



Standard Practice for Minimum Set of Data Elements to Identify a Soil Sampling Site¹

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^{ε1} NOTE—A units statement was added and the designation was revised editorially in August 2010.

1. Scope

1.1 This practice covers what information should be obtained to uniquely identify any soil sampling or examination site where an absolute and recoverable location is necessary for quality control of the study, such as a waste disposal project. The minimum set of data elements for sampling site identification (DEFSSI) was developed considering the needs for informational data bases, such as geographic information systems (GIS). Other distinguishing details, such as individual site characteristics help in singularly cataloging the site. For studies that are not environmentally regulated, such as for an agricultural or preconstruction survey, the data specifications established an agency or company may be different from that of the minimum set (see Guide [D420](#) and Practice [D5254](#)).

1.2 As used in this practice, a soil sampling site is meant to be a single point, not a geographic area or property, located by an X, Y, and Z coordinate position at land surface or a fixed datum. All soil data collected for the site are directly related to the coordinate position, for example, sample from x feet (or metres) or sample from interval x^1 to x^2 ft (or metres) below the X, Y, and Z coordinate position. A soil sampling site can include a test well, augered or bored hole, excavation, grab sample, test pit, sidewall sample, stream bed, or any other site where samples of the soil can be collected or examined for the purpose intended.

1.3 The collection of soil samples is a disruptive procedure as the material is usually extracted from its natural environment and then transported from the site to a laboratory for analysis. Normally, in this highly variable type of material, the adjacent soil profile will not be precisely the same as the sampled soil. For these reasons, when soil samples are removed the same material cannot be collected from the site

later. Therefore, it is essential that the minimum set of DEFSSI be thoroughly documented and identified especially with an accurate location.

1.4 Samples of soil (sediment) filtered from the water of streams, rivers, or lakes are not in the scope of this practice.

NOTE 1—There are many additional data elements that may be necessary to identify and to describe a soil sampling site, but are not included in the minimum set of data elements. An agency or company may require additional data elements as a part of their minimum set for a specific project or program.

1.5 The values stated in either SI units or inch-pound units [presented in brackets] are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5.1 The gravitational system of inch-pound units is used when dealing with inch-pound units. In this system, the pound (lbf) represents a unit of force (weight), while the unit for mass is slugs. The rationalized slug unit is not given, unless dynamic ($F = ma$) calculations are involved.

1.6 This practice includes those data elements that will distinguish a site's geographical location on Earth, its location by political regimes, its source identifiers, and its individual site characteristics. These elements apply to all soil and geotechnical sampling sites involved in environmental assessment studies. Each category of site, such as a bore hole or excavation, may require additional data elements to be complete.

1.7 Some suggested components and representative codes for coded DEFSSI, for example, “setting”, are those established by Ref (1),² by Practice [D2487](#), by the Water Resources Division of the U.S. Geological Survey in Ref (2), and by Boulding in Ref (3) and (4).

NOTE 2—The data elements presented in this practice do not uniquely imply a computer data base, but the minimum set of soil data elements that

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.

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² The boldface numbers given in parentheses refer to a list of references at the end of the text.