Designation: D7315 – 12

Standard Test Method for Determination of Turbidity Above 1 Turbidity Unit (TU) in Static Mode[1]

This standard is issued under the fixed designation D7315; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the static determination of turbidity in water. Static refers to a sample that is removed from its source and tested in an isolated instrument. (See Section 4.)

1.2 This test method is applicable to the measurement of turbidities greater than 1.0 turbidity unit (TU). The upper end of the measurement range was left undefined because different technologies described in this test method can cover very different ranges. The round robin study covered the range of 0–4000 turbidity units because instrument verification in this range can typically be covered by standards that can be consistently reproduced.

1.3 Many of the turbidity units and instrument designs covered in this test method are numerically equivalent in calibration when a common calibration standard is applied across those designs listed in Table 1. Measurement of a common calibration standard of a defined value will also produce equivalent results across these technologies.

1.3.1 In this test method calibration standards are often defined in NTU values, but the other assigned turbidity units, such as those in Table 1 are equivalent. For example, a 1 NTU formazin standard is also a 1 FNU, a 1 FAU, a 1 BU, and so forth.

1.4 This test method does not purport to cover all available technologies for high-level turbidity measurement.

1.5 This test method was tested on different natural waters and wastewater, and with standards that will serve as surrogates to samples. It is the user's responsibility to ensure the validity of this test method for waters of untested matrices.

1.6 Depending on the constituents within a high-level sample, the proposed sample preparation and measurement methods may or may not be applicable. Those samples with the highest particle densities typically prove to be the most difficult to measure. In these cases, and alternative measurement method such as the process monitoring method can be considered.

1.7 *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. Refer to the MSDSs for all chemicals used in this procedure.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D1129 Terminology Relating to Water

D1193 Specification for Reagent Water

D1889 Test Method for Turbidity of Water (Withdrawn 2007)[3]

D2777 Practice for Determination of Precision and Bias of Applicable Test Methods of Committee D19 on Water

D4411 Guide for Sampling Fluvial Sediment in Motion

D5847 Practice for Writing Quality Control Specifications for Standard Test Methods for Water Analysis

D6855 Test Method for Determination of Turbidity Below 5 NTU in Static Mode

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

2.2 *Other Referenced Standards:*

USEPA Method 180.1 Methods for Chemical Analysis of Water and Wastes, Turbidity[4]

ISO 7027 Water Quality—Determination of Turbidity[5]

United States Geological Survey (USGS) National Field

[1] This test method is under the jurisdiction of ASTM Committee D19 on Water and is the direct responsibility of Subcommittee D19.07 on Sediments, Geomorphology, and Open-Channel Flow.

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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] The last approved version of this historical standard is referenced on www.astm.org.

[4] Available from United States Environmental Protection Association (EPA), Ariel Rios Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460, http://www.epa.gov.

[5] Available from International Organization for Standardization (ISO), 1 rue de Varembé, Case postale 56, CH-1211, Geneva 20, Switzerland, http://www.iso.ch.

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