Undrained triaxial test

Analyst name: ______________________________
Date: ______________________________
Sample identification: ______________________________

Weight of wet sample W_w = __________ g
Weight of dry sample W_d = __________ g
Initial height of sample h_0 = __________ cm
Initial sample diameter D_0 = __________ cm
Soil specific gravity G_s = __________
Confining pressure σ_3 = __________ kPa
Back pressure σ_b = __________ kPa
Saturation coefficient B = __________ %
Rate of loading v = __________ mm/min
Volume change during consolidation ΔV_c = __________ cm^3

Axial displacement (mm) Δh	Axial force (kN) F	Pore pressure (kPa) u

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SOFTWARE INSTRUCTIONS

What's on the Disk?

The floppy disk included with this book contains all the Excel examples of this book as well as the necessary user-defined functions, i.e., 23 Excel workbook files totaling 1.4 Mb. It is recommended to copy these workbook files, as you need them, onto your hard disk or another floppy disk so that you preserve the original files. The workbook files are readable by Excel (versions 5.0 and later) on a Windows 3.X, Windows 95, Windows NT, or Macintosh-based computer. The 1.44MB floppy disk is DOS formatted. It can also be read by Macintosh computers that have PC Exchange, DOS mounter, or similar software. If your Macintosh displays the alert box *This is not a Macintosh disk, Do you want to initialize it?*, eject the disk, and use Apple File Exchange to transfer the files from the DOS-format disk onto the Macintosh hard drive.

What are these workbooks on the Disk?

The table below gives the correspondence between the workbook files on the floppy disk and the examples in the chapters of the book.

Chapter number	Chapter name	Workbook file
1-2	Sieve analysis	Sieve.xls
1-4	Hydrometer analysis	Hydro.xls
1-5	Pipette analysis	Pipette.xls
1-6	Buoyancy analysis	Buoyan.xls
1-7	Combined grain size analysis	Combine.xls
2-3	Liquid limit test	Liquid.xls
2-5	Plastic limit test	Plastic.xls
2-7 & 2-8	Shrinkage limit analyses with mercury and wax	Shrink.xls
2-9	Engineering classification of soils	Classi.xls
3-2	Unit weight of cohesive soils	Uweight.xls
3-3	Determination of specific gravity	Specific.xls
3-5	Compaction tests	Compac.xls
3-6	Sand cone method	Cone.xls
4-2	Constant head permeability test	Permcons.xls
4-3	Falling head permeability test	Permfall.xls
4-4	Electrical analogy of seepage problems	Elect.xls
4-5	Finite difference solutions of seepage problems	Finite.xls
6-2	Consolidation test	Consol.xls
7-3	Unconfined compression test	Unconf.xls
7-5	Direct shear test	Direct.xls
7-7 & 7-8	Triaxial drained and undrained tests	Triaxial.xls
9-3	Worked examples	Examples.xls

The additional workbook AREADME.XLS describes the contents of these workbooks, and provides users with a few suggestions on how to use them.

The workbooks include the datasheets at the end of the book. The datasheets can be used during the laboratory experiments to take notes and record measurements by hand. The workbooks also include all the tables and graphs of the examples in the book so that the users can process their own data. From within Excel, it is recommended to open the workbook of the selected experiment, and to create a new worksheet in the same workbook by using **Move or Copy Sheet** ... of the **Edit** menu, and checking the **Copy File** option. In this new worksheet, you may enter your own data in place of the old input data which is italicized. You may also use **Ctrl`** to display the formulas and not erase them by mistake. You may add and remove lines in the tables of data, provided that you check the formulas and the names of defined variables. The graphs should automatically be modified as you enter new data.

Some worksheets need user-defined functions to perform calculations. These functions should be in Macros or Modules, in the same workbook as the worksheet. Macros are written in the spreadsheet programming language, and Modules are written in Visual Basic, a more advanced computer language. The Visual Basic functions of Modules have been assigned a name starting with VB (e.g., VBU3) and have the same arguments as Macros in most cases. The examples in the workbooks are using Macros. To use VB functions instead of Macros, the users will have to add VB in front of the Macros names in the formulas, and modify their arguments when required.

An error message may be displayed when using the workbook FINITE.XLS. This is not a problem because this workbook uses circular references for iterative calculations.

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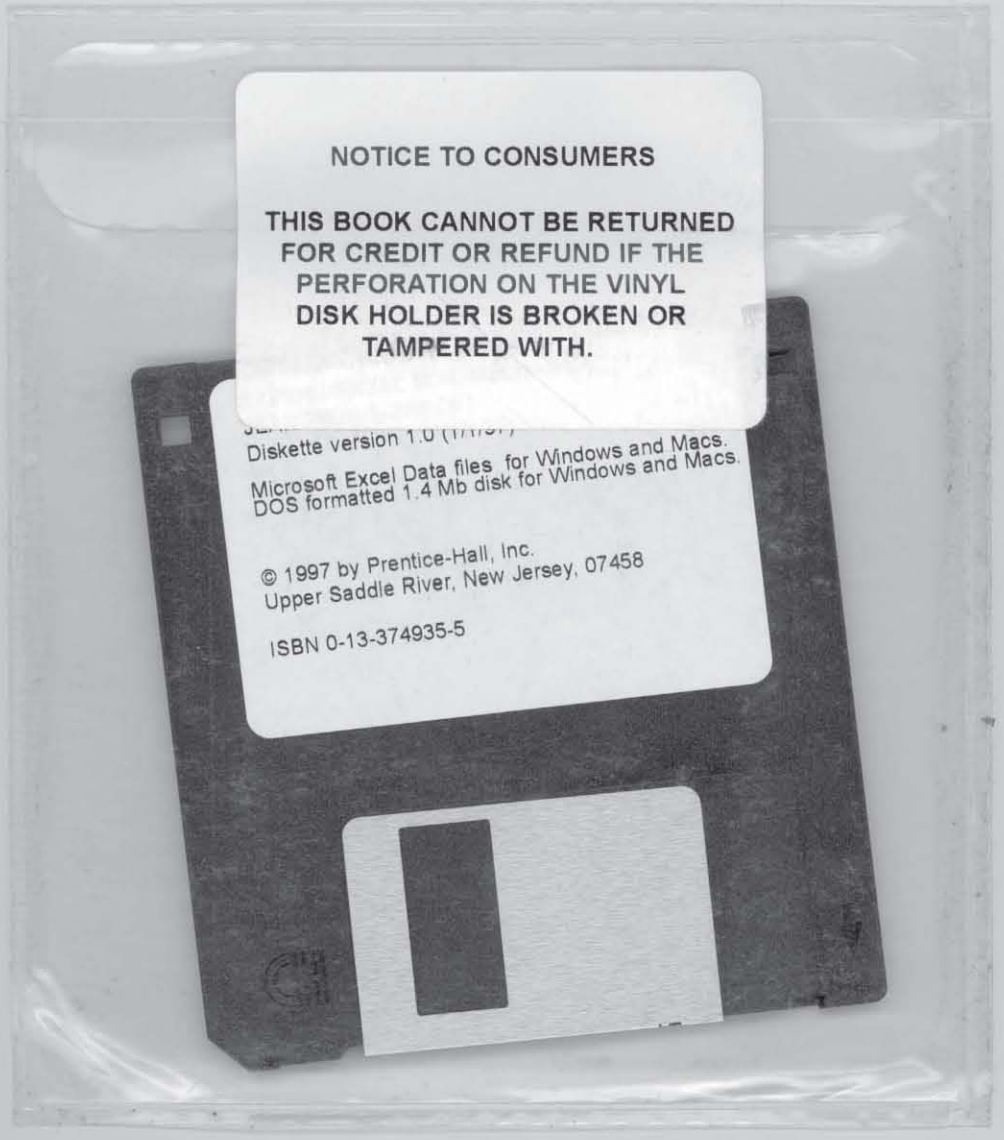
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