



Standard Guide for Set of Data Elements to Describe a Groundwater Site; Part Two—Physical Descriptors¹

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^{ε1} NOTE—The units statement in 1.4 and the designation were revised editorially in August 2010.

1. Scope

1.1 This guide covers Part Two of three guides to be used in conjunction with Practice D5254 that delineates the data desirable to describe a groundwater data collection or sampling site. This guide identifies physical descriptors, such as construction and geologic elements, for a site. Part One (Guide D5408) describes additional information beyond the minimum set of data elements that may be specified to identify any individual groundwater site, while Part Three identifies usage descriptors, such as monitoring, for an individual groundwater site.

NOTE 1—A groundwater site is defined as any source, location, or sampling station capable of producing water or hydrologic data from a natural stratum from below the surface of the earth. A source or facility can include a well, spring or seep, and drain or tunnel (nearly horizontal in orientation). Other sources, such as excavations, driven devices, bore holes, ponds, lakes, and sinkholes, that can be shown to be hydraulically connected to the groundwater are appropriate for the use intended.

NOTE 2—Part One (Guide D5408) includes data confidence classification descriptor (one element), geographic location descriptors (four elements), political regime descriptor (one element), source identifier descriptors (four elements), legal descriptors (nine elements), owner descriptors (two elements), site visit descriptors (three elements), other identification descriptors (two elements), other data descriptors (three elements), and remarks descriptors (three elements). Part Three (Guide D5410) includes monitoring descriptors (77 data elements), irrigation descriptors (four data elements), waste site descriptors (nine data elements), and decommissioning descriptors (eight data elements). For a list of descriptors in this guide, see Section 3.

1.2 These data elements are described in terms used by groundwater hydrologists. Standard references, such as the Glossary of Geology (1)² and various hydrogeologic professional publications, are used to determine these definitions. Many of the suggested elements and their representative codes are those established by the Water Resources Division of the

U.S. Geological Survey and used in the National Water Information Systems computerized data base (1-19).

NOTE 3—The purpose of this guide is to suggest data elements that can be collected for groundwater sites. This does not uniquely imply a computer data base, but rather data elements for entry into any type of permanent file.

NOTE 4—Component and code lists given with some of the data elements, for example “Type of Spring,” are only suggestions. These lists can be modified, expanded, or reduced for the purpose intended by the company or agency maintaining the groundwater data file.

NOTE 5—Use of trade names in this guide is for identification purposes only and does not constitute endorsement by ASTM.

1.3 This guide includes the data elements desirable to document a groundwater site beyond those given in the “Minimum Set of Data Elements.” Some examples of the data elements are well depth, contributing aquifer, and permanence of spring. No single site will need every data element, for example, springs do not need well depth and well casing data. Each record (group of related data elements) for a site has mandatory data elements, such as the type of lift for the lift record. However, these elements are considered necessary only when that specific record is gathered for the site.

1.4 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.

1.4.1 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.

1.5 *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.*

1.6 *This guide 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*

¹ This guide 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 in parentheses refer to a list of references at the end of the text.