

GEOSYSTEM[®] GDM2

Data Manager
for GEOSYSTEM[®] for Windows

Creating, Saving and Archiving Laboratory Test Files with the GEOSYSTEM Data Manager

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0.1 Don't Have Time to Read This Manual, Give Me the Short Version!

OK. You have some reports that you need to get out *right now*. Here's how to do it:

1. Install your GEOSYSTEM for Windows package: Insert the disk labeled "Data Manager" into your disk drive, click on your Windows "Start" button, select Run then type **A:SETUP**. When asked if you have any other software to install, insert any other GEOSYSTEM for Windows disks.
 2. After restarting your computer, click on the "Start" button, select Programs > GEOSYSTEM > GEOSYSTEM for Windows.
 3. Select a place to store your data: this can be a directory on your computer or on your network server. (If you want to store your data onto a network, you should read Section 1.2 before proceeding.) Use the drive and directory selection boxes on the left-hand side of the screen to browse to the directory where you want to store your data.
 4. Testing data is stored into different files based upon the project the test was performed for: all of the data for project 2001-11a-14 goes into one file, all of the data for project 2001-11a-15 goes into another. So, you need to create a new *project file* for each project for which you have testing data: For the test that you're going to enter, in the **Name** box type a name for the file that will hold the data for that test and all other tests in the same project.
- ⇒ The file name can be practically anything, although it's handy to use the project number.

After entering a name, click on the **Open** button and select **Yes** when asked if you want to create the file.

5. Make sure that the dimensions listed in the lower-left corner of the screen match the units you'll be using for the project. If your measurements – dial readings, volumes, sieve openings, etc. – are in feet and inches, you should see "Dimensions: US"; if your measurements are in meters, centimeters and millimeters, you should see "Dimensions: SI". To change the setting, select Project > Dimension Units.
6. Within a project file, lab tests are stored into different folders depending upon where the samples were taken from in the field: samples taken from boring B-1 go into a *source folder* named B-1, samples from test pit TP-5 go into a folder named TP-5, etc. The yellow box on the left side of the screen lists the folders already created for the project.

- ⇒ If you already have a folder created for your samples, click on it.
 - ⇒ If you don't know where your sample was originally taken from (for instance, because the sample was submitted for testing by a client), click on the folder labeled (*no source*).
 - ⇒ If you don't yet have a folder to hold samples from the same location as your new sample, select Source > New: this opens a new window on the right side of the screen. Begin by entering the name of your material's location (i.e., the boring number from which the sample was taken) into the **Source** data entry field.
7. Next you need to tell the system something about the soil sample on which you've run the lab test. At the right side of the screen are a series of numbered cards (called *sample cards*): find a blank one and enter your sample's number, description, etc.
 8. Now it's time to enter the testing data. At the bottom of the card you just filled in you'll find one or more underlined words (GRN-SIZE, PROCTOR, etc.): these are links to the screens where you enter your lab testing data. Click on the link for the testing module that you need: *make sure that the link on which you click is at the bottom of the same sample card that you just filled in.*
- ⇒ For further instructions, consult the manuals for each lab testing module.

1. Introduction, Installation and Setup

The GEOSYSTEM for Windows family of laboratory software modules use a common interface that handles the details of storing and retrieving data. Because data for all of the GEOYSTEM for Windows modules are stored in a common directory (called a *project*), results from one laboratory test can be included in the calculations for another test.

- ⇒ As an example, the USCS Classification module utilizes the diameter percentages (D_{60} , D_{30} and D_{10}) calculated by the Grain Size Distribution module, along with the Atterberg limits (PL, LL and PI) calculated by the LIMITS module in its calculation of a USCS classification.
- ⇒ GEOSYSTEM for Windows modules are individually licensed so, for example, if you don't perform many CBR tests, you don't need to purchase the CBR module.

The common data file interface is called the GEOSYSTEM Data Manager (GDM): this is the program that starts up when you click on the GEOSYSTEM for Windows shortcut on your desktop. This manual covers GDM version 2.0.

1.1 Hardware and Software Requirements

GEOSYSTEM for Windows has currently been tested to run under Windows95, Windows NT 4, Windows 98, Windows ME and Windows 2000.

Note: Prior to installing GEOSYSTEM for Windows, please visit Microsoft's web site (<http://www.microsoft.com>) and download the latest Service Pack for your operating system.

- ⇒ Although GEOSYSTEM for Windows will run on a 486, a Pentium 300 or faster or equivalent CPU (e.g., AMD Athlon) is recommended. At a minimum, 16 megabytes of computer memory is required; however, due to Windows own memory usage, the software will run much more efficiently on a computer with 32 megabytes of memory. Windows NT 4 and Windows2000 users should have a minimum of 64 megabytes, with 128 megabytes recommended

- ⇒ Windows is designed so that as the computer uses up its memory for storage, the excess is swapped to the hard disk -- because of this, GEOSYSTEM for Windows will require some free hard disk space to be available at all times. The program's requirements will vary, however, a good rule of thumb would be to leave at least 60 megabytes of space free on the computer's local hard disk.
- ⇒ A minimum display resolution of 800x600 at 256 colors is **required**. The laboratory testing software utilizes very complex data entry screens that are difficult to adequately display in low resolution.

Many computer users are not aware that their computer's display has different resolutions and may be running in the low-resolution 640x480 mode by default. Follow the steps below to check your display resolution.

To check the system display resolution:

1. Click on the Start button then select Settings > Control Panel.
2. Click on the **D**isplay button.
3. Click on the **S**ettings tab.
4. If the **D**esktop area slider reads "640 by 480 pixels" try dragging the slider to the right: If you have a 17 inch (43 cm.) or larger monitor, try the "1024 by 768 pixels" setting; for a smaller monitor, try the "800 by 600 pixels" setting.
5. If the slider doesn't drag and you are running a desktop machine, check to see if you have the correct monitor selected: Click on the **C**hange Display Type button.

1.2 Network Installations

GEOSYSTEM for Windows works well both storing to and running from a network drive. Please note, however, that the software is not *network-aware*. What this means is that there isn't any network-specific code in the program: it's your network's responsibility to route data and printouts from your local computer to a network destination.

- ⇒ GEOSYSTEM for Windows does not understand file paths such as `\\server\geosys`. To install the software onto a network drive you must first use the Windows Explorer program to map the network to a drive letter: **Make sure to select the option to reconnect to the mapped network drive at logon**. When you install the software, install onto the mapped network drive. Similarly, if you want to store your data onto a network, you will need to do so through a mapped drive.
- ⇒ If you install the software onto a network drive, it can be accessed from any computer attached to the network. On each machine that accesses the software (i.e., *client* machines), several files will be automatically installed into the Windows SYSTEM directory: if you're running NT4 or Windows 2000 on the client machine, the first time that you start the software on the client you need to be logged in under an administrative account; otherwise, the appropriate files cannot be copied into the SYSTEM directory and the software may not operate correctly.
- ⇒ Wherever the program is installed, *write*, *rename*, *modify*, *create* and *delete* access into the program's installation directory must be granted to all users. GEOSYSTEM Software will not provide technical support for a program that has been "locked down" with limited user rights or disk quotas.
- ⇒ Dial-up or wide-area network installations are not permitted by our license agreement. Chapter 5 covers this and other licensing issues in detail.
- ⇒ Using GEOSYSTEM for Windows on a network is not without attendant risks. Bad network cards, misconfigured servers, damaged cables, crashed routers, buggy operating systems, etc. can cause data loss. If you experience problems saving your data to a network drive, please refer to our tech. note at <http://www.geosystemsoftware.com/gdmfprob.htm>

1.3 GEOSYSTEM for Windows and LD4

LD4 (our Windows Drilling Log package) and the laboratory modules utilize the same file manager software (GDM, the GEOSYSTEM for Windows Data Manager). If you have licensed LD4 you don't need to install a separate Data Manager disk, and all laboratory modules should be installed into the same hard disk subdirectory as LD4.

If you prefer for LD4 to be installed on a different set of computers than the laboratory modules, both installations can access the same set of project files: LD4 can read files created by the laboratory modules, and vice versa.

- ⇒ LD4 does provide one advantage over laboratory module-only installations:
LD4 allows multiple users to access the same project file simultaneously.

1.4 Upgrading from GDM version 1

GDM 2.0 is fully compatible with files created by GDM 1.x (the original Data Manager program first shipped in 1996). Please note that the reverse *isn't* true: projects created with version 2.0 cannot be read by the older program, so plan your upgrade so that all GEOSYSTEM for Windows installations have the new version before you start entering data.

1.5 Installing the Software

Caution: Even sitting on a shelf it's quite possible for a floppy disk to become unreadable. Since there is a charge for replacement disks after the first year, you should make a duplicate of your disks before installing the package -- keep the duplicates in a safe place (preferably off-site).

To install your software:

1. Insert the disk labeled "Data Manager" into a disk drive.
2. Click on the Windows "Start" button then select Run.
3. Type **A:SETUP**
4. During the install, if the software determines that you have an existing GEOSYSTEM for Windows hard disk installation, it will suggest that you install into that directory. It is strongly recommended that you do so.
 - ⇒ The installer will not allow you to install into a hard disk subdirectory that contains a copy of LD4: LD4 incorporates its own copy of the Data Manager package.
 - ⇒ If you are installing to a network drive, please review Section 1.2
5. When asked if you have any other software to install, insert any GEOSYSTEM for Windows laboratory module disks that you have licensed.

1.6 Starting GEOSYSTEM for Windows

There are a number of ways to start the software:

- ⇒ If, during installation, you selected the option to add a shortcut to your desktop, you can start the GEOSYSTEM for Windows package by double-clicking on the “GEOSYSTEM for Windows” icon on your desktop.
- ⇒ Click on the “Start” button, select Programs > GEOSYTEM > GEOSYSTEM for Windows.
- ⇒ If you’re running the program from a network installation you can start the program by using Explorer to navigate to the directory where the software has been installed (remember! you must use a mapped drive) then double-click on the file called **GDM.EXE**. (You can make a shortcut to this file by dragging the file -- with the *right* mouse button down – to your desktop.)

If you don’t have a desktop shortcut for starting the software, you can add one by following the directions given below:

1. Open up your Windows Explorer, “My Computer” or “Network Neighborhood” program and navigate to the subdirectory where you’ve installed the software.
2. Shrink the size of the file window so it doesn’t cover the whole screen: you need to be able to see a portion of your desktop in the background.
3. Within the directory you will find a file called “GDM.EXE”: right click on that file and, *while holding the right mouse button down*, drag the file over to your desktop. Release the mouse button. Windows should show a menu of possible actions: select “Create Shortcut Here”.

1.7 Configuring the Software

GEOSYSTEM for Windows has a few configuration options that should be set up the first time the program is started: do this by selecting Options > Setup General Options. The program's Setup dialog is shown below:

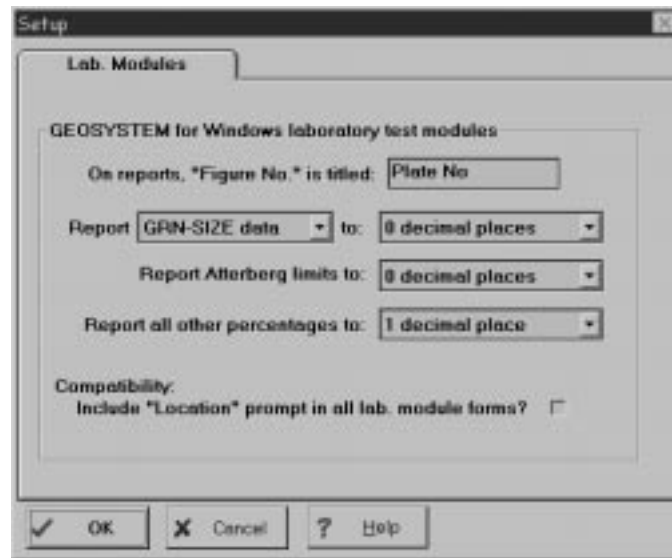


Figure 1.7.1 -- Setup Dialog

- ⇒ **On reports, "Figure No." is titled:** Many report formats used by the GEOSYSTEM for Windows laboratory testing modules feature an area to place a figure number; next to the actual figure number, an identifying title is placed. This prompt allows the user to rename the title from "Figure Number" to "Plate:", "Page:", or anything else desired.

Tip: You can use the "Figure Number" prompt to add an additional field to your test reports -- for example, if you'd like to have a report date on each report, change the "Figure Number" title to "Report Date", then enter your report date when the test module asks for the report's figure number.

- ⇒ **Report** (GRN-SIZE data, PROCTOR data, CONS data) **to**: Originally, these older laboratory testing modules shared a common setting when it came to reporting percentages: a PROCTOR compaction percentage was reported to the same number of decimal places as a GRN-SIZE percent passing value. As a way to partially correct this without requiring an update to laboratory testing modules themselves, the software allows selection of the number of decimal places used in percentage reporting on a module by module basis. Note that this still affects all percentages reported by the module: for example, if "1 decimal place" is selected for the CONS module, both the natural moisture percentages and the swell/collapse percentages calculated by the program will be reported to 1 decimal place. Future upgrades to the lab. modules themselves will address this issue.
- ⇒ **Report percentages to**: This setting is only used by lab. modules that don't support any other method of specifying the number of decimal places to be used when reporting percentage data. See the previous paragraph.
- ⇒ **Report Atterberg limits to**: Atterberg limits entered by the user into the laboratory modules are automatically rounded to the number of decimal places chosen here.
- ⇒ **Include "Location" prompt on all source tables**: This option is provided for compatibility with versions 1.x of the GEOSYSTEM Data Manager program. Normally each sample entered into the "No Source" folder includes a prompt for the sample's "Location" while data entry screens for borings, test pits, etc. don't since the boring number serves to identify the sample's location. The older Data Manager included a "Location" field for every sample, regardless of whether or not the sample was also associated with a particular boring -- the Include Location... prompt allows you to work with projects that have been created with the older program.

This setting is *not* recommended for new installations. Please note that if you select this option and enter data into the **Location** prompt, your laboratory testing reports will not show the sample number, sample depth or sample source.

2. Entering Data

LD4 stores data on a project-by-project basis: Data for all of the borings, test pits and trenches taken in a single project are stored in a single *project file*. Project files may be stored on hard disks, removable floppy disks and network drives.

Each project file is divided into folders called *sources*. Each source stores the data -- sample names, depths and laboratory testing information -- collected at a particular physical location such as a boring, test pit, stockpile location, etc. Each source is given a unique name such as "Boring B-1".

Additionally, project files include a section for data relevant to the project as a whole (such as the project number and the client's name) called the *Project Data* section.

The figure below illustrates the structure of a typical project file:

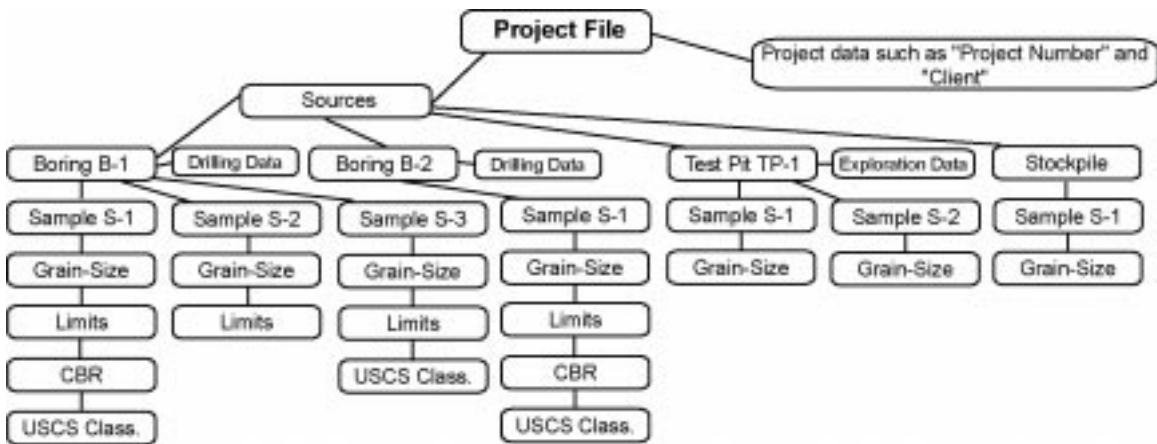


Figure 1.7.1 -- Typical Project File

- ⇒ Figure 1.7.1 includes four sources: "Boring B-1", "Boring B-2", "Test Pit TP-1" and "Stockpile".
- ⇒ The project depicted was entered by a company with licenses for the Grain Size Distribution, Atterberg Limits, California Bearing Ratio and Drilling Log (LD4) modules. If you haven't licensed, for example, the Grain Size module, you won't be able to enter grain size distribution data.

2.1 Creating a New Project

To create a new project:

1. If you're already editing a project choose Project > New.
2. Make sure that the current directory is the one where you want to place your new project -- the first name shown in the file listing (next to the open folder icon) is the current directory.
3. At the **Name** prompt type in a name for your new project.
 - ⇒ Project names may be up to 254 characters long and may include spaces, but they may not include any of the characters shown inside the following quotes: ".:.*?\\".
 - ⇒ There is a limitation on how deep within a directory structure you delve when creating a new project. If you get a "file not found" message from the software when trying to create a project in a directory such as "G:\projects\engineering\geotechnical\2001\march completion\southwest" you'll need to shorten the path.
4. At the **Description** prompt type in a short description for your project. The project's description is shown just below it's name in the program's file dialogs – it's mainly a holdover from the days when filenames could only be eight characters long (the description was used to provide a longer reference to the file's contents). If desired, you can ignore the prompt.
5. Click on the **OK** button.

2.1.1 Project Measurement Units

There is a single basic measurement selection that must be made for every project: "US" or "SI" units.

- ⇒ "US" units means that testing measurements (Proctor mold volumes, sieve opening sizes, Swell/consolidation dial readings, etc.) and sampling lengths were taken in inches.
- ⇒ "SI" means that testing measurements were taken in centimeters or millimeters, depending upon the testing module.

Once you've created a project the units attached to the project are shown in the lower-right corner of the screen and will say either "Dimensions: US" or "Dimensions: SI".

If the wrong units were selected:

1. Choose Project > Dimension Units. This displays the Project File Dimension Units dialog, (shown below).

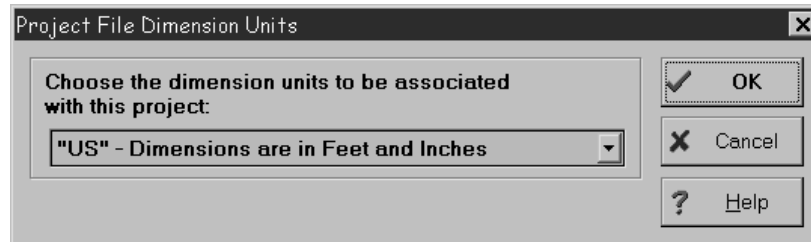



Figure 2.1.1 -- Project File Dimension Units Dialog

2. Select the appropriate units for the project.

2.2 Opening an Existing Project

To open an existing project:

1. If you're already editing a project choose Project > Open.
2. Change to the directory where your project is located -- the first name shown in the file listing (next to the open folder icon) is the current directory.
3. In the file listing GEOSYSTEM for Windows projects are shown next to an  icon. Double-click on a project to open it.

2.3 Data Entry – Background Information

The figure below shows a typical GEOSYSTEM for Windows edit screen:

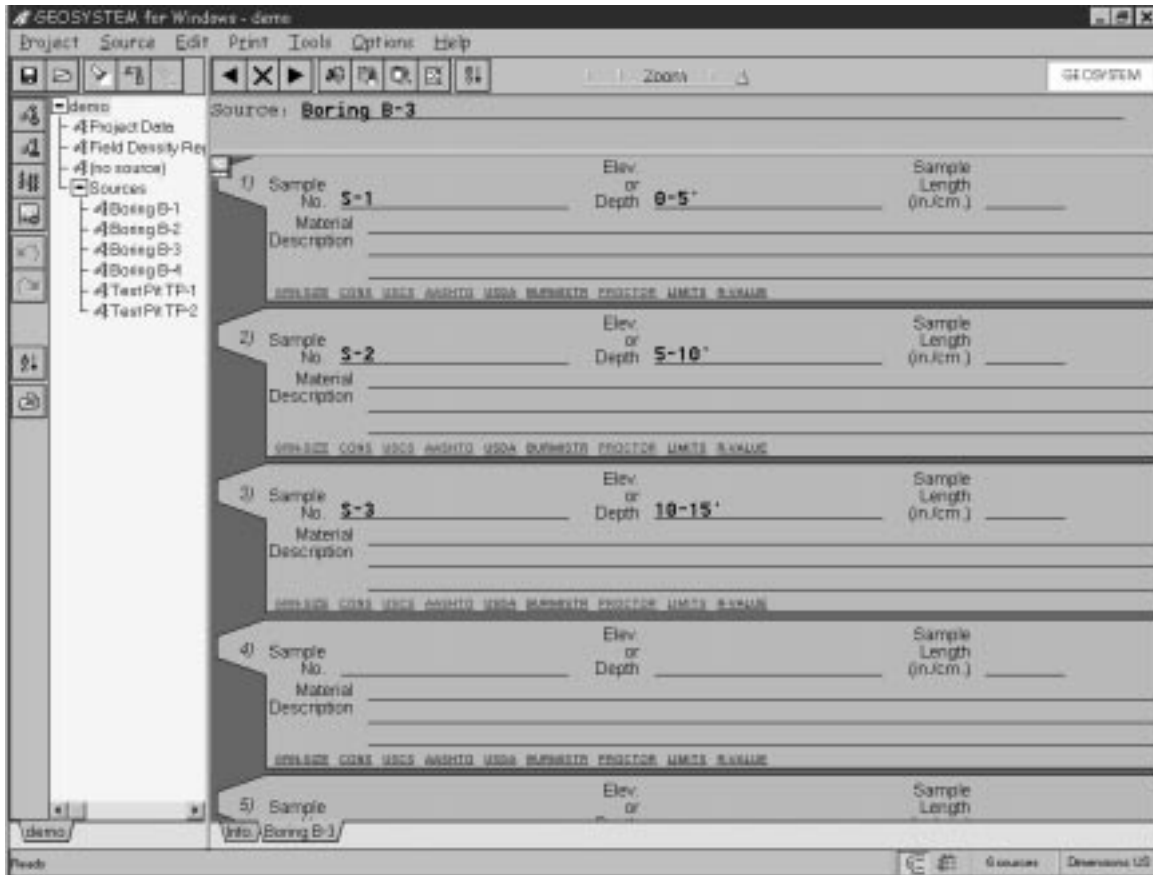


Figure 2.3.1 – Edit Screen

If you've used a Windows word processor such as WordPerfect then you have the basic idea of how GEOSYSTEM for Windows handles data entry; the following sections cover some specific issues.

2.3.1 Important Menu Selections

Project

- New: See Section 2.1
- Open: See Section 2.2
- Save: Saves the current project

Sort On: Sorts the list of sources shown in the yellow box on the left-hand side of the screen. Doesn't affect any printouts.

Find Text, Replace Text, Find/Replace Again: Searches for and optionally changes text entered into sample cards (i.e., sample numbers, depths and material descriptions). Does not replace text entered into one of the lab. module prompts (e.g., **D60** in the USCS module).

⇒ Refer to Section 3.2 if you need to search for text within multiple project files.

Exit: Saves all changes and exits. Note: there is no "Abort without saving changes" option.

Source

New: See Section 2.5.1

Duplicate: See Section 2.5.1

Delete: See Section 2.9.

Sort by Depth: This sorts the current source's sample cards in order of increasing sampling depth.

Edit

The Edit menu contains the standard Undo, Redo, Cut, Copy, Paste and Delete commands; in addition to:

Underline: Toggles a marked section of text between underlined and not underlined

Insert Card, Cut Card, Copy Card, Paste Card: See Section 2.10

Print

Printer Setup: Displays the standard Windows Printer Setup dialog.

There will also be a "Print" entry for each installed laboratory testing module licensed.

Tools

The Tools menu shows any plugin utilities that have been added to the system such as the envelope printer, the Swell/Consolidation module's DOS-to-Windows file conversion utility, etc. (To get help on a specific plugin, start the utility and use the utility's Help option.)

Options

Setup General Options: See Section 1.7.

Additional "Setup" entries will be available for most licensed laboratory testing modules. Refer to each module's reference guide for setup information.

2.3.2 Moving Around the Screen - Useful Keystrokes

You will find the following keystrokes useful while entering data:

Keystroke	What it Does
Tab	Changes to the next data entry field
Shift-Tab	Changes to the previous data entry field
Shift+Up/Down/Left or Right Cursor Keys	Marks text
F7	Toggles a marked section of text between underlined and not underlined
Ctrl-Down Arrow, Ctrl-Up Arrow	Jumps to the next and previous sample cards.

Figure 2.3.2 -- Useful Keystrokes

2.3.3 Paragraph Fields

When entering data for multi-line text items, do not press the Enter key unless a line break is actually desired: When the right-hand edge of the data entry field is reached, the program will *automatically* wrap the text being typed onto the next line. If a line break is desired, pressing Enter will produce one - the line before the break will have a "¶" at the end.

The rationale behind only pressing Enter when a line break is actually desired is because the width available to print a particular paragraph item varies from one report format to another; the program must reformat the user's text to fit the space available on the report, choosing its own linebreaks as necessary to fit the width allocated for the item. For example, the following data entry field

Remarks: **There will not be a line break between this line and the next, but there will be a line break after¶ this line.**

may be reformatted to

REMARKS
There will not be a line break between this line and the next, but there will be a line break after this line.

or

REMARKS
There will not be a line break between this line and the next, but there will be a line break after this line.

depending upon the width available for printing the field on the hardcopy report. Note that the linebreak after the word "after" appears in both examples -- this is because the user pressed Enter after typing "after" in the data entry field (again, you can tell because of the "¶" shown in the data entry field).

2.3.4 Subscripting and Superscripting

You can superscript a character in any data entry field by prefixing the character with the "" symbol. For example,

kg/m`3

when printed on a report will show up as

kg/m³

Likewise, characters may be subscripted by prefixing each subscripted character with the "~" character. As an example,

C~v

when printed on a report will show up as

C_v

2.4 General Project Information

Note: See Section 2.3 for a general discussion of the data entry facility, including menu selections, keyboard shortcuts and data entry techniques.

After creating a new project the first thing you will want to do is to enter information about the project itself, such as the project name and number. Do this by clicking on the "Project Data" entry in the yellow box on the left side of the screen.

2.5 Material Sources

Note: See Section 2.3 for a general discussion of the data entry facility, including menu selections, keyboard shortcuts and data entry techniques.

All of the testing and sampling data taken from a single *material source* are grouped together within a single *source folder*. (Sources represent physical locations from the project -- some different types of sources are: *borings, test pits, monitoring wells, trenches*.)

⇒ Source folders aren't always associated with subsurface explorations: *stockpiles*, for example, can be considered a material source if you're using the add-on Grain Size Distribution test module to plot particle-size curves for samples taken from a series of stockpiles.

2.5.1 Starting Out: Creating a Source Folder

Once you've created a new project file and entered your project data the next step is to open up a source folder: This is where you'll be placing all of the data taken from a single *material source* such as a boring, test pit, etc. To do this, select Source > New. You can also copy the entire contents of an existing source folder by selecting Source > Duplicate.

Note: Laboratory testing data entered with a GEOSYSTEM for Windows module such as GRN-SIZE is not copied when you select Source > Duplicate, however, the calculated final results (such as GRN-SIZE's "percent < #200" value are).

If you can't identify your testing sample's source (perhaps the sample was submitted for testing by a client) you won't be making a new source folder: all GEOSYSTEM for Windows projects have a special folder just for entering data for samples that weren't taken from an identifiable source called the (*no source*) folder.

⇒ The (*no source*) folder is a part of every GEOSYSTEM for Windows project, and can't be deleted.

To enter testing data for a sample that is not from an identifiable source, click on the (*no source*) entry in the yellow panel on the left side of the display.

2.6 Entering Information about the Test Sample

Before entering your testing data, you'll need to tell the software some basic identification information about the sample being tested. After you've opened the appropriate source folder for the sample you should see a display like the one shown in Figure 2.3.1: the right side of the display, where the numbered rows are shown, is where you'll be entering your sample data. The rows are called *sample cards* – find a blank card and enter your sample's identification information. The package supports the following identifying fields: **sample number**, **elevation or depth**, **sample length** and **material description**.

- ⇒ Sampling lengths are assumed to be in either inches or centimeters, depending upon the measurement units chosen for the project (see Section 2.1.1).
- ⇒ The sample's identifying information is printed by the laboratory modules on all hardcopy reports.

2.7 Entering Testing Data

After creating/opening a source folder and entering the sample's identification information, you can proceed to enter the actual testing information. At the bottom of the sample card holding your sample's identification you can find one or more underlined words: these are links to the testing modules that you have licensed. Click on the module for the test data to be entered; a key to the module names is shown on the following page:

Name	Module
AASHTO	AASHTO M 145 Soil Classification
CBR	California Bearing Ratio
CONS	Swell/Consolidation
GRN-SIZE	Grain Size Distribution
LIMITS	Atterberg Limits (PL, LL, PI)
PROCTO R	Moisture-Density Test
R-VALUE	Resistance R-value
USCS	ASTM D 2487 (USCS) Soil Classification

Table 2.7.1 -- GEOSYSTEM for Windows Lab. Module Names

2.8 Deleting Testing Data

If you want to delete the testing data entered into a particular laboratory testing module for a given sample, *right-click* on the module link at the bottom of the sample's card (see the previous section) then select Delete xxxx Data ("xxxx" is the name of the lab. module).

2.9 Opening or Deleting a Source Folder

To open an existing source folder:

1. Click on the source's name in the list of sources entered into your project (this list is in the panel on the left side of screen -- see Figure 2.3.1).

To delete an existing source folder:

1. Follow the instructions (given above) for opening the source folder that is to be deleted.
2. Choose Source > Delete.

2.10 Deleting Samples

In addition to the standard Windows cut/copy/paste functions which operate on a single data entry field at a time the software also supports deleting and copying/pasting entire samples.

To cut (i.e., copy to the clipboard then delete) one or more samples:

1. Data for each sample is entered into individual sample cards: to cut the data for a sample, click on the number of the sample's card (the number is shown jutting out from the left side of the card).
2. If you want to cut data for more than one sample, continue clicking on the card numbers for the other samples to be removed. **You must click on the card numbers in sequential order.**
3. When all of the cards to be cut are highlighted, choose Edit > Cut Card.

2.11 Moving Samples Between Source Folders

Occasionally you may enter a sample's data into the wrong source folder. To move the sample – including all testing data – into a different folder, follow these instructions:

1. Open the source folder holding the card(s) to be moved.
2. Follow the directions for cutting sample cards given in the previous section.
3. Open the source folder where the card(s) are to be placed.
4. Click on the number of a card: the cards you are moving will be inserted *above* that card.
5. Choose Edit > Paste Card.

3. Working with Project Files

The following sections provide information on finding, copying, moving and deleting GEOSYSTEM for Windows project files.

- ⇒ If you need to move your entire program installation to a new machine, use DOS to backup ***.?DT**, ***.DAT** and ***.INI** from the old machine's GEOSYSTEM directory to the new machine's GEOSYSTEM directory.

3.1 Archiving Project Data Files

To save a copy of a project to a floppy disk for archival purposes:

1. Re-start or start the program: Archiving may only be performed from GEOSYSTEM for Windows' opening screen.
2. Click (once) on the project to be archived.
3. Click on the **Archive** button: This displays the Archive Options dialog (shown below).

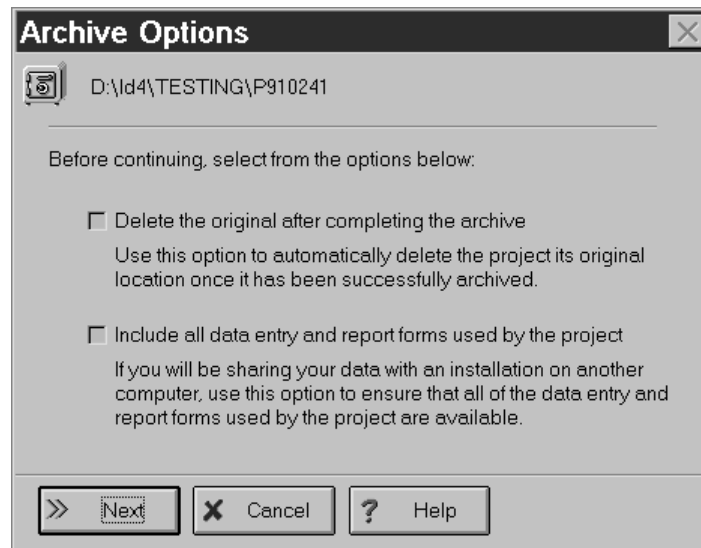


Figure 3.1.1 -- Archive Options Dialog

4. **Delete the original after completing the archive:** Selecting this option deletes the original project *after* archiving is complete. If anything goes wrong during the archival procedure (such as a full floppy disk) the program will not remove the original.

3.2 Searching for Projects

Although GDM can only search for text in a single project file at a time, you can use Windows 95/98/2000/NT's "Find" facility to search through multiple project files for some text:

To search for text in multiple project files:

1. Click on the Windows "Start" button.
 2. Choose Find > Files or Folders.
 3. At the **Named** prompt, enter ***.SP\$**
(The "*.SP\$" tells Windows to look in the files where the GEOSYSTEM for Windows package is storing your data.)
 4. At the **Look in** prompt choose the hard disk where you've stored your projects.
 5. Make sure to click on **Include subfolders**.
 6. Click on the **Advanced** tab.
 7. In the **Containing text** field, type in the text that you want to find.
 8. Click on the **Find Now** button.
 9. Windows will list any project files where it has found your text, *followed by ".GEO"*. Start GEOSYSTEM for Windows and type in the directory and file name that was found, without the ".GEO".
- ⇒ **Note:** Windows will not find data that you have entered into one of the GEOSYSTEM for Windows laboratory testing modules, or text that you have entered as underlined.

You can also use Windows' search facility to locate a project file:

1. Click on the Windows "Start" button.
2. Choose Find > Files or Folders.
3. At the Named prompt, enter the name of your project, followed by **.GEO**. For example, if your project is called "P31923", you would enter **P31923.GEO**.
4. At the Look in prompt choose the hard disk where you've stored your projects.
5. Make sure to click on Include subfolders.
6. Click on the Find Now button.
7. Windows will list any project files where it has found your text, followed by ".GEO". Start GEOSYSTEM for Windows and type in the directory and file name that was found, without the ".GEO".

3.3 Using Windows to Move or Delete Projects

You can use Windows 95/98/NT's Explorer program to copy or move your project files. Using Explorer to look at your data file directory, you can find folders that have the names you've given to your projects, with a ".GEO" extension. (For example, if you've named your project BERTHOUD COUNTY LANDFILL then Explorer will show a folder named "BERTHOUD COUNTY LANDFILL.GEO". GEOSYSTEM for Windows keeps all of the "BERTHOUD COUNTY LANDFILL" project data in that folder.) You can use drag-and-drop or the cut/copy/paste Explorer options to delete or move the entire folder.

- ⇒ **Note:** While you can safely use Explorer to delete an entire project folder, do not use Explorer to delete individual files within the project folder. Doing so is guaranteed to render your project unusable.

3.4 Compatibility with LD4

Files created with the GEOSYSTEM for Windows Data Manager program are compatible with those created with the GEOSYSTEM LD4 Drilling Log package: you can use LD4 to read laboratory testing project files, and you can use the Data Manager package to read LD4 project files.

If you open an LD4 project with your GEOSYSTEM for Windows Data Manager package, you will *not* see the same data entry screen as you would see from LD4. This is normal: the laboratory testing modules aren't interested in sampler types, stratigraphy patterns or transition intervals, so you'll just be presented with sample cards requesting information about testing samples (sample number, sample depth, etc.). Your drilling log data is still part of the project – it just isn't shown by the Data Manager package.

4. Exporting and Summarizing Data

GEOSYSTEM for Windows includes a tool that allows the user to print simple lists of the data entered into a project, and to export data to an ASCII file. (ASCII files may be imported by word processing, database, spreadsheet and graphing programs.) The data summary and export function allows the user to specify the information that will be exported or printed, and in what order. In this way, lists may be created with only the data pertinent to a particular project. The Data Summary and Export screen, accessed by selecting Tools > Data Summary and Export, has the following appearance:

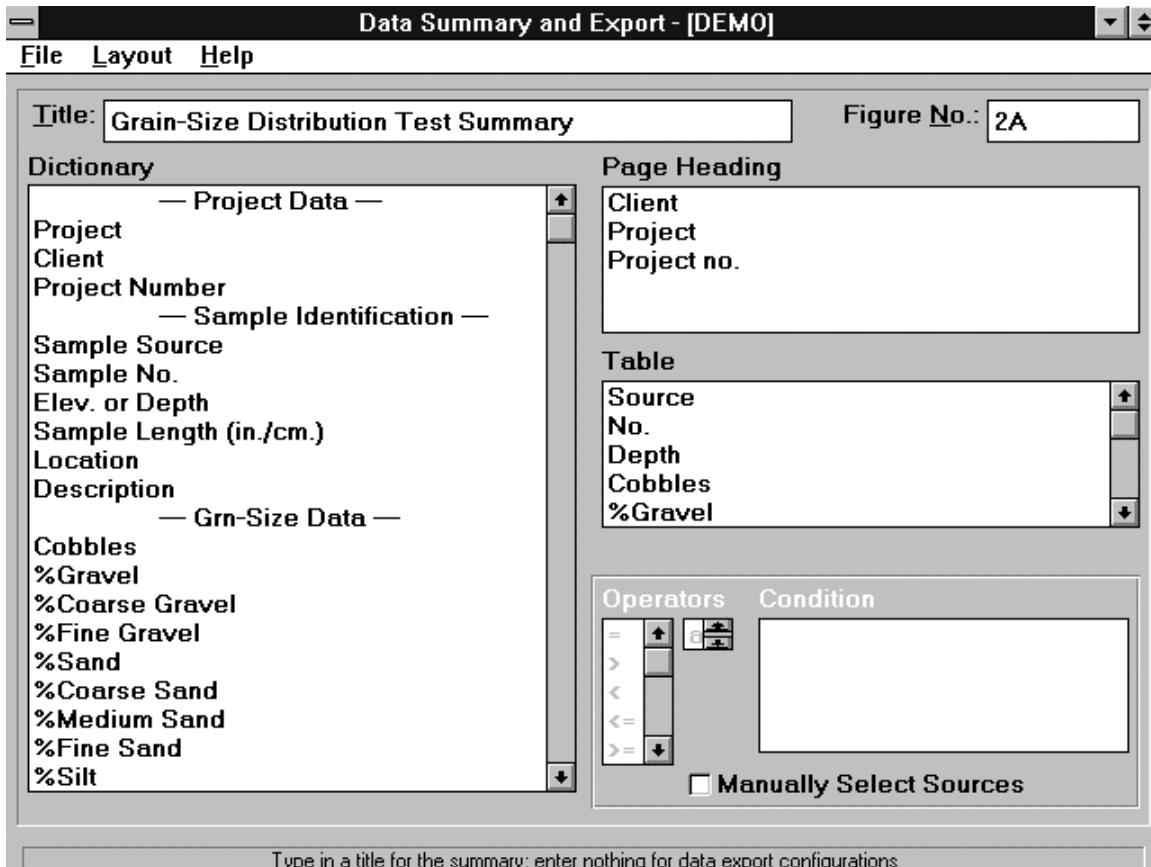


Figure 3.4.1 -- Data Summary and Export Screen

The following sections discuss individually the processes of creating a simple printed list and creating a data export file.

4.1 Creating a Printed List

A printed list is a report that is sent to the printer which uses the information specified in a configuration file and the data stored in a given project file. Printed lists consist of a *page title*, a *heading section*, which lists data common to the entire project such as the project name and the clients name, the *table section*, which lists selected sampling and testing data, and an optional *footing section*, which just includes a figure number chosen by the user.

An example printed list is shown below.

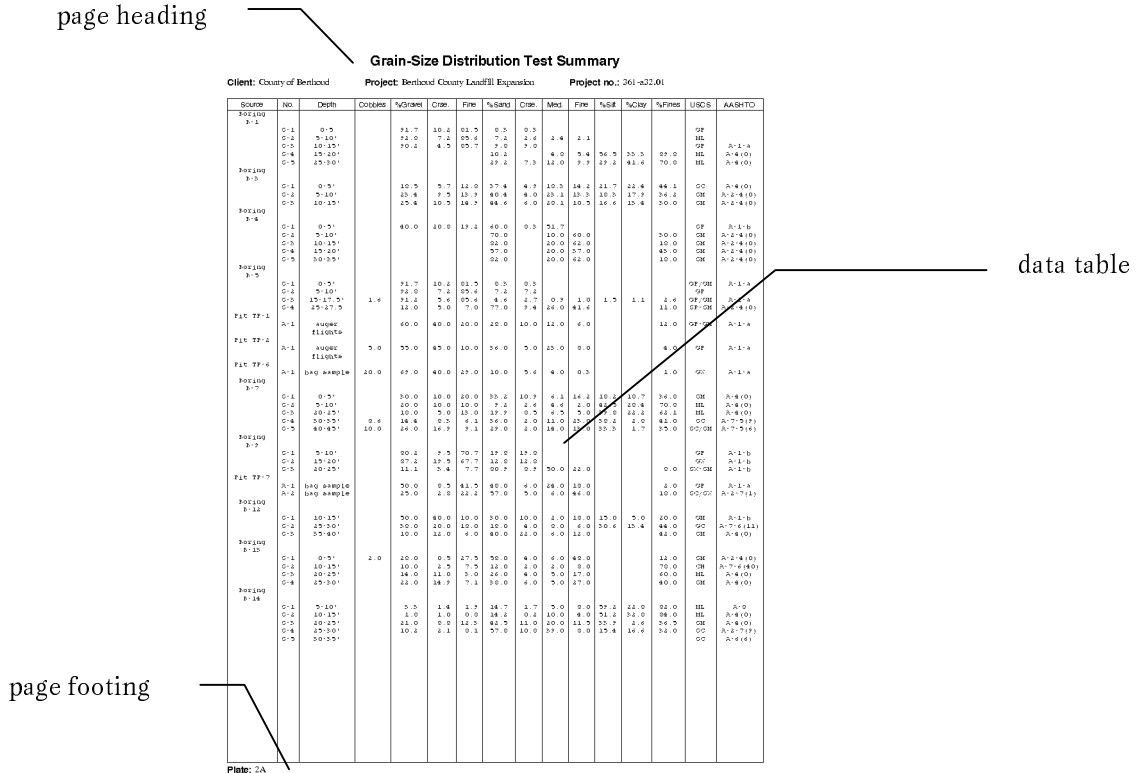


Figure 4.1.1 -- Sample Printed List

The first step in creating a printed list is to create a list configuration file, which is a set of directions given to the software that determine what data to use when building the list.

4.1.1 Creating a Configuration File

Create the configuration file by filling in the **Title**, **Figure No.**, **Page Heading** and **Table** boxes, following the instructions given in the topics listed below.

Title

The text in this box will be printed at the top and center of the printout, and may include whatever information is desired.

Page Heading

The heading section of the printout usually lists items that pertain to the entire project being summarized, such as the client's name and the project number. (Data export files don't require a page heading.) A short discussion of the *Data Dictionary Box*, which is used for creating the page heading, is necessary before providing instructions on creating the page heading.

The dictionary box, located on the left hand side of the list configuration screen, lists the various items of data *that can possibly be stored in the current project file*. (Data need not have actually been entered for every item.)

The dictionary is broken down into sections. The Project Data section lists items that pertain to the entire project (such as the client's name). The Sample Identification section lists the data used to identify individual samples. The dictionary also includes sections listing the calculated data items supported for each of the test modules installed in the system.

If the current project file has been edited by the GEOSYSTEM LD4 module, the dictionary box will include additional sections listing the information required to produce a boring log report.

Each line in the dictionary lists one item of data that can be exported or printed. The word in parenthesis next to each item description is the *field name* associated with the item; this information is useful to individuals using the LD4 package.

To place an item of information into the page heading, drag the appropriate item from the dictionary box to the box titled **Page Heading**, then drop it. Note that if there are already items listed in the page heading box, then the place where the new item is dropped is important. If the new item is dropped above another item in the page heading box, then the program will insert the new item before the existing item; dropping the item below the last existing item will place the new item last in the list. (The order in which items are listed in the page heading box determines the order in which the items are placed on the summary page: top to bottom in the page heading box corresponds to left to right, then top to bottom on the actual printout.)

When an item is dropped onto the page heading box, the program will display a prompt requesting the "field title" for the new item. This title will be printed to the left of the actual information associated with the item: in the line shown below, the words "Project No." would be the field title.

Project No: A95-223.01

Note that the program automatically inserts a colon (":") and a space between the field title and the actual information.

Deleting Heading Items or Changing Heading Field Titles

To delete an item from the page heading list or to change the item's field title, double-click on the appropriate item in the page heading list box. The program will respond by displaying a dialog box with the item's field title which can be changed as desired. To delete the item entirely, click the **Delete** button; otherwise, click **OK** to effect any change made to the field title, or **Cancel** to discard any changes.

Table

Set up the table section by dragging data item names from the dictionary box to the box titled **Table**, then dropping them. Note that if there are already items listed in the table box, then the place where the new item is dropped is important. If the new item is dropped above another item in the table box, then the program will insert the new item before the existing item; dropping the item below the last existing item will place the new item last in the list. (The order in which items are listed in the table box determines the order in which the corresponding data are placed in export files created with the export configuration: top-to-bottom in the Table configuration box corresponds to left-to-right in the export file. Similarly, top-to-bottom in the Table configuration box corresponds to left-to-right table columns on printouts.)

When exporting or printing data from multiple sources, it is recommended that one of the columns on the table be reserved for a column titled "Source" so that samples from different sources may be distinguished from one another

When an item is dropped onto the table box, the program will display the *table item dialog box*.

The table item dialog box incorporates settings associated with individual items listed in the **Table** box on the export configuration screen. This box is initially displayed when a new item is dropped onto the Table box; once an item has been dropped, the settings may be re-displayed and edited by double-clicking on the item.

The table item dialog box includes the following settings:

- ⇒ **List this item always?** Turning this selection off causes the program to only export or print the selected item on rows where other data items are also exported or printed. This is mainly useful with project files used with LD4: for instance, when including a column for "Depth", the user may only wish to export depths where soil samples were taken.
- ⇒ **Column title** This indicates the title of the selected column. When creating a file of export data, the user can opt to export the column titles as the first line of the export file. These titles can be used when importing the data into Microsoft Access or Excel as the field names for the corresponding column of data.

When creating hardcopy reports, the column title is placed at the head of the corresponding column of data.

- ⇒ **Count total number of items?** As an aid in billing, the program includes an option to include a count of the total number of items printed in a column. This count is included as the last line of the export file or printout.
- ⇒ **Count number of items per source?** In addition to counting the *total* number of items included in a particular column, the program can also be configured to count the number of items in a column for each source that is printed or exported.

Deleting or Changing Table Items

To delete an item from the table list or to change any of the settings associated with that item (such as the column title), double-click on the appropriate item in the table list box. The program will respond by displaying the table item settings dialog box, which can be changed as desired. To delete the item entirely, click the **Delete** button; otherwise, click **OK** to effect any change made, or **Cancel** to discard any changes.

Figure Numbers

The **Figure No.** prompt allows the user to specify a starting figure number which increments once for every page of the data summary printed: If a figure number is entered, it is placed at the bottom of each printout. Figure numbers may be a combination of alphabetic and numeric characters:

```
APPENDIX-1
1
1x3-10
```

are all valid numbers. The program will take the last number in the string (1 for the first and second examples, and 10 for the third), and increment that, producing

```
APPENDIX-2
2
1x3-11
```

for the second page figure number.

Alphabetic figure number sequences are also supported. For example:

```
A-1a, A-1b, A-1c..
A1, B1, C1, D1...
```

To use an alphabetic or figure number, enter the beginning number at the Figure No. prompt; *before the alphabetic character that is to be incremented every page, place a caret (^)*. The first example above would be entered as A-1^a; the second example would be ^A1. Note that if the starting page/figure number is "a" or "A", you are limited to a total of 26 figure/page numbers: in the first example, after page "A-1z", the program will omit the page number on subsequent pages.

Changes to the margins affect every configuration file created.

Margins

When printed, the report includes built-in top, bottom, left and right margins. *Additional* space may be specified by selecting the Layout menu option, then selecting Margins. These margins are specified in either centimeters or decimal inches, depending upon a setting in the "International" group of the Windows Control Panel.

Fonts

Font changes affect every list configuration file created.

Separate typefaces and point sizes may be chosen for the data summary title, the page heading field titles, data in the page heading, table column titles, and the data printed in the table. To change a typeface or point size, select the Layout menu option, then select Fonts.

Next, in the **Report sections** box, highlight the section of the report to be changed. When the appropriate report section has been highlighted, the **Available fonts** and **Size** boxes will show the font and point size (in 1/72") currently selected for that section. Change either selection as desired, then select **OK** to save the changes, or **Cancel** to discard them.

.....
 Note that the tool only supports a small number of typefaces. The GEOSYSTEM LD4 program supports printing full-blown summary reports with a much wider range of fonts, and provides the user with the ability to select different type styles on a column-by-column basis.

Saving the configuration

To save a summary configuration, select Save This Configuration or Save This Configuration As from the File menu. If Save This Configuration As is selected, a dialog box will appear which asks for the name to save the configuration as, to be typed into the file name box. The Directories and Projects box lists the current path. Configuration files are saved with the extension .lfg. **Note that configuration file names must be eight characters or less in length and may not include spaces.**

Selecting Sources

Normally, when a list is printed, or an export file created, the program collects data from every source included in the currently open project. However, the program also includes an option that allows the user to only print/export data from selected sources. To utilize this option, check the **Manually Select Sources** option.

Filtering

You can further narrow what data are included on the final list by entering an equation into the **Filter Criteria** box. The tool evaluates the equation for each sample card's worth of information: **if the result is 0 or false then the data from that card won't be listed/exported.** As a simple example, if you wish to only list the data taken between 10 and 15 feet below ground, you would want to specify a filter such as:

(DEPTH>=10) and (DEPTH<=15)

Printing the List

Once a configuration file has been created, it can be applied to the currently open project to produce a printed list. After creating a new summary configuration (or using the File, Recall Existing Configuration menu option to read in a configuration file had previously been saved to the disk), select File, Print To Printer to begin printing data.

The program will respond by displaying the standard Windows printer setup box. After selecting the appropriate printer, select **OK** to continue. Next, if the **Manually Select Sources** option was selected, the program will display the source selection dialog box, discussed in the next section, otherwise, printing will begin immediately.

Source Selection Dialog Box

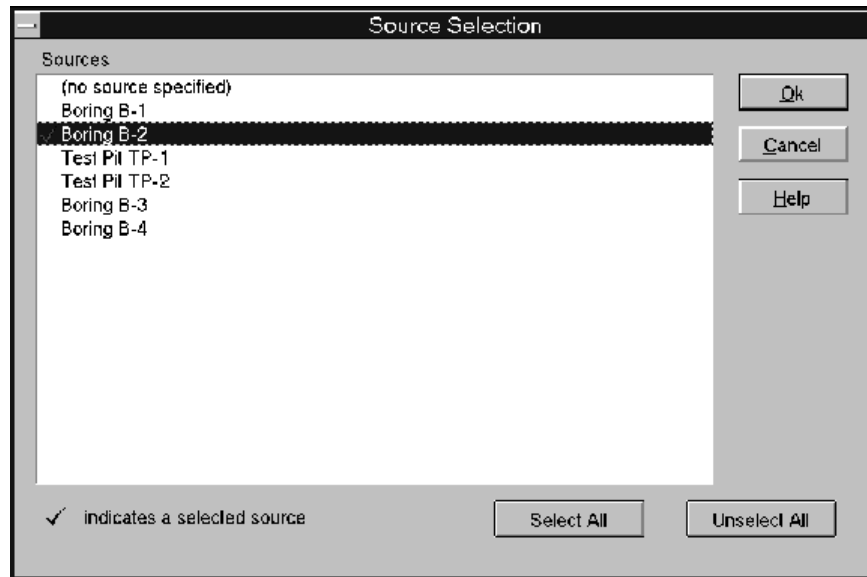


Figure 4.1.2 -- Source Selection Dialog Box

The source selection dialog box appears after Print has been selected from the file menu *if the **Manually Select Sources** box was checked* in the Data Summary window. The source selection dialog box lists the sources associated with the current project; sources with a checkmark will be summarized. Toggle whether a particular source will be included in the summary/export file by clicking on the source.

All the sources associated with the current project may be selected for summarizing by clicking the **Select All** button. (This has the same effect as if the **Manually Select Sources** option was not chosen). Clear off all of the checkmarks by selecting the **Unselect All** button.

4.2 Creating a Data Export File

A file of exported data consists of lines of data: within each line are data for a single sample. What data are included, and the order in which the data are listed, is determined by the export configuration file.

Since the program is designed for creating hardcopy lists in addition to export files, many of the prompts shown on the screen are not used for creating an export configuration. When creating an export configuration file, ignore the **Title**, **Figure No.** and **Page Heading** prompts, as well as the **Margins** and **Fonts** menu selections; the **Table** box, which determines what is included on each row of the export file, is the only section of the window used. Setup the **Table** box in the manner discussed in the section on creating printed lists.

Once an export configuration file has been created, it can be applied to the currently open project to produce an export data file. After creating a new export configuration (or using the **File, Recall Existing Configuration** menu option to read in a configuration file had previously been saved to the disk), select the **File, Export To Disk** menu option to begin exporting data.

The program will respond by requesting the name of the file in which the exported data will be placed. Note that if a file extension isn't entered, the program will use a default extension of ".TXT", which is somewhat standard for comma-delimited ASCII files. **Note that the file name chosen must be eight characters or less in length and may not include spaces.**

After entering a filename, the program will next display the export options dialog box. When the appropriate options have been selected, select the **OK** button to continue. Next, if the **Manually Select Sources** option was selected, the program will display the source selection dialogue box; otherwise, the program will proceed to display the *Export Option* dialog, discussed below.

4.2.1 Export Options Dialog



Figure 4.2.1 -- Export Options Dialog

The following options are available from the export options dialog”

- ⇒ **Separator Character** Normally, data items within an export file are separated by commas. For instance, the following is a line taken from an export file of Grain-Size sieve percentages:

100.0,95.2,80.4,60,9,23.1

However, when including text such as project names or material descriptions, the exported text may itself include a comma. Exporting this data causes the resulting data file to be confusing; for example, the following two lines were extracted from an export file of material descriptions and Atterberg limits:

Silty Sand, 32, 20
Clayey, Silty Sand, 46, 15

The extra comma in the second line would confuse a program attempting to import the GDM export file. To avoid this situation, the user can elect to change the separator character to a TAB: this character is universally recognized by programs designed for importing ASCII data.

- ⇒ **First row has column titles** Many database programs that feature importing of ASCII text data (for example, Microsoft Access), can be configured so that they accept the first line of the imported text file to be the field names for the columns of imported data. Similarly, spreadsheet programs such as Microsoft Excel can be set up to use the first line of an imported text file as the column headings for the data being imported.

If this option is desired, make sure to type in something in response to the **Column title** prompt in the table item dialog box for each table item entered. Note that if the data to be exported will be used with a database program, than the column title should always be a single word (e.g. "Number" instead of "Sample Number") because database field names are always a single word.

4.3 Configuration Files Included with the Package

Many of the laboratory test modules include a set of configuration files suitable for listing or exporting the data from that test module. Refer to the test module’s manual for names and examples of the module’s configuration files.

5. Software License

There are only five paragraphs in our standard license agreement: The text of the agreement, along with additional comments, is listed below.

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We don't prohibit transfers of a program's license to another site or to another company as long as we receive written notification of the transfer **and all copies of the program and its documentation are removed from the original site.**

Unlike most software vendors, our software may be used on as many computers as necessary, as long as they are all at a single site. Use on a computer at a **temporary** field office is also permitted, and, if you want, you may install the software on a home computer as long as you will be using the program for processing data for the company that originally purchased the software. We don't require any copyprotection or hardware locks.

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If, while the program is still being sold by us, you report a reproducible problem with the software and if we cannot provide a suitable workaround, we will correct the problem and send you a program update.

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“As described” means the description and documentation given in each program’s manuals.

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Please note that “consultation” does not include teaching you how to operate the software over the telephone.

Over 80% of our support calls involve questions or problems with software other than our own -- most of these are questions on installing and running the software on a network. Although we can always help if you have a question on one of our programs, we can't provide any support for your network. If you are having problems accessing data files on a network drive or difficulties in sending your reports to a network printer, please consult a network technician.

After the one year period, update costs are calculated based upon the time that has elapsed since the last update or since the time of purchase. Check our web site (www.geosystemsoftware.com) for information on any new features that have been added to the software since you purchased your copy; contact us directly if you'd like a quote for the cost to update your old software.

(no source)	See no source folder	compatibility with version 1.x	10
.\$P\$	24	defined	3
.GEO	24, 25	upgrading from 1.x	6
` symbol	17	grain size distribution	3, 20
~ symbol	17	GRN-SIZE	10, 20
¶ symbol	16	hardware requirements	3-4
AASHTO	20	inches	See measurement units
abort	15	Include "Location" prompt on all source tables prompt	10
Atterberg limits	3, 10, 20	Insert Card menu	15
California bearing ratio	20	installing	7
CBR	20	keys	16
centimeters	See measurement units	laboratory testing module	10, 19, 26
Column title prompt	31	and figure numbers	9
configuring	See setup	configuration	16
CONS	10, 20	printing reports from	15
Copy Card menu	15	starting	2, 20-21
copyprotection	38	laboratory testing modules	25
Count number of items per source prompt	31	LD4	6, 29
Count total number of items? prompt	31	compatibility with	26
Cut Card menu	15, 22	license	37-38
data		LIMITS	20
exporting in files	36	List this item always? prompt	31
Data Export Options dialog	35	LL See Atterberg limits	
data summary		Location prompt	10
creating	34	Manually Select Sources option	34
Data Summary and Export menu	27	margins	32
database	27, 36	material description	See description
decimal places	10	measurement units	1, 12-13, 20
depth	12, 33	meters	See measurement units
description	2, 20	millimeters	See measurement units
Description prompt	12	moisture density	20
dial readings	See measurement units	multi-line fields	See paragraph
Dimension Units menu	1, 12	network	
dimensions	See measurement units	drive mapping	5
disk storage requirements	4	installing on	5
display resolution	4	wide-area	5, 37
Duplicate menu	15, 19	no source folder	2, 19
Edit menu	15	On reports, "Figure No." is titled prompt	9
Exit menu	15	Options menu	See setup
feet	See measurement units	Page Heading box	29
Figure No. prompt	32	paragraph	16-17
figure number	9	Paste Card menu	15, 22
on data summaries	32	percentage	10
Filter Criteria box	33	PI See Atterberg limits	
Find Text menu	15	PL See Atterberg limits	
Find/Replace Again menu	15	plate	9
First row has column titles prompt	36	Print Menu	15
fonts	32	printer	
GDM	See GEOSYSTEM Data Manager	setup	15
GDM.EXE	8	Printer Setup menu	15
GEOSYSTEM Data Manager		PROCTOR	10, 20
		project data	

defined	11	source folder	1
project file		creating	19
archiving	23	defined	19
creating	11–12	deleting	22
defined	11	opening	22
moving and deleting	25	Source menu	15
naming	1, 12	Source Selection dialog	34
opening	13	spreadsheet	27, 36
Project menu	14	starting GEOSYSTEM for Windows	8
Replace Text menu	15	stratigraphy patterns	26
Report Atterberg limits to prompt	10	subscripting characters	17
report date	9	summary	<i>See data summary</i>
resistance r-value	20	superscripting characters	17
R-VALUE	20	swell/consolidation	20
sample card	2	Table box	30
defined	20	testing data	
sample cards		deleting	21
cut/copy/paste	22	entering	20–21
moving between	16	moving between source folders	22
moving to a different source folder	22	text marking	16
sorting	15	Title prompt	29
sample length	12, 20	Tools Menu	16
sample number	2, 20	underlining	15, 16
Separator Character prompt	36	units	<i>See measurement units</i>
setup	1, 10	US	12
Setup General Options menu	<i>See setup</i>	USCS	3, 20
shortcut	8	volume	<i>See measurement units</i>
SI 12		wide-area network	<i>See network: wide-area</i>
sieve	<i>See measurement units</i>	Windows	
Sort by Depth menu	15	memory requirements	4
Sort On menu	14	NT4 and 2000	5
source		supported versions	3
defined	11	word processor	27
Source data entry field	2		