

SAMPLING METHOD MA3

SAMPLING BY AUGER

1. SCOPE

This method involves in-situ sampling of natural gravel, soil or sand by means of hand or power augers. Such sampling is done for a centre line survey of the natural formation or for borrow pit surveys for subgrade, selected layer, subbase, base, or coarse or fine aggregate for concrete or asphalt.

2 APPARATUS

- 2.1 Hand augers approximately 50 to 300 mm in diameter.
- 2.2 Power augers approximately 600 mm in diameter.
- 2.3 A prospecting pick.
- 2.4 A suitable tape measure to measure the sampling depth in millimeters.
- 2.5 Shovels.
- 2.6 Picks.
- 2.7 Suitable sampling bags made of canvas or plastic.
- 2.8 Suitable canvas sheets approximately 2 x 2m.
- 2.9 A riffler with 25 mm openings and pans.
- 2.10 Containers approximately 500 mm in diameter.

3 SAMPLE SIZE

The size of the sample will depend on the tests for which it is required, but usually a sample of 70 kg is sufficient.

4 METHOD

- 4.1 The work is done by drilling into the ground with the auger to the required depth, withdrawing the auger, and then removing the soil for examination and sampling.

Reinsert the auger in the hole and repeat the process.

Where various different types of soil are horizon occurs. When sufficient material is obtained for testing, e.g. when a 50 mm auger is used, the information gathered is simply used to record the soil profile. When sufficient material is removed by drilling a laboratory sample is obtained by quartering and riffing as described in Methods MD1 and MD2.

- 4.2 In the case of harder rock, when the power auger may cause pulverization, it is preferable to use the following procedure.

Drill a hole, usually about 600 mm in diameter, to the full depth required. Drill a second hole approximately 0,5 to 1,0 m away from the first hole, depending on the quantity of material needed for the sample, to the depth of the first horizon which is to be sampled. Remove all the material between the two holes up to this depth and place it on a hard, clean soil surface or on a canvas sheet. Drill the second hole to the depth of the second horizon which is to be sampled and removed all the material between the two holes as described above, placing it on a separate canvas sheet. Repeat the process to the full depth of the first hole. Alternatively, samples may be taken from a single hole by cutting a groove in the material from the side of the hole as described in Method MA2.

5

REPORTING

See Method MA2.

REFERENCE

ASTM-D145

