



Standard Guide for Accelerated Site Characterization for Confirmed or Suspected Petroleum Releases¹

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1. Scope

1.1 This guide covers a process to rapidly and accurately characterize a confirmed or suspected petroleum release site. This guide is intended to provide a framework for responsible parties, contractors, consultants, and regulators to streamline and accelerate the site characterization process or supplement incomplete characterization data. The accelerated site characterization (ASC) approach may be incorporated in state and local regulations as a cost-effective method of making informed corrective action decisions sooner.

1.2 This guide describes a process for collecting site characterization information in one mobilization, using rapid sampling techniques; field analytical methods; and on-site interpretation and iteration of field data to refine the conceptual model for understanding site conditions as the characterization proceeds. This information can be used to determine the need for interim remedial actions; site classification or prioritization, or both; further corrective actions; and active remediation. The process outlined in this guide can be incorporated into existing corrective action programs, and is organized to be used in conjunction with Guides E 1599 and E 1739.

1.3 For guidance concerning contractor health and safety issues, appropriate federal, state, and local regulations (for example, Occupational Safety and Health Administration) and industry standards should be consulted. For sampling quality assurance/quality control (QA/QC) practices, see references in Section 2. Considerations for field analytical method quality assurance/quality control are discussed in Section 5.

1.4 This guide is organized as follows:

1.4.1 Section 1 describes the scope,

1.4.2 Section 2 lists Referenced Documents,

1.4.3 Section 3 defines Terminology,

1.4.4 Section 4 identifies the Significance and Use,

1.4.5 Section 5 describes the Accelerated Site Characterization Process,

1.4.6 Appendix X1 identifies Additional Referenced Documents,

1.4.7 Appendix X2 provides an Example of a Data Quality Classification System,

1.4.8 Appendix X3 contains a list of physical and chemical properties and hydrogeologic characteristics applicable to site characterizations, and a list of input parameters and methodologies for ASTM RBCA Tier 1 and Tier 2 evaluations, and

1.4.9 Appendix X4 contains a case study example of the ASC process, including a RBCA Tier 1 and Tier 2 evaluation.

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

1.6 *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:²

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

E 1599 Guide for Corrective Action for Petroleum Releases

E 1689 Guide for Developing Conceptual Site Models for Contaminated Sites

E 1739 Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites

2.2 EPA Documents:

USEPA SW 846, Recommended Analytical Procedures, Test Methods for Evaluating Solid Waste-Physical/Chemical Methods³

USEPA, Draft Field Methods Compendium, OER 9285.2-11³

USEPA, Subsurface Characterization and Monitoring Techniques: A Desk Reference Guide-Vols I and II, EPA 625/R-93/003a and b³

USEPA, Description and Sampling of Contaminated Soils:

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² 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.

³ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

