Designation: D 4596 – 08

Standard Practice for Collection of Channel Samples of Coal in a Mine[1]

This standard is issued under the fixed designation D 4596; 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 practice describes procedures for collecting a coal sample from a channel extending from top to bottom in the face of a coal seam in a mine.

1.2 *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.* For specific precautionary information, see Note 2.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards:* [2]

D 121 Terminology of Coal and Coke

D 388 Classification of Coals by Rank

D 2234/D 2234M Practice for Collection of a Gross Sample of Coal

D 2796 Terminology Relating to Megascopic Description of Coal and Coal Seams and Microscopical Description and Analysis of Coal [3]

D 4371 Test Method for Determining the Washability Characteristics of Coal

3. Summary of Practice

3.1 At selected sites in the mine the face of the seam is cleaned of weathered coal and debris and the face is evened. A channel of uniform horizontal cross section is cut from the coal seam and the coal therefrom is collected for analysis and testing.

4. Significance and Use

4.1 A properly collected face channel sample that includes the total coal bed interval provides a sample that is a representative cross section of the coal bed at the point of sampling. Channel samples are taken for subsequent testing needed for evaluation of coal quality and characterization for commercial evaluations, for planning of mining operations to maintain coal quality, for the determination of coal rank in accordance with Classification D 388, and for geologic coal resource studies.

NOTE 1—Because of the potential for lateral variability, a sample may not represent the quality of the coal bed at another sample point. The reliability of the data generated from channel samples is dependent on the number and spacing of the sample points and the variability of the coal characteristics in a given area.

NOTE 2—Sampling of the mine product for these purposes is unsatisfactory because of contamination of the product with out-of-seam material, selective mining of parts of a seam, inability to obtain samples from one or more specific locations in the mine, or other incompatibility of the purpose of sampling with the mining practice. Conversely, channel samples should not be used for evaluation of the quality of commercial shipments of the mine product, which should be sampled in accordance with Methods D 2234.

5. Apparatus

5.1 *Steel Measuring Tape,* not less than 3 m (8 ft) long.

5.2 *Miner's Pick or Similar Tool,* with file for sharpening. Other devices may be used such as a pneumatically operated chain saw with tungsten carbide teeth.

5.3 *Brush or Broom,* for removing loose particles on the coal face.

5.4 *Chalk.*

5.5 *Sample Containers With Closures*—If the sample is to be used for determination of inherent moisture, the container shall be such that less than 0.05 % of the sample weight is lost between the time of sealing the container with sample and the time of opening for preparation of the sample for analysis. Steel airtight containers with polyethylene bag liners have been found to be satisfactory for this purpose. For other purposes, bags made of a strong cloth and lined with a polyethylene bag may be suitable.

[1] This practice is under the jurisdiction of ASTM Committee D05 on Coal and Coke and is the direct responsibility of Subcommittee D05.18 on Classification of Coals.

Current edition approved May 1, 2008. Published May 2008. Originally published approved in 1986. Last previous edition approved in 2007 as D 4596 – 07.

[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] Withdrawn.