

Standard Method of Test for
Methods of Sampling Soil Pits and Fields
SCDOT Designation: SC-T-21 (8/08)

1. SCOPE

- 1.1. These methods outline the procedure to be followed when sampling sand-clay pits and borrow pits to be used for base or sub-base, and for sampling pits to be used for sand asphalt construction. Test holes should be identified by assigning them a number with a guard stake being driven by the hole with the number of the hole written on the stake as well as the depth of the test hole.
- 1.2. This standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. SUMMARY OF TEST METHOD

- 2.1. Samples of soil are obtained from soil pits and fields to test for specification compliance by use of continuous flight augers.

3. SIGNIFICANCE AND USE

- 3.1. Proper sampling techniques are necessary to obtain samples that are representative of the material in the pit in order to determine the suitability of the material for use in the work.

4. APPARATUS

- 4.1. Continuous flight auger, minimum 4 inch overall diameter, cutting head for the auger string suited for the type of soils expected to be encountered, motorized drill rig with sufficient torque and ram stroke to advance and rotate the auger at a sufficient rate to provide sample conveyance to the surface, hand trowel, 6 feet x 6 feet canvas, polyethylene sample bags (4 mil thickness, 10 inch x 18 inch).

5. TEST SPECIMENS

- 5.1. The objective of this test is to collect specimens of in-situ soils for laboratory analysis. Each sample will consist of not less than 10 pounds of material.

6. PROCEDURE

- 6.1. Sampling Sand-Clay Pits and Pits for Sand Asphalt:
 - 6.1.1. Samples from proposed pits are obtained by boring test holes. A sufficient number of test holes must be dug so that the extent of the supply is fully established. Sand-clay pits should also be referenced to a base line so that the outline of the pit may be later located.

- 6.1.2. A sample is to consist of a representative portion of the entire depth of the hole unless it is desirable to obtain samples to represent various depths of the hole. A representative portion should be obtained by placing the material taken from the hole on a canvas and mixing thoroughly prior to getting the required sample. The depth limits should be written on the sample identification card. A sample for each soil type should be sent to the Office of Materials and Research (OMR). When it is necessary that density tests should be run on sand-clay material, note this on the sample identification card. The sample should weigh at least 25 pounds.
- 6.1.3. Occasionally, materials from two different pits are blended to form a sand-clay base or sub-base. When samples representing such sources are submitted to the OMR for testing, note on the sample identification card if it desired that the OMR advise the Resident Construction Engineer of their recommended proportions.
- 6.1.4. A sample of at least 35 pounds is required when the material is to be used in sand asphalt work.
- 6.2. Sampling Borrow Material:
 - 6.2.1. Samples (minimum weight 10 pounds) of ground surface material to be used as base are to be obtained by first cleaning off any vegetative matter at the sampling spot and then removing a portion of material for the full depth of the topsoil layer. A sample must be taken for each area of the field which represents a different soil type. If it is necessary that density tests be run on this material, this must be noted on the sample identification card. The sample should weigh at least 25 pounds.
 - 6.2.2. A minimum of at least 1 sample shall be taken for each 1 acre of material.