



Standard Test Procedures Manual

Section: SOILS

Subject: GRADE HOLES

1. SCOPE

1.1 Description of Test

This method covers the sampling of soils by augering holes into the subgrade.

2. APPARATUS AND MATERIALS

2.1 Equipment

A suitable drilling rig equipped with a 150 mm auger.

Suitable bags and sampling containers such as tares to retain the natural moisture content.

3. PROCEDURE

3.1 Test Procedure

Drill preliminary grade holes averaging 0.8 km intervals to ascertain whether or not a shift in the initial centreline is required.

Drill grade holes every 200 metres in a staggered manner to obtain samples from the right lane, centreline, and left lane.

Record the hole number, station, offset from centerline and depths tested as shown in Figure 104-2.

Take samples for moisture content at depths of 0.3, 0.6, 1.0 and 1.5 m. Moisture contents are required on top soil, and sands, but not gravel. Use STP 205-3 for moisture contents.

Take a 5 kg sample from each hole if the material is consistent; if the material changes, take one sample from each.

Take a 10.0 kg sample every 0.6 km.

On sand or gravel sections, sample only every third hole. Take a 30.0 kg sample every 0.6 km; at least one per section.

Standard Test Procedures Manual

STP 104-2

Section:
SOILS

Subject:
GRADE HOLES

On a limed subgrade section, a 12.0 kg sample must be taken every 0.6 m; minimum of one per section.

If grade holes reveal very poor subgrade materials, (high moisture, clay, peat) shorten up the hole spacing to 50 m for that specific section.

Control section, hole number, station, depth and type of material must be written on the bag and written on tag and placed in the bag.

Record the above information on Figure 104-2 together with material type.

Auger excess material back into the hole by reversing the rotation of the drill to prevent moisture from penetrating into the grade.

FIGURE 104-2
TYPICAL FORM FOR GRADE HOLES

SASKATCHEWAN HIGHWAYS AND TRANSPORTATION
GRADE HOLES

C.S. _____

DATE _____

TECHNICIAN _____

HOLE No.	STATION	OFFSET FROM C _L	DEPTH m	GEOL. SOIL CLASS	TARE NO.	% MOIST	COLOR	PEN	REMARKS
		RT	0.0-0.3						
			0.3-0.6						
			0.6-0.9						
			0.9-1.2						
			1.2-1.5						
			-						
		C _L	0.0-0.3						
			0.3-0.6						
			0.6-0.9						
			0.9-1.2						
			1.2-1.5						
			-						

Standard Test Procedures Manual

STP 104-2

Section:
SOILS

Subject:
GRADE HOLES

APPROVAL SHEET

New Revision Date of Previous Document 85-04-01

Effective Date: - -

Description of Revision (Reason for Revision):

- Format of test procedure updated.

Review/Implementation Process:

- Reviewed by the Materials Section of the Technical Standards and Policies Branch.

Other Manuals/Policies Affected:

Nil

Follow Up/Training Required:

Nil

Comments/Concerns/Implications (Budget/Environment/Stakeholders):

Prepared and Recommended by D. MacLeod 93-05-05
Quality Control Engineer Date

Approval Recommended by R.A. Widger - -
Senior Materials Engineer Date

Approval Recommended by A.R. Gerbrandt - -
Dir., Technical Standards & Policies Br. Date

Approved by D.G. Metz - -
Assistant Deputy Minister, Infrastructure Date

Electronic File Updated - -
Update Mailed - -