



Standard Practices for Decontamination of Field Equipment Used at Waste Sites¹

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1. Scope *

1.1 This practice covers the decontamination of field equipment used in the sampling of soils, soil gas, sludges, surface water, and ground water at waste sites which are to undergo both physical and chemical analyses.

1.2 These practices are applicable only at sites where chemical (organic and inorganic) wastes are a concern. It is not intended for use at radiological, mixed (chemical and radiological), or biohazard sites.

1.3 Procedures are included for the decontamination of equipment which comes into contact with the sample matrix (sample contacting equipment) and for ancillary equipment that has not contacted the portion of sample to be analyzed (non-sample contacting equipment).

1.4 These practices are based on commonly recognized methods by which equipment may be decontaminated. The procedures described for sample contacting equipment are commonly prescribed, however there is a minimum of scientific data that supports these methods (Mickam et al. 1989², Parker³⁴, 1995). Therefore the user is reminded of the importance of QA/QC samples that document decontamination effectiveness and that these samples can be used to modify or enhance decontamination techniques. Decontamination at radiologically contaminated sites should refer to Practice D 5608.

1.5 This practice is applicable to most conventional sampling equipment constructed of metallic and synthetic materials. The manufacturer of a specific sampling apparatus should be contacted if there is concern regarding the reactivity of a decontamination rinsing agent with the equipment.

1.6 *This practice 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 judgement. 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 documents has been approved through the ASTM consensus process..

1.7 *This standard does not purport to address the safety problems 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 653 Terminology Relating to Soil, Rock, and Contained Fluids⁵

D 5608 Practice for Decontamination of Field Equipment Used at Low Level Radioactive Waste Sites⁵

3. Terminology

3.1 Definitions:

3.1.1 *contaminant*—an undesirable substance not normally present or an unusually high concentration of a naturally occurring substance in water or soil.

3.1.2 *control rinse water*—water used for equipment washing and rinsing having a known chemistry.

3.1.3 *decontamination*—the process of removing or reducing to a known level undesirable physical or chemical constituents, or both, from a sampling apparatus to maximize the representativeness of physical or chemical analyses proposed for a given sample.

3.1.4 *non-sample contacting equipment*—related equipment associated with the sampling effort, but that does not directly contact the sample (for example, augers, drilling rods, excavations machinery).

3.1.5 *quality assurance/quality control (QA/QC)*—the efforts completed to evaluate the accuracy and precision of a sampling or testing procedure, or both.

¹ This practice is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.14 on Geotechnics of Waste Management.

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² Mickam, J.T., R. Bellandi, and E.C. Tift, Jr., 1989, *Equipment Decontamination Procedures for Ground Water and Vadose Zone Monitoring Programs: Status and Prospects*, Ground Water Monitoring Review 9, No 2:100–121.

³ Parker, L.V., 1996A *Literature Review on Decontaminating Groundwater Sampling Devices: Organic Contaminates*. CRREL Report 95–14, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, NH.

⁴ Parker, L.V., and T.A. Ranney, 1997a. *Decontamination Materials Used in Groundwater Sampling Devices*. CRREL Special Report 97–24, U.S. Army Cold Regions Research and Engineering Laboratory, Hanover, NH.

⁵ *Annual Book of ASTM Standards*, Vol 04.08.