances. It does not include waste destined for recyclers.

4. Significance and Use

4.1 This guide is intended to provide guidance for sampling waste piles. It can be used to obtain samples for waste characterization related to use, treatment, or disposal; to monitor an active pile; to prepare for closure of the waste pile; or to investigate the contents of an abandoned pile.

4.2 Techniques used to sample include both in-place evaluations of the pile and physically removing a sample. In-place evaluations include techniques such as remote sensing, on-site gas analysis, and permeability.

4.3 Sampling strategy for waste piles is dependent on the following:

4.3.1 Project objectives including acceptable levels of error when making decisions;