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dot ● PLOT
for the
geolo ● GIST

dotPLOT 6000-Series User Manual

**with Notes on HotPlot 2.5,
the Windows Interface**

This version of the manual is up-to-date as of dotPLOT version 6005 (dot6005) of 19 August 2010
and HotPlot 2.5.0 of 19 August 2010.

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1. Introduction

1.1 What This Program Can Do

The program **dotPLOT, Main Version 6000 (dot6000** for short) prints geological soil profiles and borehole logs on Hewlett Packard LaserJet printers, using a personal computer running Windows. It can also print to a variety of file formats including PDF. The program may be used without the borehole log option and without the PDF option.

dot6000 is designed specifically for soil profiles and borehole logs. It is a very compact program, superfast at 2 pages per second, with compact data files (typically less than 3 KB per page) and compact printer files (about 20 KB per page). Customers can learn to use it merely by looking at the examples supplied – training is almost superfluous – there are no templates or esoteric code words – **sandy silt** in the text will produce the symbol for sandy silt!

Some customers who have large database systems store the geologist's field notes on their database and then run the file of notes through **dot6000** for the printing of the profile report only when required, thus avoiding megabytes of graphics storage.

Input is in the form of a Microsoft Word .doc file or an ordinary text (ASCII) file produced by any word processing package or editor. The objective of the program is to **intelligently interpret** the stream of words as though they were typed directly from the field notes (possibly in the form of a tape recording), to automatically select symbols for soil and rock types, to choose appropriate scales, number of pages and page breaks, to format the text and to produce the finished pages ready for binding into a report, all with the minimum of editing by the geologist.

The printed soil profile is in the form of high-quality laser graphics combined with text in user-selected fonts. Symbols for almost any soil descriptions and rock types can be combined: thus the symbol for SANDY can be combined with the symbol for CLAY, and this can in turn be combined with the symbol for GRAVEL or BOULDERS. By clever masking, symbols containing white space (e.g. BOULDERS) can be superimposed on other symbols. The program allows any combination to be selected by the user of up to 12 symbols per layer. Eighty standard symbols are provided which cannot be altered by the user, although they can be reassigned. They have been designed to cover most soil types and all classes of the igneous rocks. A selection of libraries may become available.

Using an additional module the user may design symbols of his own'. Extra symbols or libraries can be provided for you at additional cost.

dot6000 will recognise notes on water tables (permanent or perched), water-seepage or water-strikes, weathering horizons, rockheads, samples (undisturbed disturbed or chemical) and locate symbols for these alongside the profile. Reduction of levels is automatic and a correction is applied for slope.

The BOREHOLE LOG module will allow up to 15 columns of rock attributes to be arranged in any order desired tabulated either on a sister-page or on the profile page. Bar graphs of the attribute values can be drawn with normal or inverse shading. Each borelog column may be sub-divided and sub-labelled.

A legend summarising all the particular symbols used on a job can be printed at the end of a run.

The user may download his own LOGOS to the LaserJet as macros which the program can automatically locate and print on each page. Optionally a PCL raster or PDF logo can be inserted in the print file. Alternatively space can be left for the logo on pre-printed sheets.

The program offers extensive support for non-English languages and non-standard use of symbols. All aspects of the program can easily be customised by the user to work in the user's choice of language or dialect – this includes keywords in the input text file, prompts by the programs, and printed output. Existing symbols may be assigned different names or synonyms in any number of languages.

A useful set of format controls is supported. The general page layout is customisable to a limited extent. Any bitmapped or scalable soft font on the user's hard disk may be used provided the files follow the HP protocol. Cartridge and Internal printer fonts may be used.

For PDF output only the useful 12 standard Adobe fonts are supported namely COURIER, HELVETICA and TIMES ROMAN, each with upright, italic, bold and bold oblique variations.

Because of the numerous variables involved and the variety of personal choices that are possible in arranging the layout, the program has been arranged to read a SETUP FILE that stores all the values required. A routine is provided which enables the user to easily make changes to the setup, to store those changes, and to recall or switch between them by name at any later time. Thus a single work station can keep track of up to 19 different setups: For example there may be one for profiles, one for boreholes, one for percussion logs and further variations to suit individuals using a pool work station.

Although the program allows for considerable customisation, it is supplied "ready to run" with normal English input and prompts, using a standard HP LaserJet printer and internal fonts.

1.2 Requirements

dot6000 runs under DOS, Windows 3.1, 95, 98, 2000, NT, XP and Vista.

The input data file can be prepared with any file editor (E.COM, EDIT.COM), or as a .DOC file using MS Word or as a TEXT file using WordPerfect, or directly using HotPlot (Next section).

While a Hewlett Packard LaserJet printer is recommended for PCL output, other makes of printer may work if they support page composing, HP-PCL (Printer Control Language) and 300 dots-per-inch graphics. PDF output can be printed via Windows to any installed printer.

512 KB RAM memory is sufficient.

1.3 Introducing HotPlot

There is an optional Windows interface, HotPlot, which provides access to the major functions of dotPLOT in a user-friendly visual fashion with mouse support. From Version 2.0.0 of February 2010, HotPlot lets you edit SET files, reducing or eliminating the need for JET SETUP.

1.4 Licensing

dot6000 is licensed for installation on the C: drive of one machine only. It will not run from stiffy drives. A server based licence is now available.

1.5 Terminology

In this manual the following terms are used for the various punctuation marks:

Symbol	Name	Also known as
	bar	vertical bar
_	underscore	underline
~	tilde	wiggle
`	acute accent	backward apostrophe
/	slash	forward slash
\	backslash	
^	caret	circumflex
()	parentheses	round brackets
[]	brackets	square brackets
{ }	braces	curly brackets
< >	less than, greater than, signs	angle brackets
#	hash	(pound sign on some keyboards)

To see what the symbols are used for, refer to section 6.1.2 below (The Format Control Characters)

2. Installation

DOTPLOT IS A **DOS** PROGRAM. THIS IS NOT A DOS TUTORIAL. IF YOU ARE NOT CONVERSANT WITH DOS FILES, DIRECTORIES, COMMANDS AND BATCH FILES THEN YOU SHOULD USE THE WINDOW INTERFACE, **HOTPLOT**.

THIS IS NOT A WINDOWS TUTORIAL EITHER. IF YOU ARE NOT CONVERSANT WITH BASIC WINDOWS CONCEPTS LIKE FILES AND FOLDERS THEN YOU SHOULD GET OUTSIDE HELP.

2.1 Summary

- Install **dot6000** (usually on a machine connected to a LaserJet). The program must be installed on the C: DRIVE – it will not run from any other drive.
- Alternatively, if you prefer a Windows interface, install HotPlot: It can then do the installation of dot6000.
- Test **dot6000**, through HotPlot if you are using it.
- Enter the licence details, obtain and save the licence file. For details see Section 2.5 below on page 11 (The Licensing Process) and subsequent sections.
- Perform any customisation such as changing the page layout (Chapter 5 below starting on page 46 – Customising dot6000) and adding your own Logo (Section 5.10 below on page 55).

Lack of a valid licence will cause the banner "DEMO" to appear on printouts. The banner will darken with age.

2.2 Installing the System

2.2.1 Installing the Combined HotPlot/dotPLOT Package

If you are not using HotPlot, ignore this section and skip to the one directly below.

The program can be downloaded from the Internet as an executable file **HotPlotSetup.exe**.

1. Click the Internet hyperlink, found near the top of the page <http://www.softwareafrica.co.za/dotplot-setup.htm>
2. A pop-up window will ask if you want to Save or Run the program. Choose **Run**. (for multiple PCs, you can Save it and then Run it later on each PC)
3. Wait until the program has downloaded. If the Download window does not close automatically, close it.
4. The WinZip Self-Extractor will appear, ask for an "Unzip to" folder, and offer **C:\dotSetup** as the default.
5. Click the **Unzip** button. **NB:** You must use C:\dotSetup and not change to anything else! If your PC does not have a C: drive, contact us for an alternative Setup.
6. The WinZip Self-Extractor will say: "10 file(s) unzipped successfully". Click OK and Close.
7. Run "My Computer" or Windows Explorer (shortcut: "Windows key" + E).
8. Open the folder that you unzipped to, i.e. C:\dotSetup
9. You should see a program, SETUP.EXE (If you see **SETUP**, not **SETUP.exe**, you have file extensions turned off –this is OK, but don't confuse it with SETUP.LST which is also there).
10. Double-click SETUP.EXE to run it.

11. The **HotPlot for dotPLOT Setup** window should open. On the Welcome screen, click **OK**.
12. Click the big button at top left to begin installation.
13. Wait until it says "HotPlot for dotPLOT Setup was completed successfully".
14. Click the **Start** button. Under **Programs**, you will find a new item: **HotPlot**. Click it to run the program. ,
15. To create a shortcut to HotPlot on your desktop, use the right mouse button to grab the **Start > Programs > HotPlot** icon and drop it on your desktop, then choose "Copy Here".
16. When you run HotPlot it will notice that you do not have dotPLOT installed, and offer to install it.
17. Just click **Yes**, and dot6000 will be installed (when prompted to "Press any key to continue", press **Enter** as required until you see the message END OF INSTALLATION).
18. HotPlot will congratulate you on installing dotPLOT, and tell you how to License dotPLOT. Click **OK**
19. HotPlot will ask you to find PROFILE.EXE. It will already be looking at C:\dot6000, so just click **Open**.
20. HotPlot is now running and connected to dotPLOT. Click **Help** for pointers on getting started.
21. You can now delete the temporary folder C:\dotSetup.
22. You can upgrade the system at any time by repeating the installation process.

2.2.2 Installing dotPLOT Only

If you wish to use the Windows interface, HotPlot, ignore this section and use the previous one directly above.

The program can be downloaded from the Internet as an executable file **dot6000Setup.exe** (the exact number will vary with the version).

1. Click the Internet hyperlink found near the **bottom** of the page <http://www.softwareafrica.co.za/dotplot-setup.htm>
2. A pop-up window will ask if you want to Save or Run the program. Choose **Run**. (for multiple PCs, you can Save it and then Run it later on each PC)
3. Wait until the program has downloaded. If the Download window does not close automatically, close it.
4. The WinZip Self-Extractor will appear, ask for an "Unzip to" folder, and offer C:\dotSetup as the default.
5. Click the **Unzip** button. NB: You must use C:\dotSetup and not change to anything else! If your PC does not have a C: drive, contact us for an alternative Setup.
6. The WinZip Self-Extractor will say: "7 file(s) unzipped successfully". Click OK and Close.
7. Run "My Computer" or Windows Explorer (shortcut: "Windows key" + E).
8. Open the folder that you unzipped to, i.e. C:\dotSetup
9. Double-click C:\dotSetup\INSTALL.BAT (not to be confused with message file INSTALL.MSG) to run it.
10. When prompted to "Press any key to continue", press **Enter** as required until you see the message END OF INSTALLATION.
11. Press **Enter** to exit the Install.
12. Once you are satisfied that dotPLOT runs, you can delete the "C:\dotSetup" folder and its contents.
13. You can upgrade the system at any time by repeating the installation process.
14. If you wish, create a shortcut to the executable file **c:\dot6000\profile.exe** on your desktop.

The program supplied will be fully functional but a licence will be needed to suppress the “DEMO” banner on printouts.

2.3 Running dotPLOT

dotPLOT may be launched from DOS by running the executable C:\dot6000\profile.exe. To run from Windows, create your own shortcut on the windows desktop that uses C:\dot6000\profile.exe as the target.

To run dotPLOT from **HotPlot**, first run HotPlot using **Start > Programs > HotPlot** (or a desktop shortcut if you created one as described above). Near the bottom right of the HotPlot window, click the button [**Go to dotPLOT**]. This will put you into the main dotPLOT Menu:

The first time the program runs, it will examine the system to determine the type of monitor screen present and will store the values it needs in a file called **PROCOLOR.CUS**. On later runs this is bypassed.

This is the **MAIN MENU**:

```

      d o t . P L O T
      =====
      Program to print and draft soil profiles
      Version 6005
      MAIN MENU

      DONGLE # Licence D000   Company Name   PBpH6
      Program Active

      PROFILE VOCABULARY Filename = PROVOCAB.ENG
      SETUP Filename = STANDARD.SET

      F1      F2      F3      F4      F5
      START  ACTIVITY OUTPUT to ADDRESS  ACCESS
            PROFILES PRNTFILE.PDF C:\DOTFILES JET-SETUP
  
```

The function keys (**F1** to **F5**) are fully explained in Section 4.3 on page 38 (The Conversion of the Text File to a Transfer File).

If you will be printing to a printer connected to your PC, press **F3** as many times as required for the F3 display to read “OUTPUT to PRINTER”. Now you must find the address of the printer port on your work station: It is likely to be either LPT1 or COM1. **dot6000** expects to see a printer at the address shown on your screen under F4. If this does not agree with the configuration of your machine it will be necessary for you to now select JET-SETUP and re-define the default address, as explained in Section 3.3 on page 20 (Changing Path to Printer Port).

Printing to a USB or network printer can only be done through the PDF module – i.e. the trusty old DOS command “copy/B FILENAME LPT1” is no longer supported for USB devices.

For printing a PDF file, Adobe Acrobat Reader (or equivalent) is used to open the files and must have access to a Windows printer. If you will be printing to a printer connected to your PC, press **F3** as many times as required for the F3 display to read “OUTPUT to PRNTFILE.PDF”. Note the F4 display of the address to which files will be printed: If this is not acceptable, press **F4** to change it (files will be printed to the subfolder “000000” at this address).

2.4 Testing Profile Symbols

At the dotPLOT **MAIN MENU**, choose SYMBOLS by pressing the **F2** key as many times as required. Then press **F1 START**. A list of the standard symbols will be displayed.

```

T E S T   R O U T I N E
=====
ROUTINE TO PRINT THE SYMBOL LIBRARY SUMMARY SHEETS.
THIS TEST ROUTINE DOES NOT REQUIRE A VALID PASSWORD.
YOU MAY NOT CHOOSE MORE THAN 36 SYMBOLS AT A TIME.
(You must spell the symbol names exactly as below)
|BOULDERS      |SCATTERED BO|GRAVELS      |GRAVELLY     |SAND         |SANDY
|SILT          |SILTY       |CLAY         |CLAYEY      |CONGLOMERATE|SANDSTONE
|MUDROCK      |COAL        |DOLOMITE     |LIMESTONE   |QUARTZITE   |BANDS
|PLUTONIC     |HYPABYSSAL |VOLCANIC     |DIORITE FAMI|GABBRO FAMIL|PYROXENITE F
|FREE QUARTZ  |GRANITE     |QUARTZ DIORI|QUARTZ GABBR|QUARTZ PYROX|GRANITE PORP
|QUARTZ DIABA|QUARTZ DOLER|RHYOLITE POR|QUARTZ ANDES|QUARTZ BASAL|DIORITE
|GABBRO       |PYROXENITE |DIABASE      |DOLERITE    |ANDESITE    |BASALT
|NEPHELINE SY|OLIVINE DIOR|OLIVINE GABB|PERIDOTITE  |TINGUAITE   |OLIVINE DIAB
|OLIVINE DOLE|KIMBERLITE  |PHONOLITE   |OLIVINE ANDE|OLIVINE BASA|OLIVINE
|QUARTZ VEINS|METAMORPHIC|SCHIST       |BRECCIA     |CHERT       |WAD
|DENSE FERRIC|NODULAR FERR|SPARSE FERRI|DENSE CALCRE|NODULAR CALC|SPARSE CALCR
|CALCRETE    |WELL CEMENTE|PARTIALLY CE|RUBBLE      |FILL        |CRUSHED ROCK
|CONCRETE    |PERMANENT WA|PERCHED WATE|UNDISTURBED |DISTURBED SA|CHEMICAL SAM
|ROOTS       |ROCKHEAD    |WEATHERING H|WATER SEEPAG|BAND

```

> Enter **START SYMBOL**, **END SYMBOL** (skip to abort)

Type start and end spanning no more than 36 symbols (reading horizontally and then vertically – as with normal text)

startname, endname <ENTER>

Up to 25 symbols can be printed on one page. If all is in order the page will print successfully looking like the examples in Chapter 8, and the menu will reappear. To exit, press **ESC**.

If the printing is not successful check the **cables**, **switches** and the **address** as described above. If using a serial interface check **baud rate** settings on your computer **and** printer. If the printer is not an HP LaserJet model, check that it is indeed fully compatible and set to use HP-PCL (Hewlett Packard Printer Control Language). If this is not the case, printout can be obtained via PDF and Acrobat.

2.5 The Licensing Process

You can test dotPLOT and HotPlot without licensing the system. The banner "DEMO" will appear across printouts.

2.5.1 Types of Licence

The basic dotPLOT licence covers only soil profiles. Extras, optional though recommended, are:

- ◆ HotPlot (Windows interface): Without licensing this option, if you run dotPLOT from HotPlot, it will run as a demo. dotPLOT can still be run thorough DOS, but you miss out on the user-friendly Windows interface of HotPlot.
- ◆ PDF: This is necessary to produce PDF files, both for e-mailing and for printing using Adobe Reader. Without it, you can print directly to Hewlett Packard LaserJet printers and printers that are fully compatible with them.
- ◆ Borehole Log: This is essential if you are doing cores and not just test pits. This option gives you a facing page (which can be combined onto the main page) with columns of attributes that can include graphs.
- ◆ dot6000 features: If you are upgrading from an earlier version there is an extra charge for this. If you purchased dot6000, it forms part of the package.

2.5.2 Requesting a Licence

If you have not already done so, install HotPlot (if you are using it) and dotPLOT as explained above. Run dotPLOT, either on its own or from HotPlot.

To run dotPLOT from HotPlot, run HotPlot. At the bottom right of the HotPlot window, click the button [Go to dotPLOT]. This will put you into the main dotPLOT Menu:

```

PROMENU UserNo = 0

                d o t . P L O T
                =====
                Program to print and draft soil profiles

                Version 6005

                MAIN MENU

                No Licence

                IN DEMO MODE!
                Press <Alt+L> for Licence Application, <Alt+P> for Password.

                PROFILE VOCABULARY Filename = PROVOCAB.ENG
                SETUP Filename = STANDARD.SET

                F1          F2          F3          F4          F5
                START      ACTIVITY    OUTPUT to   ADDRESS    ACCESS
                           PROFILES  PRNTPFILE.PDF C:\DOTFILES JET-SETUP
  
```

Hold in the **Alt** key and press **L** on the keyboard to go into the Licensing screen:

2.5.3 The Internet Licence Application Screen

You should see the screen shown below. Type your company details in the block. Brief Help appears on the right-hand side of the highlighted line. The "Company Name" will appear on all printouts from dotPLOT, so make sure it is correct!

Press **Enter** or **↓** to go to the next line, **↑** to go up a line. Press **Esc** (escape) when finished. The data will be saved automatically.

```

INTERNET LICENCE APPLICATION

COMPANY NAME Software Africa < Signature
POSTAL ADDRESS 126 Kelvin Drive
continued Morningside Manor
continued 2191
Contact name Rick Raubenheimer
Phone numbers 011 802-2685 / 082 389-3482
e-mail address rick@softwareafrica.co.za
OPTION Borelog Y
OPTION PDF Y
OPTION HotPlot Y
OPTION PlainText Y < Y=Yes
LICENCE DRIVE E: < eg C:
NUMBER OF COPIES 1 < for Servers
TALLY IN FAMILY 1 < for Site

NOTES: <Esc> press escape to exit.
Be careful how you choose the drive for the Licence. It may be C: X: or S:
example C: for your hard drive, equivalent to password - for life of the drive.
X: for a flashdisk (for example) - mobile and portable, prone to theft.
S: for a server, number of concurrent users is controlled.

To get a Licence, e-mail C:\dot6000\MAILFORM.OUT to rick@softwareafrica.co.za.

```

Select the items you want in the "OPTION" choices:

- ◆ Put a Y next to OPTION Borelog if you want Borehole logs.
- ◆ Put a Y next to OPTION PDF, HotPlot and PlainText (dot6000) – you will almost certainly want these features: If you are upgrading from an earlier version there is a charge for the new dot6000 features. If you purchased dot6000, it forms part of the package.

Licence Drive

Think carefully about where you want to store the licence. It may be C: (your hard drive), a USB flash drive, or a mapped drive on a server. A server may also have a flash disk mounted and shared. The licence on C: lasts for the life of the drive and dies with it. A licence on a flash drive is mobile and portable, but prone to loss and theft. A server licence lasts for the life of the server drive and dies with it. In all cases you should **insure** your software, as loss of the licence means that you will have to purchase an additional licence to replace it (this costs somewhat less than your first copy of the program).

While the choice of drive is up to you, we **recommend a USB flash drive** because it is portable and likely to outlive any hard drive. For security purposes it can be inserted in a Server USB port and locked in the Server Room.

In all cases, specify a mapped drive letter only, not a path with subfolders! If necessary, map a new drive letter to the folder you want to use. This drive letter must exist; otherwise when you Escape from the form, you will get the message: **"Not completed properly - Aborting!!"**

Caution – Network Drives: You must have rights to create, modify and delete files and folders on the mapped drive that you choose. The licensing program will try to create a folder named DOTPLOT.USB on the mapped drive, and the licensing process will fail if it can not do so. Alternatively, before completing the form above, you may manually create this folder on root folder of the drive concerned.

Multiple Users: Number of Copies

A server licence (putting the licence file on a server drive) allows you to have more than one copy (increase "number of copies"): The number of concurrent users is controlled. Any extra users who try to run profiles at the same time will produce printouts marked "DEMO". The folder should be mapped as the same drive letter for all PCs that will be using dotPLOT. See the section "Additional Licences" below.

Multiple Dongles: Tally in Family

An alternative to a server licence, as outlined above, is to have several interchangeable USB flash drives ("dongles"). In this case you should leave "number of copies" at 1, and change "Tally in Family" to the number of separate dongles you want. See the section "Additional Licences" below.

2.5.4 Apply for a Licence

Press **Esc** to get out of the Internet Licence Application Screen and **Esc** again to close dotPLOT.

Create an e-mail to rick@softwareafrica.co.za and attach the file C:\dot6000\MAILFORM.OUT to it. Send.

2.5.5 Receive and Install Licence

Once you have paid, you should receive an e-mail with a licence file attached. The file will be named PROPASS.KEY. Save the file to a folder named DOTPLOT.USB which should already exist on the drive that you selected above for your licence. Thus the licence file will be C:\DOTPLOT.USB\PROPASS.KEY for your local hard drive, or it might be E:\DOTPLOT.USB\PROPASS.KEY for a flash drive.

2.5.6 Check the Licence

If you chose a flash drive for your licence, make sure it is inserted into your PC. If you have a server licence, make sure that you have mapped the relevant folder with the drive letter you selected above.

Run dotPLOT for the Main Menu:

```
PROMENU UserNo = 1

                d o t . P L O T
                =====
                Program to print and draft soil profiles

                Version 6005

                MAIN  MENU

                DONGLE #50 Licence D071 Software Africa  PBpH6

                Program Active

                PROFILE VOCABULARY Filename = PROVOCAB.ENG
                SETUP Filename = STANDARD.SET

                F1      F2      F3      F4      F5
                START  ACTIVITY OUTPUT to ADDRESS  ACCESS
                PROFILES PRNTFILE.PDF C:\DOTFILES JET-SETUP
```

You should now see your licence details in the middle of the screen and the message "Program Active". When you run profiles from dotPLOT, the "DEMO" watermark should have disappeared. Press **Esc** to exit from dotPLOT.

2.5.7 Additional Licences

For licences on the C: drive of other PCs, follow the procedure above with every other PC.

For licences on other USB flash drives, use "Tally in Family" equal to the number of dongles you want. Carry out the procedure above with all the USB flash drives. This is most conveniently done from the same PC since you will not have to re-type the details. However, the file MAILFORM.OUT will change for each flash drive, so make sure that you have gone out of the Licence Application Screen and attached MAILFORM.OUT to your e-mail before you start on another flash drive. Number the flash drives and number your e-mails so that you can put the correct PROPASS.KEY on the correct drive: PROPASS.KEY will not work on the wrong flash drive!

On a server, you can increase the number of licences at any time by repeating the process above and increasing the "number of copies" count. Make sure that you are still using the same server's hard drive and mapped letter. When the new PROPASS.KEY arrives it must replace the old one.

2.5.8 Changing your Company Name

When you e-mail your request for a Licence (as above), your Company (Branch) Name and e-mail address are encoded into the licence. If your site name or e-mail address change, e-mail Software Africa at info@softwareafrica.co.za again with the old and changed details. If the company name has changed, you must provide legal proof of the change in the form of your CIPRO registration. There will be a small charge for this service.

2.6 Obtaining a Password

Password licensing is an older method and applies only to the C: drive of a single PC. It has largely been superseded by the <Alt+L> licensing method described above, but is still in use on some older systems. Ignore this section if you used the licensing method above.

Run the program **dot6000** and proceed again to the main menu:

```

                                d o t . P L O T
                                =====
                                Program to print and draft soil profiles
                                Version 6005
                                MAIN MENU

                                DONGLE # Licence D000   Company Name   PBpH6
                                Program Active

                                PROFILE VOCABULARY Filename = PROVOCAB.ENG
                                SETUP Filename = STANDARD.SET

                                F1      F2      F3      F4      F5
                                START  ACTIVITY OUTPUT to ADDRESS  ACCESS
                                PROFILE PRNTPFILE.PDF C:\DOTFILES JET-SETUP
    
```

To obtain a licence, run the program until the main menu appears. The status of the licence will be displayed. Press <Alt+P> to access the password routines. Your “**ACCESS CODE**” will be displayed in the first box. You must give this code to the licence supplier. They will require you to submit your business details and order number, and will then give you a **Licence Number** and **Activation Code**. These must be entered on the screen and after validation they will be stored automatically on your hard drive.

Note that the “**Activation Code**” is not re-usable, i.e. it will be valid only on the one machine at the time of issue.

If security is breached or if a task is commanded beyond the permission granted then the “**DEMO**” banner will appear on the printout.

NOTE: the licence is valid for use on the C: drive of only one machine, except that a key disk will enable a copy of the program on any other machine.

If a key disk is used, the disc is checked and a short status report is displayed on screen.

The program may be re-installed and fully updated and licences and permission may be revised at any time.

```

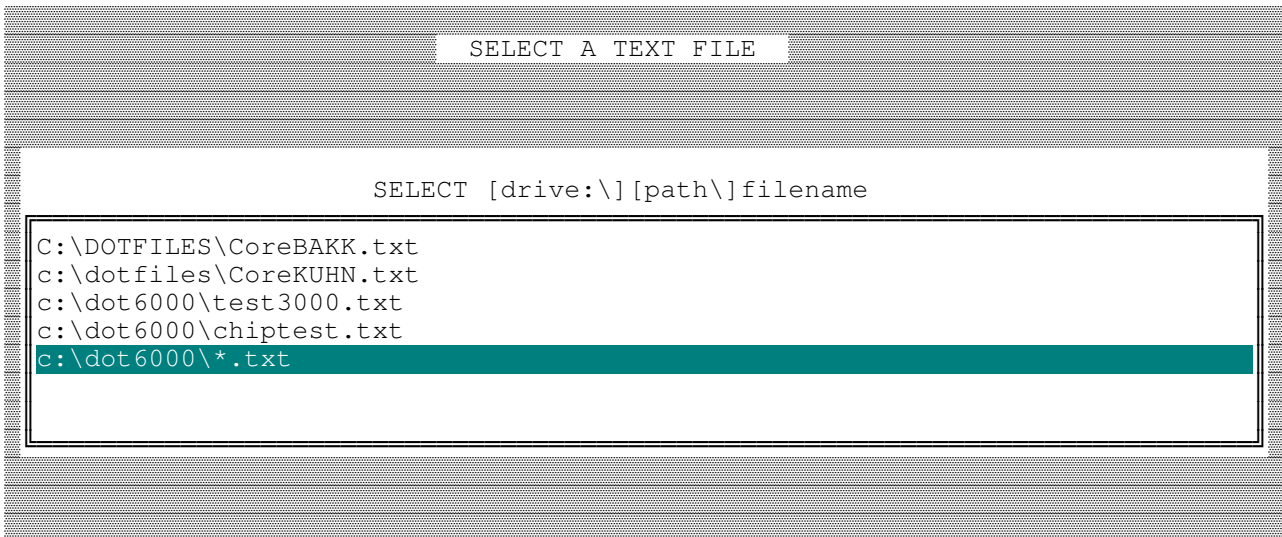
HOST LICENCE OFFICE contact details:
                    Software Africa
                    126 Kelvin Drive, Morningside Manor
                    2191 South Africa
                    Tel   : 011 802-2685 / 082 389-3482
                    Fax   : 086-635-7902
                    e-mail : rick@softwareafrica.co.za
                    Web   : www.softwareafrica.co.za/dotplot.htm
                    Please Phone/Fax/Email
                    your Access Code to HOST
                    to obtain a Licence Code.

.   Your Access Code 43AB31
.   Your Serial No  D01F
.   Enter Licence Code
    
```

2.7 Selecting a Text File

Now you will do a test printout with one of the sample files supplied with the program. If you are using HotPlot you can do this directly from the HotPlot screen, third line down. Otherwise, run dotPLOT:

On the Main Menu in dotPLOT, press **F2** until "ACTIVITY PROFILES" appears on the F2 display, then press **F1** "START":



The path and filename string may be picked from the window and the search mask can be modified or accepted after picking on the line below the window.

If a valid file is picked and accepted then the path and filename will be pushed onto the stack of the most recent twenty choices.

If you press <ENTER> the program will continue and the default search string for finding the text files will appear. Pick one of them – say **EXAMPLES.TXT** for conversion and printing.

The conversion program will process the text file, writing a temporary transfer file on the C:\dot6000 directory. First a quick test is performed on the structure of the text file and then as work proceeds the various filenames will be shown on the screen, accompanied by a display of dots, one for each line processed. An error message example should appear for the hole TH22 (ignore it).

```
CONVERTING TEXTFILE INTO TRANSFER FILES.
CONVERSION VOCABULARY Filename = CONVOCAB.ENG
.....//
1
.....// 2
.....// 3
// 4
.....// 5
.....// 6
.....// 7
///
Block file structures ok.
DEM.....ESTDEM
TH 22.....Check sample notes! PLEH22
TH 23 .....PLEH23
BH3LOG ..... PLELOG
BH 009.....
.....PLE009
TUT001.....
.....TUT001
TUT002.....TUT002
.
Press any key to continue.
```


To continue, press any key.

The next screen carries a heading with the name of the text file (**EXAMPLES.TXT**) followed by a list of the holes it contains.

```

List of Filenames contained in the TextFile "EXAMPLES.TXT"
=====
ESTDEM
PLE009
PLEH22
PLEH23
PLELOG
TUT001
TUT002

> Enter Filename (skip to escape) (0 to flush)

```

You should enter:

DEM <ENTER>

This selects the file for printing. Press <ENTER> at each successive prompt to start the printing process:

The profile page and the attributes page for the example **TEST DEM** should be printed, looking like the example in the separate PDF file EXAMPLES.PDF and the main menu should reappear. Press <Esc> to quit.

A block banner **DEMO** will be superimposed on the pages. This will remain while the Licence or password is invalid and will darken with age.

2.8 Final Testing of dot6000

The conversion routine will be bypassed if the text file has not changed.

The list of all the transfer files generated by the text will be displayed. The names of the transfer files are derived from the last three characters of the jobname and the last three characters of the hole name, zero-filled if necessary. The purpose is purely to aid the user in picking the set to be printed, since the transfer files are temporary. The screen will again display:

```

List of Filenames contained in the TextFile "EXAMPLES.TXT"
=====
ESTDEM
PLE009
PLEH22
PLEH23
PLELOG
TUT001
TUT002

> Enter Filename (skip to escape) (0 to flush)

```

Type: **ALL** <ENTER>

This marks all files for printing in the order displayed.

```
List of Filenames contained in the TextFile "EXAMPLES.TXT"
=====
ESTDEM      <=1
PLE009      <=2
PLEH22      <=3
PLEH23      <=4
PLELOG      <=5
TUT001      <=6
TUT002      <=7
```

```
> Enter Filename (skip to escape) (0 to flush)
```

Once your selection has been marked on the screen all subsequent prompts can be answered simply by pressing **<ENTER>**.

The profile should then be printed looking like the examples in Chapter 8 and without the banner **DEMO** superimposed. If this test works satisfactorily, the system is ready for production. You may customise the logos and languages beyond the defaults supplied as discussed in Chapter 5 below starting on page 46 – Customising dot6000.

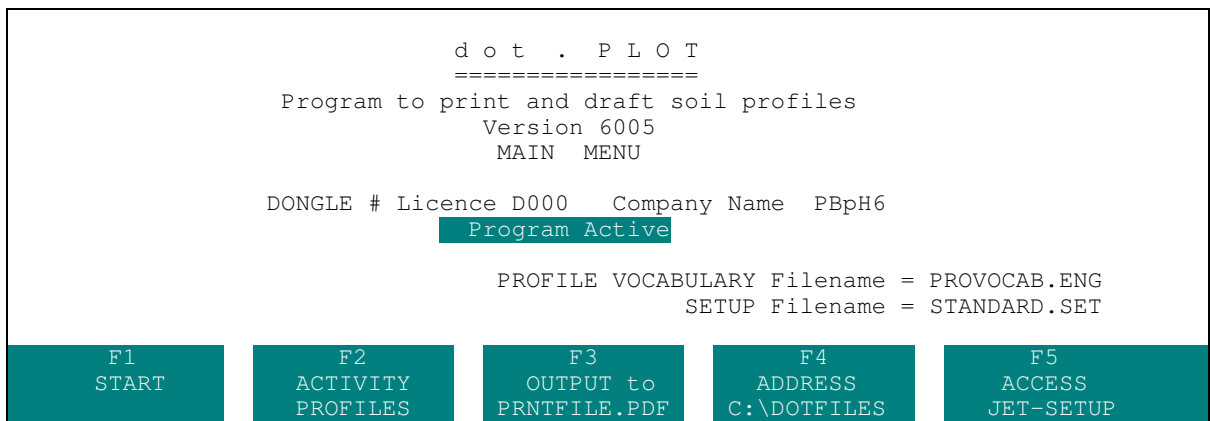
3. JET SETUP

JET SETUP is a routine which enables the user to change any item in the setup file and store the new set of values either in a new file with a new name or back in the same file. Because a setup can then easily be recalled by name consider replacing “it means that” with a comma it means that a single work station can quickly access many different combinations of the numerous variables concerned.

From Version 2.0.0 of February 2010, HotPlot lets you edit SET files, reducing or eliminating the need for JET SETUP. Click the **Edit** button next to the SET file name.

3.1 Accessing JET SETUP

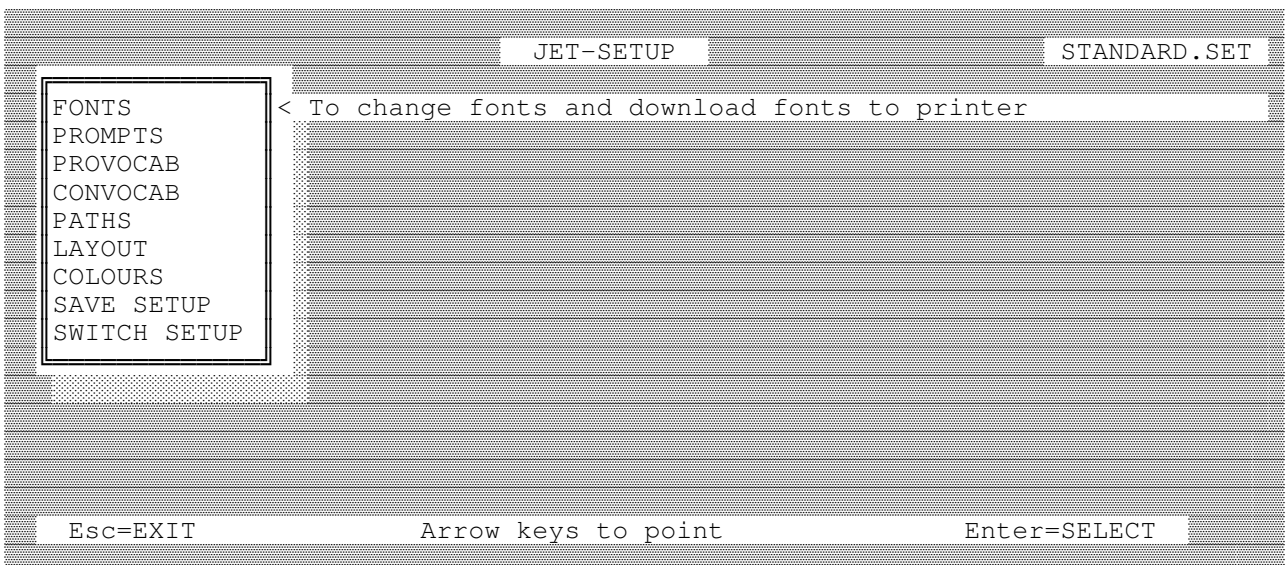
JET SETUP is accessed from the main menu of **dot6000**.



Choose JET SETUP by pressing the <F5> key.

3.2 Using JET SETUP

This is the JET SETUP menu with the name of the current setup file displayed at top right.



The arrow keys (up and down) are used to point to an item. The mouse may also be used.

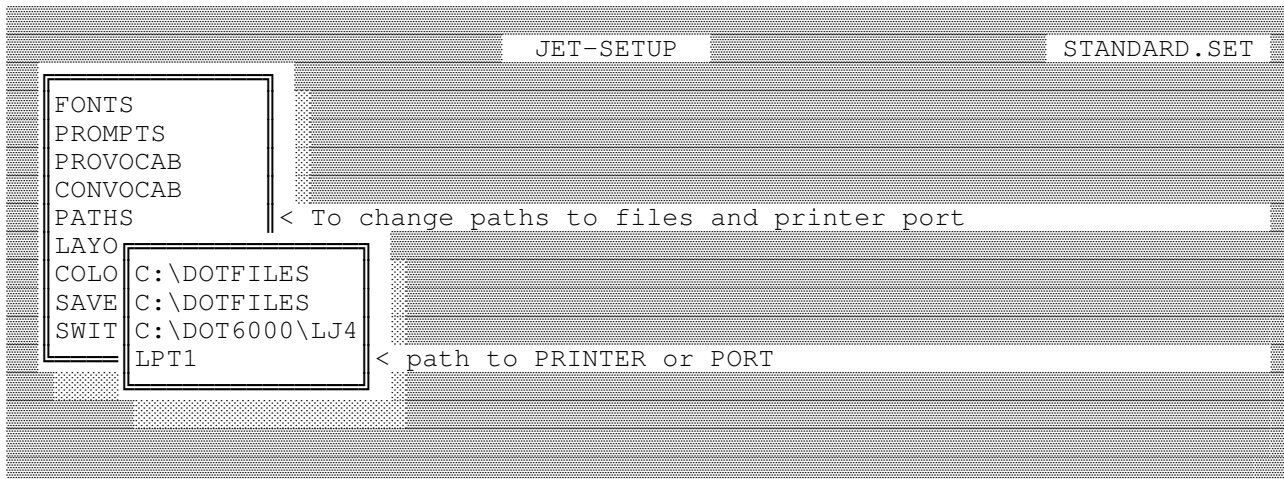
A brief **help note** alongside the highlighted item describes the consequence of a selection.

The <ENTER> key is used to select the highlighted item and the <Esc> key will back out.

When deeper into this menu, the current setting of a value is usually displayed, and when possible, new entries are checked against an allowable range, before acceptance.

A new setup will become active only on return to the main Menu and only if it has been **saved**. If not saved, the new combination is discarded.

3.3 Changing Path to Printer Port



The printer port depends upon how your workstation hardware has been configured. The program can output to both serial and parallel ports. USB can only be accessed via the PDF option.

To change the printer port address, at the JET SETUP menu select PATHS and then select path to printer PORT.

You can now specify the new printer port. (A blank entry will back out.) Network paths for example \\server\HP1200\ and \\198.162.1.77 are supported.

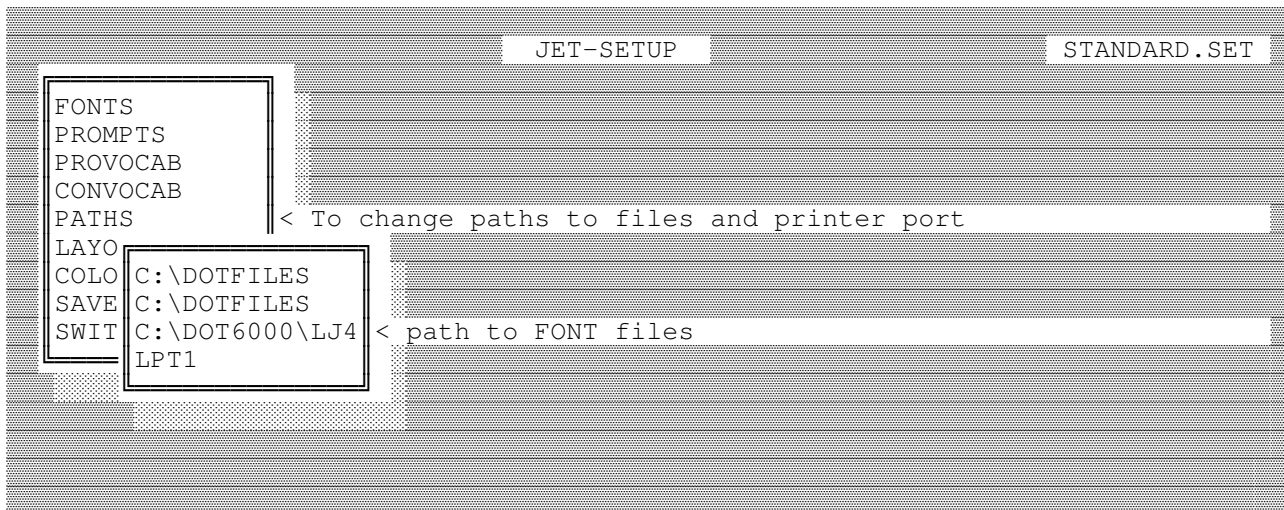
You can also change the printer port temporarily, for the duration of a run, from the keyboard at the Main Menu.

Please note: The entry is not checked! If invalid, it may cause the computer to wait for a timeout.

3.4 Changing Path to Font Files (PCL)

When comparing printed output in various formats the differences generally are caused by font substitution. **dot6000** in PCL mode builds the PCL output file using any available PCL fonts directly. This works well when the output is going to an HP-PCL printer. However, when building a PDF output file, the PCL fonts must be replaced by the fonts available to Adobe Acrobat, which are then directed to the screen or to any installed printer device through the driver.

For PDF fonts refer to Section 3.10 below (Note on PDF Fonts).

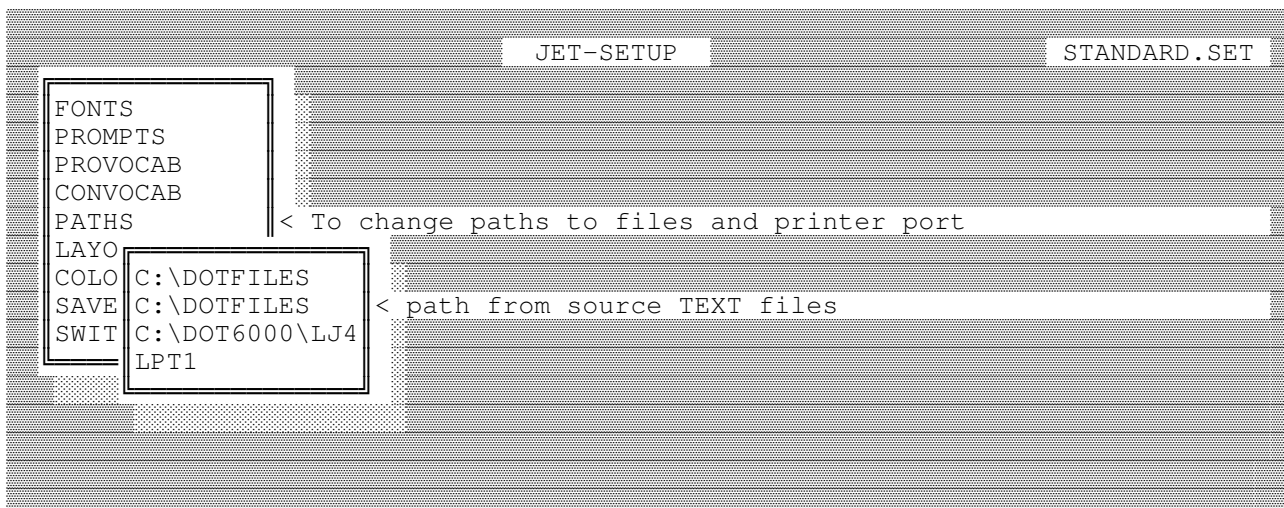


If the workstation has access to soft fonts then these can be made available to **dot6000** merely by specifying the directory in which the soft font files are stored. Because the program must examine every file in the specified directory to check if it is a font file it is advisable to keep the required soft font files (or copies of them) in a compact dedicated directory, without the presence of other files to clutter up and slow down the search. If the number of files in the specified directory exceeds 80 it is possible that some font files will be missed confusing— another good reason for grouping the required fonts together in one small directory named **C:\dot6000\FONTS** ready for this purpose.

To change the path to font files select **PATHS** in the **JET SETUP** menu and then select the current path to **FONT** files.

You may now enter the new path to font files. A blank entry will back out. The entry is not checked but if it is invalid a message will be issued when the program attempts to access the font files. If a font is not available at the printer when needed, the ends of lines may fall short or wrap and the result is unpredictable.

3.5 Changing Path to Text Files



The path from the source text files is usually set as the path to/from the word-processor document directory: this depends on how the user chooses to organise the hard disc or network directories for the word-processor programs where the text files are prepared.

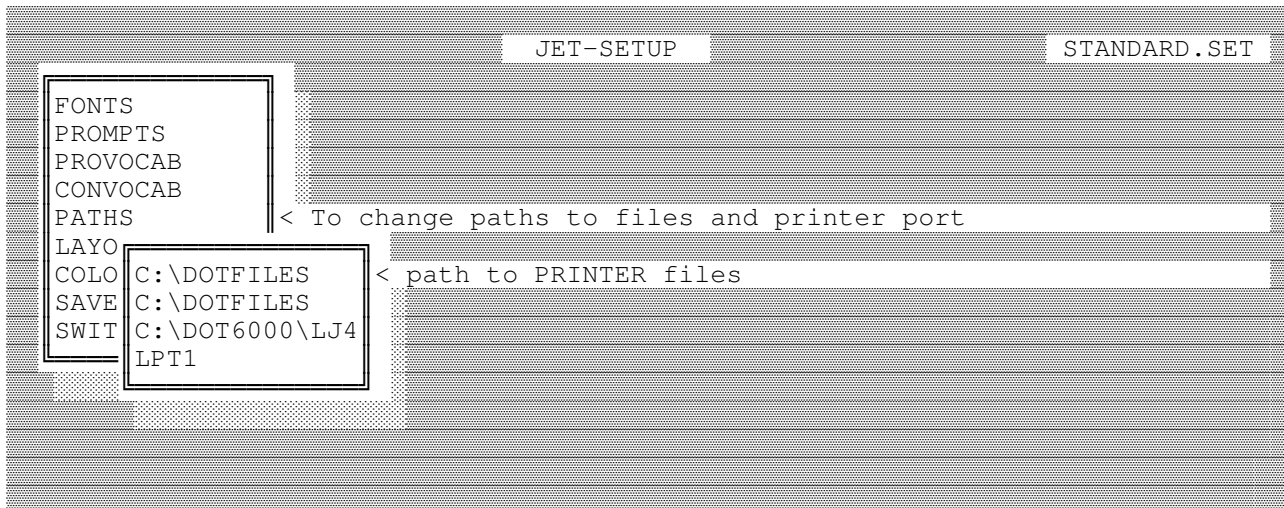
To change the current setting first select **PATHS** at the **JET SETUP** menu, then select the line specifying the paths from source text files.

The new path can now be entered. A blank entry will back out. This entry is **not checked**.

It is really just an aid for specifying the source text filename fully and for obtaining selective directory listings prior to the conversion process. If it is invalid and the full path to the text file is not specified in the filename, it will cause a message such as “file can not be found” to be issued, such as “file cannot be found”.

In **dot6000**, the pick window and acceptance line have caused the path to text files to become disused.

3.6 Changing Path to Printer Files



Printer files are printouts sent to a disk file rather than direct to the printer: This is usually used for PDF output or in cases where a suitable printer is not connected to the workstation and the output must be ported to some other computer which has a LaserJet. PDF output files are stored on this path.

To change the path go to JET SETUP menu, highlight PATHS and press <ENTER>. Then, while pointing to the **path to PRINTER files**, press <ENTER> again.

You may now enter the PATH to any disc drive and directory, for example **C:\DOTFILES**. If you enter a blank the routine backs out.

Note that the path to printer files may also be altered temporarily, for the duration of a run, from the keyboard at the main menu.

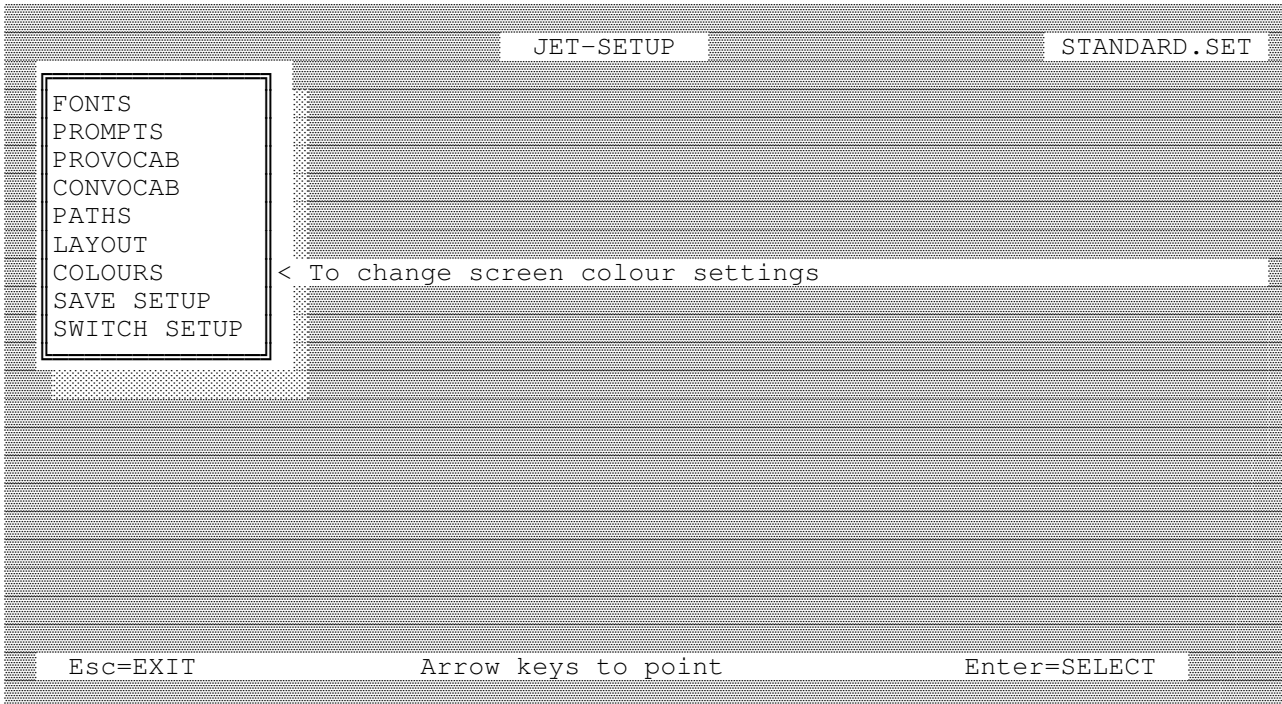
The entry is **not checked** and if it is invalid a print to file will not be successful. DOS may attempt to give a message which will appear as a row of dots on the graphics screen.

In **dot6000** the path to printer files has been set up as C:\DOTFILES. The output file will then be parked in a directory C:\DOTFILES\Jobname and will be given the name

```
C:\DOTFILES\Jobname\holenumber
```

The jobname / hole number will have all blanks removed and will then be squashed to a string not more than 8 characters long. Please beware of the DOS requirements concerning special characters in filenames.

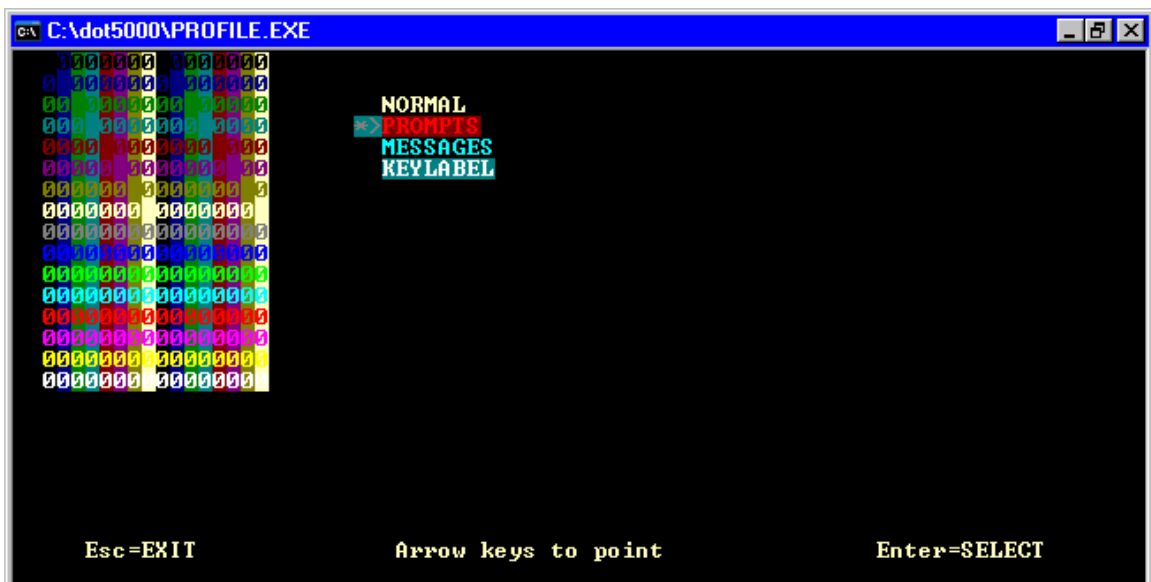
3.7 Changing Screen Colours



First time round and at any time later some items may need to be adjusted to make the program easier to use:

COLOURS will probably be the first item requiring attention.

Use the arrow keys to highlight COLOURS and then press **<ENTER>**. A colour chart will be displayed and the cursor may be moved around using the arrow keys to point to a class of screen text and then to select a suitable colour combination. The new selection may only become apparent after a return to the main menu – because the JET SETUP menu is saved as a block and restored before the new colours become active.



3.8 Changing the Layout

		JET-SETUP	STANDARD.SET
	1	SCALE OPTION	< 1=METRIC 2=IMPERIAL scale option (no)
FONT	A4	PAGE SIZE	
PROM	0	APAGE LH MARGIN	
PROV	0	APAGE RH MARGIN	
CONV	0	PPAGE LH MARGIN	
PATH	0	PPAGE RH MARGIN	
LAYO	300	HEADER BLOCK	
COLO	300	FOOTER BLOCK	
SAVE	110	BORELOG OPTIONS	
SWIT	575	JOBTITLE OFFSET	
	0	FOOTER MARGIN-1	
	790	FOOTER MARGIN-2	
	4	INDENT MODULE	
LOGCG		LOGO ID OR FILE	
	0	LOGO-X	
	0	LOGO-Y	
	0	COMPRESS OPTION	
	6	LINES PER INCH	

Esc=EXIT Arrow keys to point Enter=SELECT

The page layout is controlled by the values of the items in the list. All items marked below with ► can also be changed in the header for the job or the header for a hole.

To change the layout, select **LAYOUT** at the **JET SETUP** menu and then select the item required.

You can then enter the new value. The entry prompt will carry a reminder of the current valid limits: note that the value of some of the items affects the valid range of others.

Most items are checked but it may still be possible to concoct a combination that gives a distorted layout.

A blank entry leaves the current setting undisturbed.

The various items that affect the layout are as follows:

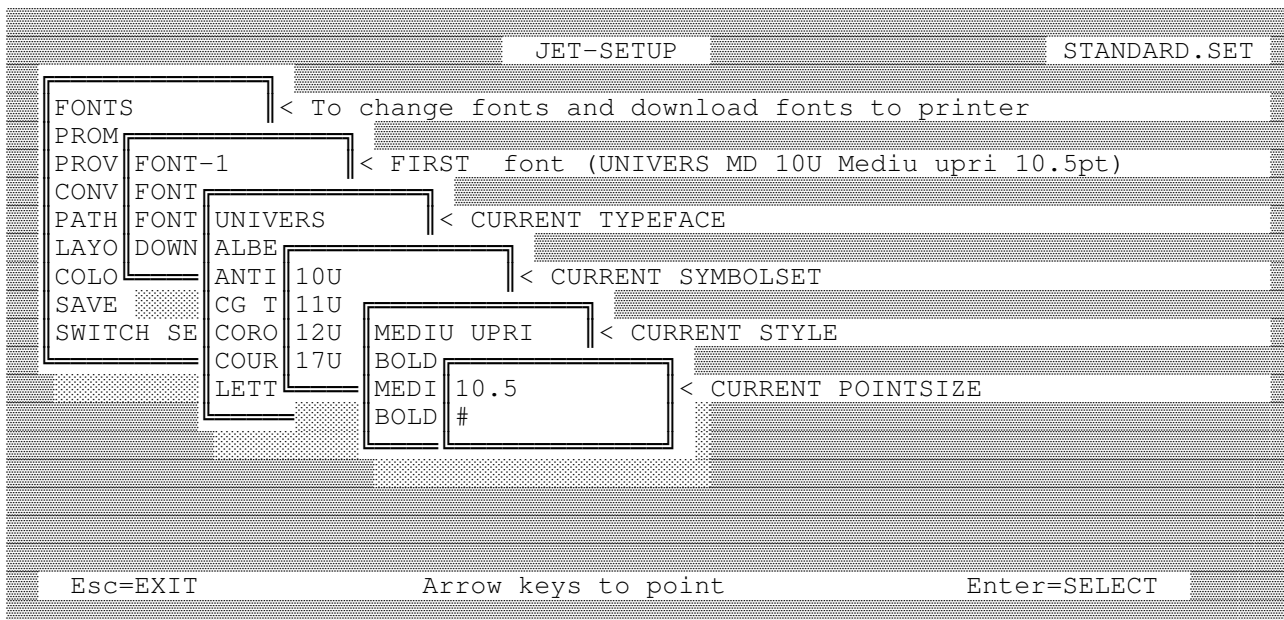
- ◆ Scale Option
1 denotes metric; 2 denotes imperial scale required.
- ◆ Page Size
This is the metric size of the page: A3 or A4.
- ◆ Apage LH Margin (Borehole logs only) ►
This is the Attribute Page Left Hand Margin OFFSET from the default position which is 250 dots in from the left edge of the page. A positive value shifts it inwards – a negative value shifts it outwards.
- ◆ Apage RH Margin (Borehole logs only) ►
This is the Attribute Page Right Hand Margin OFFSET from the default position of 2250 dots from the left edge of the page. A positive value shifts it inwards – a negative value shifts it outwards.
- ◆ Ppage LH Margin ►
This is the Profile Page Left Hand Margin OFFSET from the default position which is 450 dots in from the left edge of the page. A positive value shifts it inwards – a negative value shifts it outwards.

- ◆ Ppage RH Margin ►
This is the Profile Page Right Hand Margin OFFSET from the default position of 2250 dots from the left edge of the page. A positive value shifts it inwards – a negative value shifts it outwards.
- ◆ Header Block
This is the vertical dimension of the header block for each page measured in dots at 300 dots per inch. If a borehole log is printed, the dimension of the Header Block will be automatically increased if necessary to accommodate the table of abbreviations. In cases where a title contains more than the usual number of lines you can increase this dimension to suit the space needed.
- ◆ Footer Block
This is the vertical dimension in dots of the footer block for the last page of the profile. This space will be divided equally by the number of lines in the footer (6) with a gap of an extra 20 dots between the upper set of four and the lower two lines. In those cases where a large font is required, you will find it is useful to have control over the size of this block.
- ◆ Borelog Options ►
The Borelog Option code can be explained as follows:
100 means “suppress the Reduced Level Column”
010 means “suppress the Attribute Shooter Lines”
001 means “suppress the Soils Layer Shooter Lines”
002 means “print Layer Level on both sides of soil stave”
Total the codes you want: Thus a code of 101 would cause the reduced levels to be suppressed, the attribute shooter lines would print and the soil layer shooter lines would not appear.
- ◆ Job Title Offset
This is the horizontal offset of the job title relative to the default Profile Page Left Margin.
- ◆ Footer Margin – 1
This is the horizontal offset of the colon separator in the first part of the footer block, measured in dots from the default Profile Page Left Margin.
- ◆ Footer Margin – 2
This is the horizontal offset of the colon separator in the second part of the footer block measured in dots from the default Profile Page Left Margin.
The third part of the footer follows the Profile Page Right Margin and is not adjustable.
- ◆ Indent Module ►
This is the module used for indentation, measured in this version of the program as number of CHARACTERS.
- ◆ Logo ID ►
If a workstation must print various logos for different organisations, then this item will help to link the particular logos to the individual setups.
 1. **Using macros:** A number written here that matches the unique ID of a macro resident in the printer will cause the macro to be executed. Note that the macro called by this ID number must have already been downloaded to the printer and must have been made permanent; else no logo will appear.
 2. **Using PCL or PDF logo files:** The contents of a logo file can be inserted in the print file for each page by writing the **name** of the file instead of an ID **number**. The filename must begin with a letter and be less than 6 characters long. Appropriately prepared files with the filename and extension PCL (for PCL output) and PDF (for PDF output) must be available on the directory **C:\dot6000**.
- ◆ Logo-X ►
This denotes the horizontal starting co-ordinate of the logo raster measured in dots from left towards the right.

- ◆ Logo-Y ►
This denotes the vertical starting co-ordinate of the logo measured downwards in dots from the top.
- ◆ Compress Option (Borehole logs only) ►
A non-zero value will cause the attribute columns to print onto the same page as the profile and descriptions. The Profile Page Left margin will be adjusted using this value at 300 dots per inch: the program will check and apply a default minimum of 150 dots.

If the last character of the compress option has a value other than zero, e.g. 603 then the rightmost 3 attribute columns will be pushed into the profile page into a space of 600 dots, the remainder will print on the attributes page.
- ◆ Lines per inch
In cases where a very large (or very small) font is chosen the line spacing default of 6 per inch may be unsuitable. This item may be adjusted to suit the circumstances. Typically, masters for overhead projectors and very compact reports may make use of this capability.

3.9 Changing Fonts



Possibly the most frequent item to be altered will be the choice of fonts and therefore FONTS has been put as the first item on the JET SETUP menu. The program will print in two primary fonts (FONT 1 and FONT 2) and will allow you to toggle back and forth between them simply by placing a dollar character in the text at the spot where the switch is to occur: if a soil type is affected then the dollar sign should be placed ahead of the tilde or underline character, else the soil type will not be recognised. FONT 3 is used for the titles in the header and footer blocks.

The screen shown above displays a typical font selection being made. If the <Esc> key is pressed before the final selection of point size, the program will back out.

- ◆ To change the fonts which are to be used, select FONTS at the JET SETUP menu. You will then be able to select FONT 1, FONT 2, FONT 3 or DOWNLOAD.
- ◆ The DOWNLOAD option will copy soft font files (only those that are required and only if they can be found on the specified path) to the printer: cartridge and internal printer fonts do not need to be copied. The download routine marks its soft fonts as “permanent”, i.e. they will not disappear if the printer RESET button is pressed.
- ◆ SOFT FONTS: By now you must have defined the path to the directory containing the soft font files (refer to section 3.4 above). All of the files in that directory are examined in turn: for those that prove to contain soft fonts the program extracts the pertinent data Font name,

Typeface, Symbol set, Style and Point size. The data is then sorted and displayed as needed. By this means the program offers, for **soft fonts**, a choice comprising all those fonts it can see. Having correctly defined the path to the soft font directory, you need only to step through the menus, making your choice as you go along, and the program will manage everything else.

- ◆ **CARTRIDGE AND INTERNAL FONTS:** These are a little more difficult to manage because **dot6000** does not read the printer: the traffic is "one-way". Therefore you have got to define these details for your machine by yourself.

As a first step take a look at the **C:\DOT6000\FONTLIB.CUS** file supplied with the program;

```

FONTLIB . CUS
LIBRARY OF BUILT-IN AND CARTRIDGE FONTS
-----
For a full discussion on printer control codes and font management the HEWLETT
PACKARD manual and reference for the LASERJET is recommended. The table below
contains the data for some of the common built-in fonts supplied with LaserJet
printers and some common cartridge fonts.
SOFT FONTS are managed entirely by dot.PLOT; using Jet-Setup the user must merely
specify the path to the directory where the font files are stored. If a font
called by dot.PLOT is unavailable, the printer will make a best choice but the
result is unpredictable.
Only portrait fonts are supported by dot.PLOT.
To ENABLE a built-in or cartridge font to appear in the JET-SETUP fonts menu
simply change "*027" into "/027" in the table below. The user may also add lines
for any codes that relate to his particular printer and cartridges. In this table
the data fields as supplied must not be changed. Proportional cartridge and
internal fonts are not supported.
-----
FONT          DESCRIPTION          SIZE          PITCH
PRINTER CONTROL CODES
Name          Style          point         chrs/         for Primary font
              inch
Built-in fonts supplied with LaserJet series II printers:-
COURIER      upright        12           pt 10          /027(0U/027(s0p10h12v0s0b3T
COURIER      Bold upright   12           pt 10          /027(0U/027(s0p10h12v0s3b3T
COURIER      upright        12           pt 10          /027(8U/027(s0p10h12v0s0b3T
COURIER      Bold upright   12           pt 10          /027(8U/027(s0p10h12v0s3b3T
COURIER      upright        12           pt 10          /027(10U/027(s0p10h12v0s0b3T
COURIER      Bold upright   12           pt 10          /027(10U/027(s0p10h12v0s3b3T
COURIER      upright        12           pt 10          /027(11U/027(s0p10h12v0s0b3T
COURIER      Bold upright   12           pt 10          /027(11U/027(s0p10h12v0s3b3T

LINEPRN     upright        8.5          pt 16.66       /027(0U/027(s0p16.66h18v0s0b0T
LINEPRN     upright        8.5          pt 16.66       /027(8U/027(s0p16.66h18v0s0b0T
LINEPRN     upright        8.5          pt 16.66       /027(10U/027(s0p16.66h18v0s0b0T
LINEPRN     upright        8.5          pt 16.66       /027(11U/027(s0p16.66h18v0s0b0T

Some built-in fonts supplied with LaserJet IIP printers:-
COURIER      upright        10           pt 12          *027(8U/027(s0p12h10v0s0b3T
COURIER      italics        10           pt 12          *027(8U/027(s0p12h10v1s0b3T
COURIER      bold upright   10           pt 12          *027(8U/027(s0p12h10v0s3b3T
COURIER      upright        10           pt 12          *027(10U/027(s0p12h10v0s0b3T
COURIER      italics        10           pt 12          *027(10U/027(s0p12h10v1s0b3T
COURIER      bold upright   10           pt 12          *027(10U/027(s0p12h10v0s3b3T

Cartridge fonts sometimes available
GOTHIC      upright        12           pt 12          *027(8U/027(s0p12h12v0s0b6T
GOTHIC      italics        12           pt 12          *027(8U/027(s0p12h12v1s0b6T
GOTHIC      bold upright   12           pt 12          *027(8U/027(s0p12h12v0s3b6T
GOTHIC      bold italics   12           pt 12          *027(8U/027(s0p12h12v1s3b6T

GOTHIC      upright        12           pt 12          *027(6U/027(s0p12h12v0s0b6T
GOTHIC      italics        12           pt 12          *027(6U/027(s0p12h12v1s0b6T
GOTHIC      bold upright   12           pt 12          *027(6U/027(s0p12h12v0s3b6T
GOTHIC      bold italics   12           pt 12          *027(6U/027(s0p12h12v1s3b6T

END FONTLIB.CUS

```

You must now find out what internal fonts are available on your printer. To get a printout of this information activate the PRINT FONTS option from your printer control panel. The printout will most likely contain everything you need except for the CONTROL CODES: you will probably be able to figure out the codes needed from an examination of the examples given above – if not then refer to your printer manual or get help.

Finally you must either modify a few lines in the FONTLIB.CUS file as above or else create new lines which match the font you want to use. If you keep to the tabulation pattern of the fields as supplied, the font menu will display your font ready for selection.

Note that only **Portrait** Bitmapped and Scalable soft fonts are supported and that Internal or Cartridge fonts are not fully supported unless they are **fixed pitch**.

- Internal and properly installed cartridge fonts will always be available at the printer. Soft Fonts, on the other hand, **must be downloaded** to the printer. If a soft font of the setup has not been downloaded or if the font has been removed from the printer memory, then it will not be available when needed. The printer will then try its best and choose the closest available font: the printed lines may then fall short or wrap and the net result is unpredictable. The **download** to a printer needs to be done **at least once** after switching it on, perhaps conveniently from an AUTOEXEC batch file; it does not have to be done from within **dot6000**.

3.10 Note on PDF Fonts

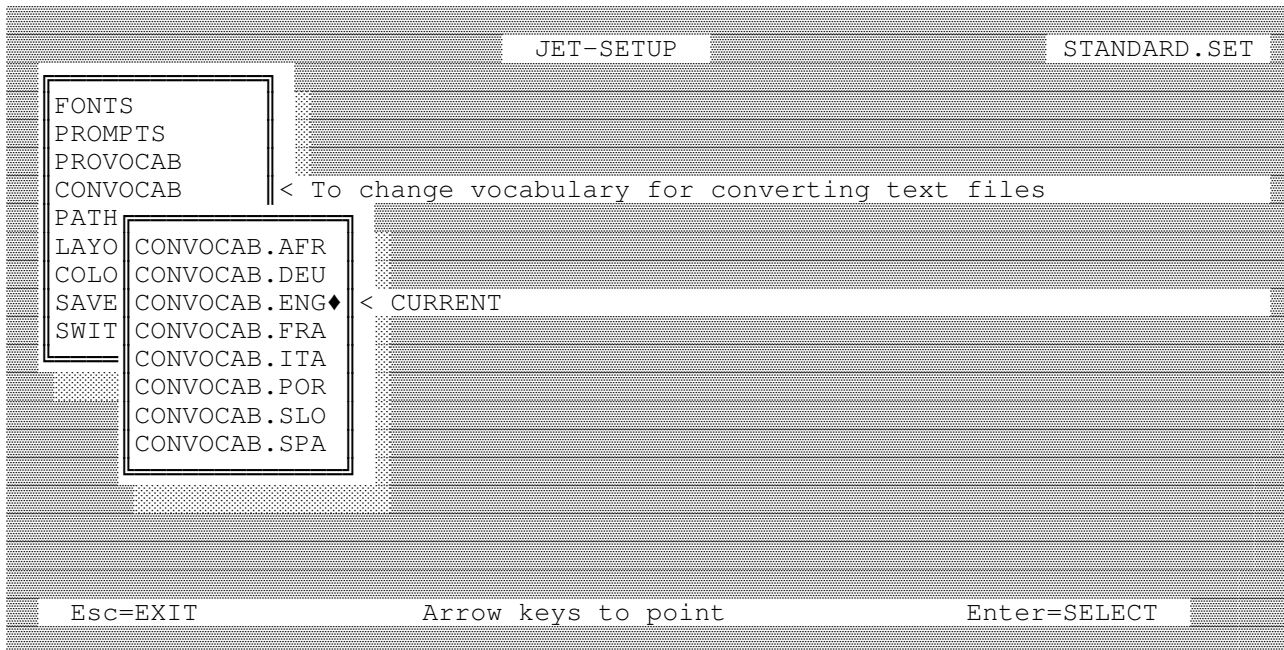
Adobe Acrobat Reader guarantees the presence of only twelve standard fonts, namely three typefaces (Courier, Helvetica and Times) each with Upright, Oblique (or Italic), Bold and Bold-Oblique. If other typefaces are required in a PDF document, it is necessary to embed the font program in the PDF file, with a corresponding increase in size, and this generates complexity in the picking of another suite of typefaces, symbol sets, sizes, strokes and postures. To keep things simple it becomes necessary to substitute the PCL fonts with one of the twelve PDF standard fonts, and it is done according to the following table:

PCL	PDF SUBSTITUTE
Courier	Courier
Letter Gothic	Courier
Univers	Helvetica
Swiss	Helvetica
CG Times	Times
Other	Helvetica

At this stage the above substitution arrangement seems adequate but if there is sufficient demand for more typefaces it will be investigated further.

The outcome is that the document printed through Acrobat Reader will have minor differences compared to the same document going direct from **dot6000** to the LaserJet.

3.11 Switching Languages



It is possible to switch between available language files affecting three aspects of the program:

- ◆ **PROMPTS**
This vocabulary file contains the prompts which are used to communicate with the workstation operator through the monitor screen.
- ◆ **PROVOCAB**
This vocabulary file defines the wording of the titles to be found in the header and footers of the output page and the table of abbreviations used on the attribute page. It also defines a dictionary of rock / sample / soil names and links them to symbol graphics library.
- ◆ **CONVOcab**
This vocabulary file contains the dictionary of words that will be recognised in the header and notes blocks of the text file and links the incoming header data to specific fields in the output page. The list of keywords it contains also enables the conversion routine to recognise any specific changes to the layout or setup which are then passed on to the print routines.

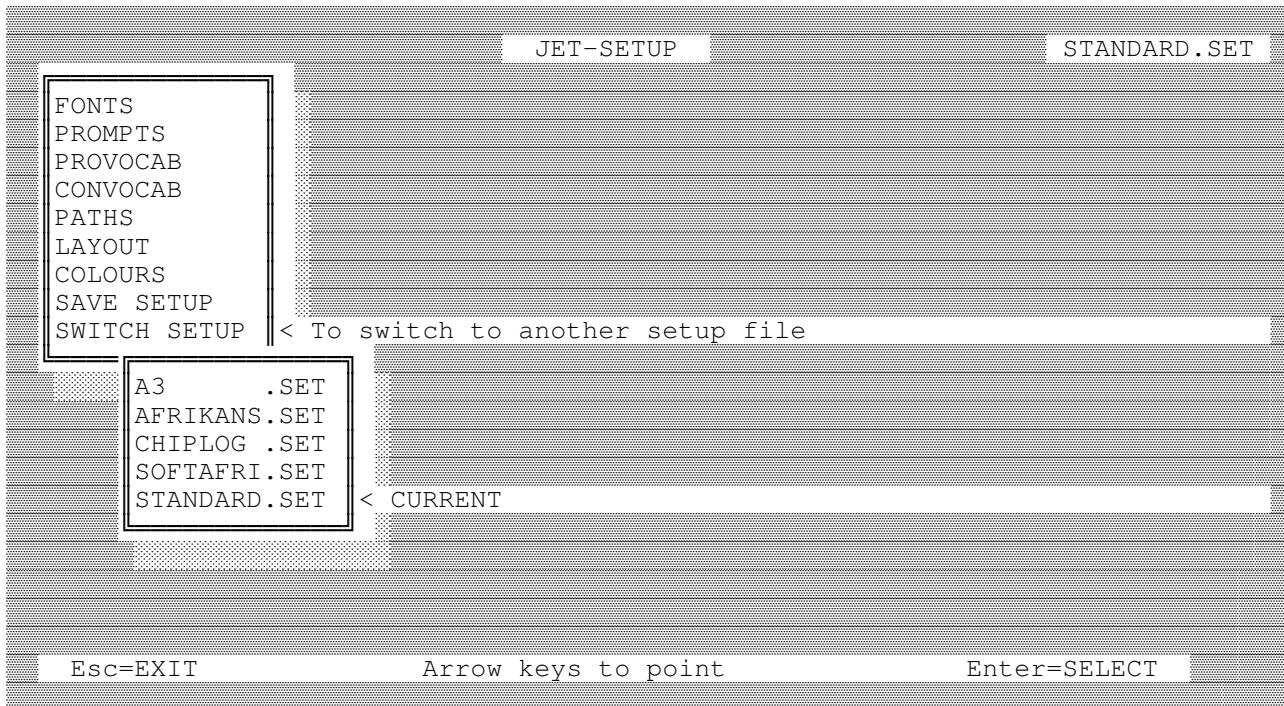
So one might ask, why not combine the CONVOcab and the PROVOCAB files? The reason is that the CONVOcab dictionary must be already loaded into memory before the CONversion of a text file can begin and the text file may re-define both the PROVOCAB dictionary and the symbol library which is to be used for the soil PROfile descriptions which are to follow.

To switch to another vocabulary file, select either PROMPTS, PROVOCAB or CONVOcab from the JET SETUP menu. The program searches for all files of the same generic name and the current file is displayed. You may then switch to any other available file. The new setting will become active only on return to the main menu provided the new combination is saved, and will then remain active until the next switch.

Note that the vocabulary PROVOCAB.* may also be switched in the header for a hole by using the keyword VOCAB : PROVOCAB.XXX. Thus one text file can handle different libraries and vocabularies and also switch these from hole to hole.

You may edit any of the language files and create your own to suit your preferences. All of them are straightforward alpha-numeric ASCII files.

3.12 Switching Setup



A setup file stores a specific combination of the setup variables under a **name** given by the user at the time of saving it to disc. So a workstation will develop a family of setup files which suit the geologists who use it. The files will all have the generic name *.SET where the extension is automatically appended by the program; so when you want to switch setup the program simply seeks out those files which have .SET extension and presents a menu from which a selection can be made. The new setup becomes active on return to the main menu.

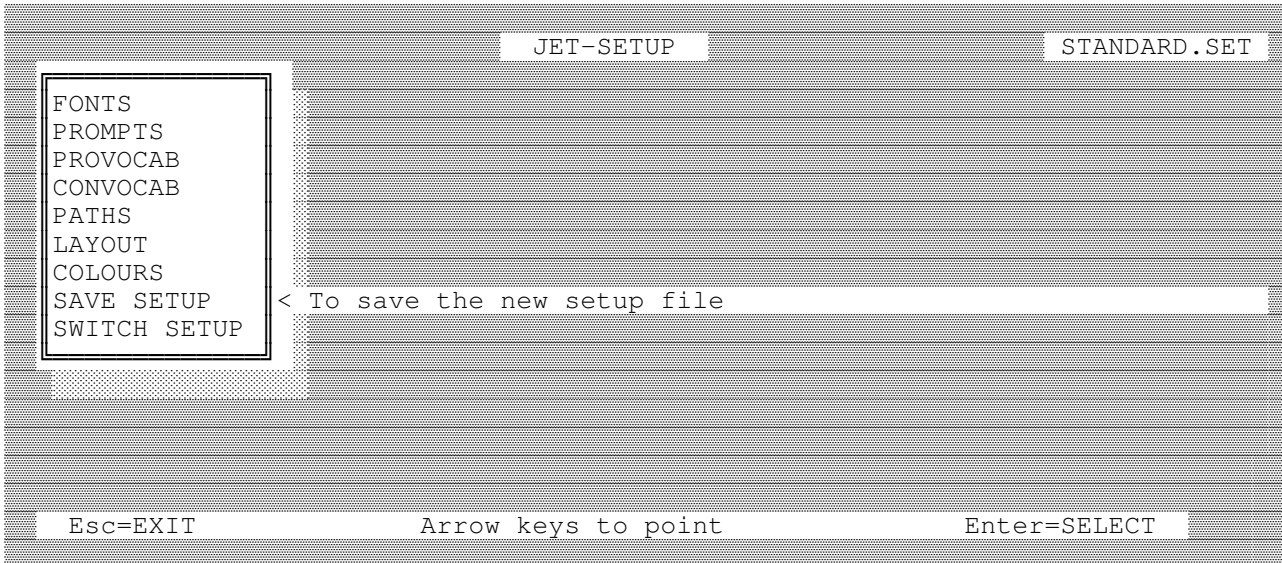
To switch setup, select SWITCH SETUP from the bottom of the JET SETUP menu. The program will display the available files from which you may make a selection. To back out press the <Esc> key.

You may also call for a particular setup by naming it in the run string of the shortcut or from the DOS prompt. For example, the command

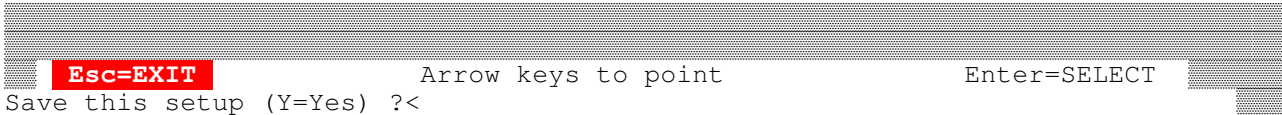
```
PROFILE CHIPLOG
```

will cause **dotPLOT** to start up with CHIPLOG.SET as the setup file.

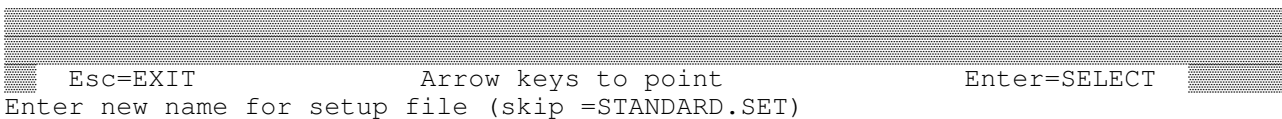
3.13 Saving the Setup



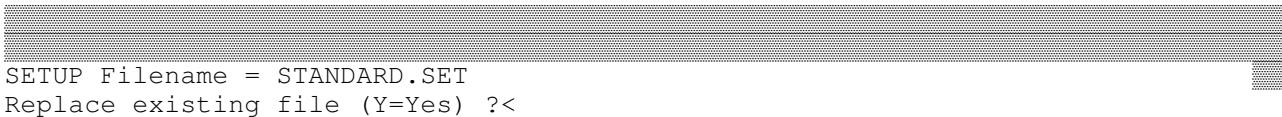
You may choose to save a new setup: if, however, you try to <Esc> before saving, having modified a setup, the program will prompt you and invite you to save the new combination.



The name must be entered if it is a new one – to save under the same name a skip <Enter> will suffice. By pressing <Esc> you can abort the save.



If a file of the same name already exists, a warning is given and you must choose either to overwrite the old file, or else abort the save:



If you do not reply “Y” the save will again request the file name (previous question).

4. Getting Productive

Summary: dot6000 reads the text describing a series of soil profiles prepared on a text or word processor and re-formats it into special **transfer files** which are then sent through the formatting and graphics routines to final printing. Text is readily stored and edited on a word processing system and all drafting effort is avoided.

4.1 Creating an Input File

The Input file must be written as a **text file** or a **Microsoft Word .doc file**.

A text file can be created directly with any text editor. The text file may be saved in any directory (folder); but it is most conveniently written to the word processor processed document directory. The files are best saved with an extension of **.TXT**.

4.1.1 Text File Editors: E.com, Edit, Notepad, and the HotPlot Text Editor:

These programs automatically store their files as text files.

Most other word-processing programs have the ability to save a text file, usually with a **Save As** or **Export** feature.

4.1.2 Microsoft-Word

Microsoft Word **.doc files** (but not .docx files) are recognised by dot6000 and the intermediate step of making a text file can be omitted.

Note that in MSWord the option Format\Bullets & Numbering should be OFF, and the **fast save** option **must** be OFF.

4.1.3 WordPad

WordPad has certain idiosyncrasies and is best avoided. For a full discussion see the text file C:\dot6000\WORDPAD.DOC.

If you must use WordPad then place the keyword WORDPAD (case insensitive) in the header of the dotPLOT text file and **Save As** Text. This will allow access to a limited set of eight special characters and will cope with both the Normal and the WordPad end-of-line condition. If you require access to the extended set of forty eight chars characters?, then change the keyword to WORDPADX. In this case file conversion will be slower.

You will need the binary file WORDPAD.DAT in the C:\DOT6000 directory.

4.2 Writing the Text File

4.2.1 File Structure

A file must be written in **blocks**. The block structure of the text file is very simple:

- **HEADERS**
/ a single slash for **end of header-block**
- **LAYER DESCRIPTIONS**
/ a single slash for **end of layers-block**
- **NOTES**
// a double slash denotes **end of notes-block and end of hole**
... Repeat from header until all holes are written.
/// triple slash denotes **end of job**

Further text is ignored. It is good practice to add the name of the file after the triple slash so that a printout can later be identified.

An example of a typical word-processor text file can be found in C:\DOT6000\EXAMPLES.TXT. A listing of the first portion of this file is included in Section 8.2 below.

Note: Profiles appear in the output in order by the numeric part of the hole number, not necessarily the order listed in the text file. It is a good idea to always list holes in the text file in order.

4.2.2 Lines and Line Length

A character in column 1 indicates that the line is the start of a new note or description. A line starting at column 4 or further indented is read as a continuation of the previous note or description. When writing in MS Word, do not use the <ENTER>key until you reach the end of the description.

4.2.3 Headers

Headers are written one per line preceded by a **keyword** and a colon,

E.g. **JOB NAME** : Title of the project (or **JOBNAME:** – spaces are ignored).

The default keywords, with synonyms in the same bullet point, are:

- > CLIENT: TITLE1:
- > JOB NAME: JOBTITLE: TITLE2:
- > SCALE:
- > CONTRACTOR:
- > RIG: DRILLING RIG: MACHINE: DRILL: DRILLING MACHINE: MACHINE TYPE:
- > DRILLER: DRILLED BY:
- > PROFILED BY: LOGGED BY:
- > TYPED BY: TYPESET BY:
- > ORIENTATION: INCLINATION:
- > DIA: DIAM: DIAMETER: HOLE SIZE:
- > DATE DRILLED:
- > DATE: DATE PROFILED:
- > GROUND LEVEL: COLLAR LEVEL: ELEVATION:
- > X-COORD: X COORDINATE: X COORD:
- > Y-COORD: Y COORDINATE: Y COORD:
- > HOLE: HOLE NO: HOLE NUMBER: TRIAL HOLE: BOREHOLE NO: BOREHOLE NUMBER: PIT: TRENCH:
BACKACTOR PIT: REFERENCE NO: REFERENCE NUMBER: REF NO:
- > LOCATION:
- > JOB NO: JOB NUMBER:

The job title and client name may occupy more than one line in the output. To force the new line use a **backslash** (\) at the breakpoint. The line length should be kept under 2,5 inches (i.e. 25 characters at 10 cpi, or 30 characters at 12 cpi).

Although some users may prefer to set up a template, sequence is unimportant to the program. The **recognised keywords** are defined in the file **C:\DOT6000\CONVOcab.ENG**.. To change the default keywords, see Section 5.5 below on page 49 – Changing Keywords in the Header Block (CONVOcab.ENG)

In the header for a hole, only CHANGED DATA (such as the machine used, date etc.) needs to be specified. Data once specified remains in force until overwritten by a subsequent entry except for **Ground Level, XY-Co-ordinates, Orientation** and **Location**, which are cleared (the specific items to be cleared are customisable).

- / a slash terminates the Header-block

4.2.4 Layer Descriptions

- ◆ In each layer description the **last** numerical value to occur within the first **four** words will be used as the depth to **underside** of the layer. If no depth can be found an error message will be displayed.
- ◆ A description may be continued on subsequent lines by indenting at least four characters. Refer to Section 6.1 below on page 56 and subsequent pages for format control details.
- ◆ Numerical values may be written using either the comma or the period as the decimal point. The program copes with both.
- ◆ Each layer description must end with a full stop. Soil symbols may not appear for sentences not ending with a full stop.
- ◆ A **line break** can be forced by placing a **backslash** (\) at the breakpoint.
- ◆ A **page break** can be forced by placing a **double backslash** (\\) on a line by itself after a description. The next description will then be bumped down to the following page and the corresponding soil stave will be shifted up or down to coincide with the top of the new page.
- ◆ The **starting depth** of the profile will be assumed to be zero unless the header for a hole carries the keyword and a value:
STARTING DEPTH : value
- ◆ An underscore (_) placed before a word will cause it to be underlined.
- ◆ Text inside square brackets is not printed.
- ◆ From dot6000 the program automatically detects soil symbols and uses them in the graphic. To ignore a soil name, precede it by a vertical bar (|). **If you do not have the dot6000 features licensed and use this feature, the program will switch to DEMO mode.**
- ◆ Before dot6000, you had to mark the soil symbols using the normal soil name preceded by a tilde (~), or a backward apostrophe (`) which underlined it as well. dot6000 respects this: If one of these characters is found in a description, it will override automatic detection. You must then mark all the symbols you want in that layer.

Refer to Section 6.2 below for more details on how the program detects key words for soil symbols.

4.2.5 The Notes (Including Samples)

- ◆ The header **NOTES**: will be inserted by the program if the user does not include it. Numbering of notes is not necessary, since the program will renumber them in order.
- ◆ Any note may be continued on subsequent lines by indenting at least four characters.
- ◆ If a note contains the word **SAMPLE** then the note is scanned for sample names and levels. **Sample names** must begin with a letter and contain no spaces or lowercase letters. Samples are assumed to be disturbed unless the words **CHEMICAL** or **UNDISTURBED** are found in the note. More than one sample is allowed per note, but only one class. Sample names are paired with levels; a shortfall of either names or levels will give rise to a warning message. To draw a bracket over a range of depths place a double minus between the two levels.

- ◆ If a note contains the words **WATER TABLE** and a numerical value is present then a water table symbol is selected. The symbol for a permanent water table will be used unless the word **PERCHED** is found. Water tables may have “names” and levels in the same way as samples thus enabling dates to be written at observed depths. Special words such as **WATER STRIKE** and **WATER SEEPAGE** can also be recognised if they are defined in the vocabularies CONVOCAB.ENG and PROVOCAB.ENG.
- ◆ A further option for dealing with the description of samples is the word **SAMPLES**: on a line by itself. This will cause all following notes to be treated as though each contained the word **SAMPLE**; but the text will not be printed on the output page.

4.2.6 Attributes for Borehole Logs

- ◆ The attributes are written as a continuation of the notes and form part of the notes-block. Two styles of input can be used, namely **columnar** and **tabular**, and they can be intermixed. The advantage of the tabular style is that it is compact, easier to read, and the series of depth values need not be repeated for each attribute. Notes, Samples and Attributes may be written in any order and may be intermixed.
- ◆ **USING COLUMNAR INPUT** the word **ATTRIBUTE**: (or synonym) followed by **one** colon and some text starts a new attribute. The text following the colon is the **name** of the attribute which will be stacked in the footer of the column.

ATTRIBUTE: attribute name (options)
 Each following line must be written in the form:
DEPTH text : **DESCRIPTION** text

If the **@ sign** is present in the depth-word then the depth is treated as **at a point** rather than the end of a range.

The words of the description will be stacked at a position midway between top and underside of the layer, or in the case of an **@ depth**, inside a box near the depth concerned.

- ◆ **TO USE TABULAR INPUT** the keyword **ATTRIBUTE::** is followed by **two** colons with no spaces between them. This indicates that a table follows. for The attribute **names** are then written one per line in the form:

TAG: attribute name (options)

The table is then written using the same TAG: as a column heading with a vertical bar to start and end each row and between columns. Depths to underside of layer must be placed in the first data column. The fields are read as starting under the first char of the tag and ending one before the vertical bar. See example following:

EXAMPLE/BH009 from file C:\DOT6000\EXAMPLES.TXT, Hole number: BH 009:

```

..
ATTRIBUTE::
FAB: ROCK FABRIC AND GRAIN
SET: JOINT NO^OF SETS
INC: JOINT INCLIN (deg)
SPA: JOINT SPACING
ROU: JOINT ROUGH-NESS
FIL: JOINT FILLING [COL WIDTH 1.4]
FRA: JOINT FRAC. FREQ.
HAR: ROCK HARD-NESS [WIDTH ,8]
WEA: WEATH-ERING [GRAPH = 100] [WIDTH 0.8] [INVERSE]

```

DEPTH	FAB:	SET:	INC:	SPA:	ROU:	FIL:	FRA:	HAR:	WEA:
0.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	[H]
3.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100
6.0	MF MG	2	20-30 70-90	CJ -	RJ RJ	Stained Stained	10	SR	100
9.55	MF MG	3	20-30 40-60 70-90	MJ MJ -	RJ RJ RJ	Stained Stained Stained	6	MSR	40

10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.76	MF MG	2	20-30 40-60	MJ WJ	RJ RJ	- Stained	3	HR	20

The order in which attribute names are written determines the sequence of the columns on the output page.

The optional word (GRAPH) (or synonym) in the attribute name will cause the values to be plotted as a bar graph. If the word (NUMBERS) is also present then the numbers / words will be superimposed. If a value follows the word (GRAPH) then that value is used as the denominator in constructing the bar-graph, else the default is 100. The word (INVERSE) will cause inverse bar graph shading. The letter (H) in square brackets will switch the shading to hatching. [h] will cause a line to be drawn rather than hatching or shading. Refer to the text file HATCH.TXT for an example.

A bar-graph column may be subdivided with vertical lines and the subdivision lines may be labelled in various ways. Assuming subdivision lines are wanted at 5, 12 and 30 units of the column denominator, any of the following wordings could be used:

[S=DENSE 5 MEDIUM 12 LOOSE 30]	=	lines + labels + figures
[S=DENSE 5 MEDIUM 12 LOOSE 30]	=	lines + labels (no figures)
[S=5 12 30]	=	lines + figures (no labels)
[S= 5 12 30]	=	lines only
[S= 5 12 30]	=	lines + LAST figure only

The letter [S = in square brackets signals that a subdivision is required. Note that if more than one space precedes a figure then the printing of the figure is suppressed.

The letter [s=] will cause subdivision lines to appear dotted.

- ◆ If the optional word **[WIDTH]** (or synonym) appears in the attribute name then the width of the column will be weighted by the value that follows. For example the words **[WIDTH 2]** will make a double-width column and **[WIDTH 0,6]** will result in a width that is 60 percent of a standard column. If no width is specified it is assumed to be one unit.
- ◆ **Fixed Width Attribute Columns:** The attribute header must have the command **[WIDTH ### FIXED]**. The number is used as the width of the column in **dots**. If the word **FIXED** is omitted the value is used as the weight to be given to the column when sharing the available space, the default being unity. The space available is first allotted to the **FIXED** columns and the remainder is shared. If all columns are fixed, no sharing is performed and there may then be a shortfall or overflow at the right edge. If the amount to be shared is negative, the result is unpredictable.
- ◆ Underlines, @depths, hard-spaces and square brackets (refer to 6.1.2 The Format Control Characters in Section 6.1 below) may be used in both columnar and tabular input. Columnar and tabular input may be mixed.
- ◆ **Reduced levels** will be printed if the collar or **ground level** of the hole has a non-zero value. It can be suppressed with **BORELOG OPTIONS : 100** either in the header or in the setup. If the inclination of the hole has been given a value, a correction for slope is applied. The **zenith angle** or hade, in degrees is used so that **zero = vertical**. To allow back compatibility the program treats 90 degrees as zero! And the vocabulary allows the inappropriate word **Orientation** to be used!
- ◆ **The table of abbreviations** which appears at the top of the attribute page is defined in the file **C:\DOT6000\PROVOCAB.ENG** and can be changed by the user to suit local requirements. If the table is blank then nothing is printed. If the table becomes extended downwards (up to 14 lines are allowed) then the top margins of all the printed pages will be bumped down to suit.

To support the use of a proportional font for the table the program scans the first line and chooses tab positions to suit. The following lines are tabbed to match so the user must take care to ensure that the arrangement does not lead to overlapped wording by spacing out the first line suitably and balancing the others.

- ◆ If the keyword **ABBREVIATIONS** : (with one colon) appears in the notes-block of the text file then the lines which follow will supersede the current default table of abbreviations **for all subsequent printing** until the next vocabulary switch. Refer to Section 6.1 below on page 56 for the methods of formatting a table. The new lines may be blank, in which case the table is entirely suppressed. When the next new job is selected the default abbreviations are re-called to memory, together with the default vocabulary file.
- ◆ If **dot6000** has been purchased for PROFILES only, or if **no attributes** are detected, the attribute page will be omitted and the profile page will be printed with a closed left-hand border.

For more details of options, and extra keywords, see Chapter 6 below starting on page 56 (Special Features) and especially Section 0 below from page 61 (The series of standard scales are carried in data files external to the program, SCALES.IMP for imperial and SCALES.MET for the metric series. These files are editable and users may alter them to suit.

Sundry Layout Features).

- **// double slash terminates the Notes-block.**

This pattern is repeated for each hole starting with Header-block, until the end of the last hole, then:

- **/// triple slash ends the job.**

Further text is ignored.

4.3 The Conversion of the Text File to a Transfer File

Start **dot6000** and run the main menu.

This is the MAIN MENU:

```

                                d o t . P L O T
                                =====
          Program to print and draft soil profiles
                                Version 6005
                                MAIN MENU

          DONGLE # Licence D000   Company Name   PBpH6
                                Program Active

                                PROFILE VOCABULARY Filename = PROVOCAB.ENG
                                                SETUP Filename = STANDARD.SET

          F1          F2          F3          F4          F5
          START      ACTIVITY    OUTPUT to  ADDRESS    ACCESS
                   PROFILES    PRNTPFILE.PDF  C:\DOTFILES  JET-SETUP

```

<F1> Starts the process

<F2> Toggles the process between PROFILES / TEST SYMBOLS / FENCE / STRATA

<F3> Toggles the output device and format required between ADOBE PDF PRINTFILE / PRINTER / PCL PRINTFILE / HPGL PLOTTER FILE / SWIFTVIEW SCREEN FILE / DXF DRAWING FILE.

<F4> Changes the address of the output device temporarily to one different from the setup file. On return to this menu, the setup file default will be restored.

<F5> Accesses the JET SETUP routines (refer to Chapter 3 above starting on page 19)

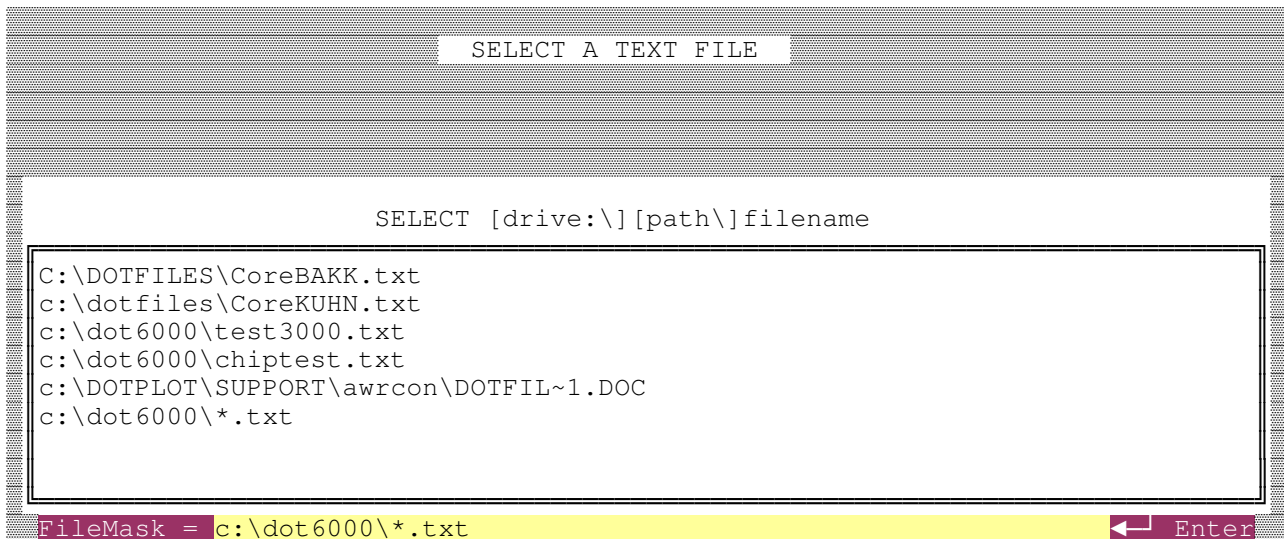
Three further capabilities are:

<ALT> <D> To access a DOS Shell

<ALT> <L> To access the Licence routine.

<ALT> <P> To access the Password routine.

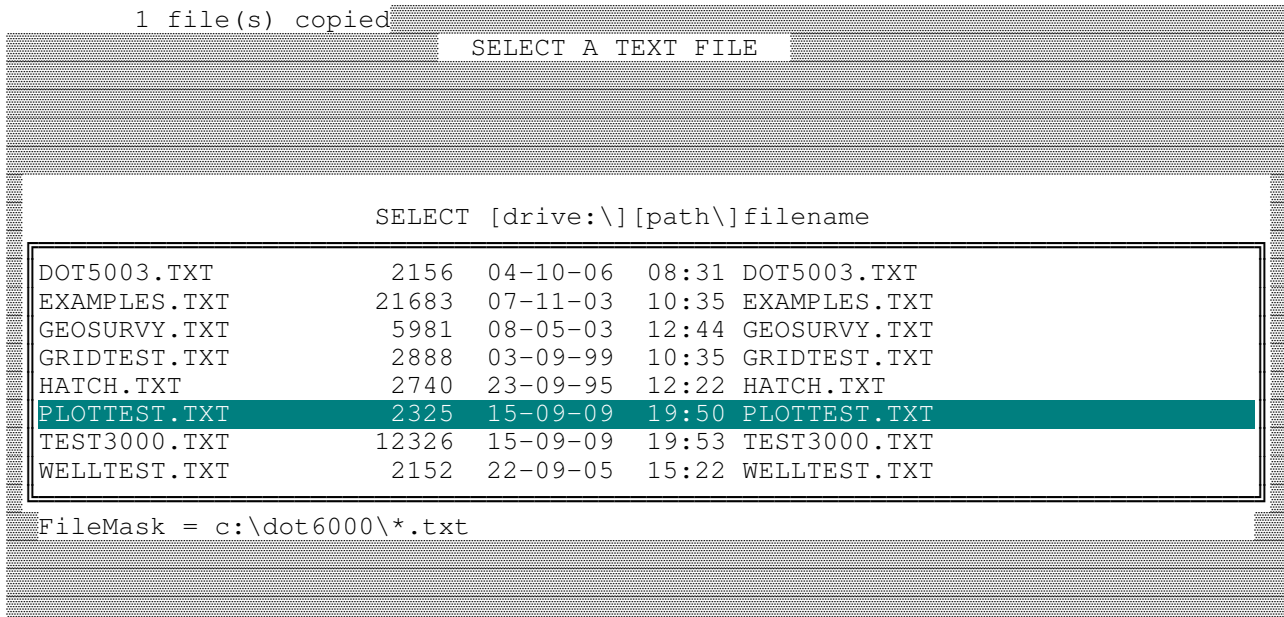
From the main menu select <F1>. The screen will display a search string to be used by the program to find the text files. The search **path** is the text file PATH as defined in your current setup file. You can modify the search string as you wish.



The screen display has a large window showing items which may be picked with a mouse or by using the arrow up and down keys followed by ↵ **Enter**.

After **picking** the selection is transferred down to the lower line where the “file mask” is displayed – this can be edited to suit from the keyboard and if it represents a path (i.e. not a complete target path and filename), the window changes to display the new selection from which one item may be picked.

1 file(s) copied



Once the file mask exactly represents a valid path and filename, pressing the ↵ **ENTER** key will **accept** that entry and proceed to use it.

The accepted item is pushed onto a stack (LIFO) of the previous twenty, ready for the next session.

If by mistake you pick a file that is not a **dot6000** text file a message will be issued. Escape key <**Esc**> will back out.

If the conversion has already been done and the text file has not changed at all, and all transfer files are still present, the following conversion process will be bypassed to save time.

The conversion routine will process the text file writing to a temporary transfer file on the **C:\dot6000** directory. Before doing the conversion the program checks the whole file for the following rhythm in the block slash patterns:

```

/                               end of header-block
/                               end of layers-block
//                              end of notes-block and hole
/                               end of header-block
/                               end of layers-block
//                              end of notes-block and hole
///                             end of job.

```

A screen will typically appear as follows:

```

CONVERTING TEXTFILE INTO TRANSFER FILES.
CONVERSION VOCABULARY Filename = CONVOCAB.ENG
...../.....//.....//
1
...../.....// 2
...../.....// 3
...../.....// 4
...../.....// 5
...../.....// 6
...../.....// 7
///
Block file structures ok.

```

If the required block slash pattern is not found then the following message is displayed:

```

BLOCK FILE STRUCTURES NOT MATCHED (FILENUMBER)

```

...and the conversion program aborts. The block pattern for successive holes is shown on screen so that errors can be located. Correct the text file to reflect the proper pattern (if you started with a word processor file, correct it and **re-write** the **text file**). If all is correct the program proceeds with the processing of each hole in turn:

```

Block file structure ok.
DEM.....ESTDEM
TH 22.....Check sample notes! PLEH22
TH 23 .....PLEH23
BH3LOG ..... PLELOG
BH 009.....
.....PLE009
TUT001.....
.....TUT001
TUT002.....TUT002
.
Press any key to continue.

```

The screen prints roughly one dot for each line processed. Some common errors in text files are trapped and warnings are given as follows. The hole name and filename are displayed for each hole as it is stored so that errors can be linked to a position in the text file.

For a list of error messages see Section 4.5 below (Error Messages).

The program pauses to let you read and digest the error report on the screen. To continue, press any key.

4.4 The Printing of the Profile

The next screen carries a heading with the name of the text file followed by a sorted list of all the holes it contains.

```

List of Filenames contained in the TextFile "EXAMPLES.TXT"
=====
ESTDEM
PLE009
PLEH22
PLEH23
PLELOG
TUT001
TUT002

> Enter Filename (skip to escape) (0 to flush)

```

The filenames in the list are made up from the last three alphanumeric characters of the job number together with the last three alphanumeric characters of the hole number to ensure unique names for the transfer files. These serve as an aid in picking the set to be printed.

A skip (**Enter**), with no group selected, will return the program to the main menu. The selection can be made by a number of methods:

hhh	<ENTER>	:	Characters of a filename.
aaa,zzz	<ENTER>	:	Start and end names of a set.
ALL	<ENTER>	:	This selects all files.
0	<ENTER>	:	A zero unselects all files.

Use characters just sufficient to identify the file you want: It is not mandatory to enter the full filename. As a file is selected it is given a pointer and a number on the screen. Once selected, second entry of a filename will toggle it off. Holes will print in the order selected.

```

List of Filenames contained in the TextFile "EXAMPLES.TXT"
=====
ESTDEM    <=1
PLE009
PLEH22    <=2
PLEH23    <=3
PLELOG    <=4
TUT001
TUT002    <=5

> Enter PREFERRED SCALE (1:???)

```

When selection is complete, skip to exit. You may now specify a preferred scale to take precedence over any value which may have been called in the header-block of the text file:

nnn <ENTER>

Skip to let the program choose a scale for each profile (i.e. the largest sensible scale which will allow the profile to fit with the formatted text --lower limit is 1:10 or 1:8) or else enter a value to plot all selected profiles to a preferred scale. For example an entry of 25 will cause all files to plot at a scale of 1:25. The scales built into the program are:

METRIC	
10, 15, 20, 25, 30, 40, 50, 75, 100, 150, 200, 250, 500, 750, 1000, 6000 and 10000	
IMPERIAL	
8, 12, 16, 24, 32, 48, 64, 96, 128, 192, 250, 500, 750, 1000, 6000 and 10000	

A choice of scale out of range will be ignored with a warning. The array of scales is stored in the text files **SCALES.MET** and **SCALES.IMP** and may be edited.

```

> Job SYMBOL REQUIRED (Y=YES)

```

Finally you have an option to obtain a job symbol summary:

n <ENTER>

Skip for no summary. Enter Y for a summary of the symbols printed in this run. Only the final printing usually requires a summary, since early drafts are often altered. As the files are printed the program filters out and stores the symbols used, and a summary is then available to be printed last in the queue.

When printing is complete, the program will return to the main menu, from which further selections may be made, or <Esc> to exit.

Multiple copies can be printed by setting the options on the printer control panel.

4.5 Error Messages

Some common errors are trapped during formatting, and messages are displayed as follows:

Layer depth error	Layer depths appear to backtrack.
No layers detected	Layer data omitted or slash misplaced.
More than 36 samples	Too many samples were found.
Check sample notes	Sample names could not be paired with depths or perhaps no valid sample names were found, or a stray word is written in uppercase.
Profile-page left margin invalid	-390 < dots < 1200
Profile-page right margin invalid	0 < dots < 1200
Attribute-page left margin invalid	-200 < dots < 1500
Attribute-page right margin invalid	-100 < dots < 1500
Attribute colon missing	The colon separator is mandatory.
Check Attribute depths	As for layer depths
>15 Attribute Columns	Limit is 15
>500 Attributes	Limit is 500
>36 Samples	More than 36 samples.
>36 Notes	More than 36 notes.
>36 Layers	More than 36 layers.
Vocab-file (name) cannot be found : defaulting	The text file has called for a vocabulary file which is not found on the working directory.
Logo-file (name) cannot be found : defaulting	The text file has called for a logo file which is not found on the working directory.
Too many soil types in layer : (number)	More than 12 soil symbol elements appear in one layer. Note that white space in symbols such as gravel or boulders must be counted as an extra element.
12 pages exceeded or faulty attribute keyword : Press any key to continue	The total text length may be too long or the keyword for ATTRIBUTE may be faulty or missing from the vocabulary, causing an attribute to be treated as a note containing umpteen lines.
Text too long : curtailed !	Either a layer or a notes text exceeds one page in length. The number of the offending paragraph is included in the warning. A message will be printed on the output page.
Duplicated hole number detected: Each hole number must be unique	
N) -attribute overflow. Choose larger scale! Press any key to cont	The Nth attribute word stack is so large that a larger scale must be specified to accommodate the wording of that attribute.

No Further Licences Available!

No more Licences are available now. Either:

- ◆ you are using a network licence (on a server) and other users got in before you, taking all the licences (wait until one of them has stopped using dotPLOT, or ask one to exit), or
- ◆ you have another copy of dotPLOT running (close it), or
- ◆ dotPLOT crashed without returning its licence to the pool (wait for half an hour and the licence will automatically expire and return to the pool).

See the following section for Troubleshooting specific problems.

4.6 Troubleshooting

4.6.1 Common Problems and Remedies

The following table shows some of the more common problems and suggests a few remedies.

SYMPTOMS	POSSIBLE REMEDY
Rows of dots appear on the screen while printing.	Printer is not receiving data. Check printer paper, switches and cables. Press A to Abort or R to Retry.
Rubbish appears on the printer	Is your printer a Hewlett Packard LaserJet or exact equivalent? If not, print via PDF file instead. Note: Printers other than HP printers may be set up to emulate various types of printers: Yours <u>must</u> be set to HP-PCL.
Nothing appears on the printer; instead a Windows window appears headed "Print to File", with the prompt "Output File Name".	Check that the <F4> ADDRESS for the printer port (typically LPT1 or COM1) has a Hewlett Packard LaserJet or equivalent printer connected to it. Network printers are not supported: Print via PDF file instead.
Conversion routine aborts possibly with Error 63 or Error 64	The filename given exists but is not that of a TEXT file: make sure you have not given the name of a word-processor file by mistake. Possibly the triple slash is lost. If you are using WordPerfect make sure you have a triple slash for end of job followed by at least one more line of text, say FileName.
Printer lines fall short of right hand margin or wrap to next line. Extra page is printed with main borders and footer only.	The specified font is not available at the printer or has been removed. If a soft font is called, make sure it is DOWNLOADED. Make sure that internal and cartridge fonts have right printer control codes in the file FONTLIB.CUS.
The Logo does not appear as it usually does.	The logo macro has not been downloaded, has been removed or has a number/name different to the setup file. File not available.
Printing routine Decodes the text file, Formats but does not Print.	Possibly caused by incorrect PCL printer control codes. Check the relevant codes in FONTLIB.CUS and the setup file.
Conversion routine can't find the text file.	Check the name of the text file directory, shown at top of screen.
~As ~above does not produce the previous soil symbol.	Two tildes are required for the keyword ~As ~above to work. The spelling must be the same as in the first line of the vocabulary in PROVOCAB.ENG
Error 7	Out of memory. Possibly too many DOS shells stacked onto dot6000.
Error 14 during conversion, String memory overflow	Text file is too long. Break into smaller sub-profiles; make use of non-zero starting depth / page breaks.

4.6.2 Locating the Causes of Errors

When more than one profile appears in a text file and you select ALL, holes in the combined PDF file appear in the order of the numeric parts of the hole numbers, not the order in which they appeared in the text. Debugging will be easier if the holes in the text file are in numeric order!

Two holes with the same numeric part are rejected by dotPLOT as duplicate hole numbers (e.g. TUT 001 and BH001, but not BH01 as the number of numeric digits is different).

More troubleshooting tips:

- ◆ Copy the offending hole's data into a file of its own (remember to end with // and ///). Does the error still occur? If so, you have identified the problematic hole. Otherwise try the hole before or after.
- ◆ In which block (title, descriptions, or notes) does the error occur? Remove items from that block until the error no longer occurs: You have now isolated the problematic paragraph.
- ◆ How does this paragraph compare with other paragraphs in this file and in sample files?

Other interesting features:

- ◆ ~as ~above requires the tildes ("as above" without tildes is ignored) and tildes turn off dot6000 features, so automatic recognition of soil symbols does not work with "~as ~above".
- ◆ Underscore for underlining does not mix with ` (apostrophe), which overrules it. See layer 11-12 m in HOLE No: TUT001 in TUTORIAL.TXT which prints as: "_USER'S_OWN: although an apostrophe might even underline DENSE FERRICRETE"

4.6.3 If the Program Crashes

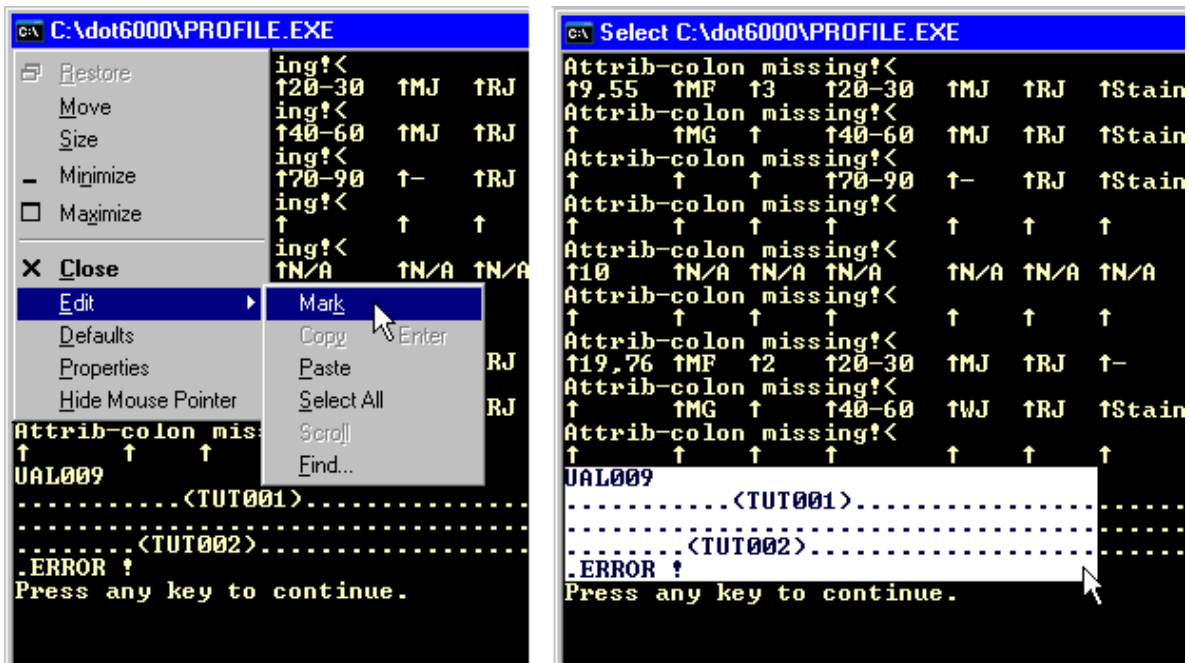
If the program crashes, it should leave a note on the screen giving three values:-

```
Error Number....Error Line....Programme Module
```

In addition it should display a brief message explaining the cause of the error.

You can usually find the source of the error by reducing the content of your profile as suggested in the section directly above. If you fail, send this information to Software Africa (rick@softwareafrica.co.za) for support.

To copy text from a DOS Window, click the Window Icon (symbol at top left corner of window). From the drop-down menu, select **Edit > Mark** (left-hand picture below). Drag with the mouse over the text you want to select (right-hand picture below) or use the **arrow** keys to move to the start point, and then **Shift+arrows** to move to the end point. Press **Enter**, and the selected text will be copied to the clipboard, whence it can be pasted into an e-mail.



To get out of the program when it is stopped at an error, press **Escape**. If pressing this repeatedly does not work on your system, press **Ctrl+Break**, followed by **Escape**. This will crash the program and your licence will become unavailable for half an hour.

You may also investigate further from a DOS shell by executing the command from the C:\dot6000 folder:

```
TBE.BAT [error number] <Enter>
```

5. Customising dot6000

5.1 Backup Before Customising

All customisable dotPLOT files are on the **C:\DOT6000** folder. Before making any changes, copy the **C:\DOT6000** directory to a backup system (network folder, flash drive, or CD-ROM). In the event of a mishap the damaged files can be restored from your backup.

If you failed to heed this and the program now will not work, rename the **C:\DOT6000** folder. Reinstall dotPLOT and backup the new **C:\DOT6000** folder. Then copy only trustworthy customised files from your renamed folder.

5.2 The Customisable Files

The general scheme in **dot6000** revolves around three classes of **Language files** and one class of **Setup file**.

The three **Language files** are:

*PROMPTS.** These determine the words which appear on the screen and communicate with the operator.

*CONVOCAB.** These contain the **dictionaries** of the words which are recognised in the header and notes of the text and link the incoming header data to specific fields on the output page.

*PROVOCAB.** These files define the wording of the **titles** on the output page and the table of abbreviations used on the attribute page. They also contain the **dictionaries** of soil and rock **names** and link them to a soil symbol library.

The **Setup files** are the group *.SET.

These define the names of the language files to be used during a run and also store numerous other parameters needed to control the page layout.

The user can customise the whole of the contents of these files and may also make additional modified copies of any of them. The Setup file itself can easily be modified and switched for another using JET SETUP from the main menu (or using the HotPlot Setup editor), but the language files must be edited manually using a basic text editor.

The following table shows the list of customisable items and the various files which must be edited when making a change:

FILES TO BE EDITED	PROMPTS	CONVOCAB	PROVOCAB
To customise screen prompts	X	-	-
To change keywords in the notes	-	X	-
To change keywords in the header	-	X	-
Title block wording and placement	-	X	X
To select another symbol library	-	-	X
Soil and rock name vocabulary	-	-	X
Table of abbreviations (attributes)	-	-	X

It will be useful to have a printout of these three files close at hand while reading this chapter. To get a printout you might execute the DOS command:

```
FOR %F IN (PROMPTS CONVOCAB PROVOCAB) DO PRINT C:\dot6000\%F.ENG.
```

5.3 Changing the Prompts (PROMPTS.ENG)

The wording of the prompts used by dotPLOT can be customised by editing the file PROMPTS.ENG for English, PROMPTS.AFR for Afrikaans, etc.

If you want the program to communicate with you in a different language, rather choose a different PROMPTS file (see Section 3.11 above on Switching Languages).

5.4 Changing Keywords in the Notes Block (CONVOcab.ENG)

Certain keywords in the notes must be recognised by the program. For example it needs to know the magic word which signals that the description of a rock attribute is about to start, and also it needs to know the words which distinguish the different classes of samples, and so on. These words are listed in the file CONVOcab.* in a special sequence which may not be altered:

FILE CONVOcab.ENG

```
..
NOTES-BLOCK KEYWORDS
-----
These lines are required for parsing of the water table, attributes and samples in
the NOTES BLOCK. The number of lines, the context and the sequence of each may not
be altered, but the number of equivalents present and the spelling of the
equivalents may be edited. Observe the placing of the slashes at the start, end
and between words. Case is insensitive.
BEGIN
/NOTE/NOTA/ANMERKUNGEN
/SAMPLES:/MONSTERS:/
/Water Table/Grondwatervlak/Watervlak/
/perched/verhewe/
/sample/monster/
/undisturbed/onversteurd/onversteurde/
/chemical/chemies/chemiese
/ATTRIBUTE/ATTRIBUUT/
/GRAPH/GRAFIEK/PLOT/
/INVERSE/INVERT/
/NUMBERS/FIGURES/NOMMERS/SYFERS/
/WIDTH/COLUMN WIDTH/WYDTE/KOLOM WYDTE/
/ABBREVIATIONS/VERKORTINGS/
/ROCKHEAD/ROTSHOOF/FELSOBERGRENZE/
/WEATHERING HORIZON/VERWEERINGSHORISON/VERWITTERUNGS HORIZONT/
/WATER SEEPAGE/WATER STRIKE/WATERSYPELING/
END
```

You may add synonyms or revise the wording. In this example the synonym EIENSKAP has been added for ATTRIBUTE and in a note describing the water table the words REST LEVEL will cause the hollow arrow symbol to be printed rather than the solid one:

FILE CONVOcab.ENG

```
..
/Water Table/GrondWatervlak/Watervlak/
/perched/verhewe/REST LEVEL/
/sample/monster/
/undisturbed/onversteurd/onversteurde/
/chemical/chemies/chemiese/
/ATTRIBUTE ATTRIBUUT/EIENSKAP/
/GRAPH/GRAFIEK/PLOT/
..
```


5.5 Changing Keywords in the Header Block (CONVOCAB.ENG)

The program has been designed to accept input from a file written directly from the geologist's field notes. This allows full freedom of expression to the person in the field. To allow freedom in the input sequence of header data the program needs to know a set of keywords that will enable it to link data with context. This is done by means of the header block keywords:

```

FILE CONVOCAB.ENG
=====
This file carries the words and phrases required by the conversion program
(PROCONV.TBC) which converts the wordprocessor text file into a transfer file (a
structured data file) ready for input to the printing routine. The vocabulary used
here must be already defined in memory before the conversion of the text file can
begin and therefore the text file itself is not able to specify the language to be
used. This vocabulary must cope with all the different main profile vocabularies
(all PROVOCAB.* files) which the installation may be called upon to decode. For
example, an office that might deal in three languages would require three synonyms
for each of the items below, all customisable.
-----
HEADER BLOCK KEYWORDS
-----
This is the set of keywords that will be recognised in the text file to denote
various items. Note that item codes in darts less than <29> refer to data fields
on the output page. The item codes must be enclosed in darts and be two characters
long. The user can place double closing darts to cause the data item to be cleared
between holes. The phrases to be recognised must be preceded and followed by a
slash and contain no spaces. This file can be edited to suit the user's preference
in language, dialect and vernacular. There is no limit to the number of lines
used. Case is insensitive.
BEGIN
/client/klient/kliënt/title1/< 1>
/jobname/jobtitle/title2/< 2>
/projeknaam/taaknaam/< 2>
/scale/skaal/< 3>
/contractor/< 5>
/rig/drillingrig/machine/drill/drillingmachine/machinetype/< 6>
/boor/masjien/boormasjien/masjientipe/< 6>
/driller/drilledby/< 7>
/profiledby/loggedby/beskryfdeur/profieldeur/< 8>
/typedby/typesetby/< 9>
/tikster/getikdeur/< 9>
/orientation/orientasie/inclination/<11>>
/diam/diameter/holesize/<12>
/deursnit/grootte/dia/<12>
/datedrilled/datumgeboor/geboor/<13>
/date/dateprofiled/profieldatum/<14>
/groundlevel/collarlevel/elevation/<17>>
/grondhoogte/hoogte/<17>>
/x-coord/x-coordinate/xcoord/<18>>
/y-coord/y-coordinate/ycoord/<19>>
/hole/holeno/holenummer/trialhole/boreholeno/boreholenummer/
/pit/trench/backactorpit/referenceno/referencenumber/refno/<20>
/gat/gatnr/gatnommer/boorgat/boorgatnr/toestgat/toestgatnr/<20>
/location/ligging/<21>>
/jobno/jobnumber/<22>
/projeknr/projeknommer/taak/taakNr/<22>
..

```

The numbers in darts determine where on the page the data will be written, as defined in PROVOCAB (see next section, 5.6 below – Changing the Title Block (PROVOCAB.ENG)). In the following example the fields for COLLAR LEVEL and Y-CO-ORDINATE have been swapped and the word BOREHOLE has been added as a synonym for HOLE NUMBER.

```

..
/date/dateprofiled/profieldatum/<14>
/groundlevel/collarlevel/elevation/<19>>
/grondhoogte/hoogte/<19>>
/x-coord/x-coordinate/xcoord/<18>>
/y-coord/y-coordinate/ycoord/<17>>
/hole/holeno/holenummer/trialhole/boreholeno/boreholenummer/borehole/
/pit/trench/backactorpit/referenceno/referencenumber/refno/<20>

```

Be especially careful when moving the positions of data fields; please refer to the example and discussion in paragraph 5.6 below.

In addition to the keywords for the header and footer fields the program will recognise a few keywords relating to the layout of the page. This allows different holes falling within one text file to be formatted differently to the current setup file and to one another:

```
..
/selectlanguage/language/vocab/taal/<38>
/AttributePageLHM/apagelhm/aplhm/<43>
/AttributePageRHM/apagerhm/aprhm/<44>
/ProfilePageLHM/ppagelhm/pplhm/<45>
/ProfilePageRHM/ppagerhm/pprhm/<46>
/AttribuutBladsyLinkerKantlyn/abls1kl/<43>
/AttribuutBladsyRegterKantlyn/ablsrkl/<44>
/ProfielBladsyLinkerKantlyn/pb1s1kl/<45>
/ProfielBladsyRegterKantlyn/pbsrkl/<46>
/borelogooption/borelogooptions/<49>
/indent/inset/<53>
/logo/logoid/<54>
/logoX/<55>
/logoY/<56>
/kompress/compress/<57>
END
```

The capability of specifying the layout data in the header has been inherited from earlier versions of the program, in which it was the best way to change the layout without upsetting the standard default. It is now much simpler to control layout through JET SETUP and a named setup file; so no example is given, but you can still edit the keywords and add synonyms if you need to.

5.6 Changing the Title Block (PROVOCAB.ENG)

Both the titles and context of the page headers and footers may be modified to a limited extent. The following listing is of the file PROVOCAB.ENG and shows a schematic diagram of the page layout. Note that the numbers in darts (less than 29) are associated with specific positions on the printed page: They determine the location of the TITLE on the page (the text preceding the darterd number). The TITLE and the relevant DATA (found next to the recognised keyword in the header bloc of the text file) will be printed.

```

FILE : PROVOCAB.ENG          (English Vocabulary)
=====
This file is named in setup file as the default vocabulary. The user may
call for any other vocabulary file in his text file header. If the language
called for is not current in memory it will be loaded if it can be found. It
is thus possible to switch languages in mid-jobstream. The program does not
limit the number of different language files.

-----
TITLE BLOCK WORDING
-----
The layout below is a schematic representation of an output page, showing the
default title block phrases that appear in various positions on the page. The
words used in this layout may be edited by the user to suit his preferences.
The words followed by numbers in <darts> form the TITLES of the fields. The
DATA to be written into the fields is detected by the program using the set of
keywords defined in CONVOCAB.
The four special POINTERS are needed by the program so that it knows where to
read or write data that is PROCESSED by the routines (other than typesetting);
all other fields are not processed. If the titles are moved around when
customising, take care to ensure that these four pointers, the keywords for
data (in CONVOCAB) and the titles in the new positions are all consistent.
begin
-----
                                             Sheet <26>
                                             of <25>
reserved (title) < 1>          LEGEND <24>
reserved (title) < 2>          SUMMARY OF SYMBOLS <23>
                                JOB NUMBER: <22>
Scale < 3> +-----+
            | reserved (descriptions) |
            | NOTES < 4> |
            | reserved (notes and samples) |
            +-----+
CONTRACTOR : < 5>          INCLINATION : <11>          ELEVATION : <17>
MACHINE : < 6>            DIAM : <12>            X-COORD : <18>
DRILLED BY : < 7>        DATE : <13>            Y-COORD : <19>
PROFILED BY : < 8>        DATE : <14>
TYPE SET BY : < 9>        DATE : <15>            HOLE No: <20>
SETUP FILE : <10>        TEXT : <16>            reserved (location) <21>
-----
REDUCED LEVEL <27>
DEPTH <28>
10 <29> pointer to data field of Setup file
15 <30> pointer to data field of Date + time of Printing
16 <31> pointer to data field of Text file
17 <32> pointer to data field of Datum for Reduced Levels
11 <33> pointer to data field of Orientation angle
end
-----
TABLE OF ABBREVIATIONS (FOR BOREHOLE LOGS)

```

- ◆ To change the **Wording of a title**, the file PROVOCAB.ENG may simply be edited at the relative spot. (See example below).
- ◆ To change the **Context of a title**, the corresponding **Keywords** in the header block must also be revised in CONVOCAB.ENG (See example in Section 5.4 above on page 48 (Changing Keywords in the Notes Block (CONVOCAB.ENG))).
- ◆ To change the **Position**, the relevant **pointers** must be checked and revised if need be. (See example below).

In the following illustrated example the **wordings of the titles** in the fields for COLLAR LEVEL and Y-CO-ORDINATE have been swapped and the title BOREHOLE replaces HOLE NO.

FILE PROVOCAB.ENG

```

CONTRACTOR : < 5>           INCLINATION : <11>           Y-COORD . : <17>
MACHINE : < 6>             DIAM : <12>             X-COORD : <18>
DRILLED BY : < 7>         DATE : <13>           COLLAR LEVEL : <19>
PROFILED BY : < 8>        DATE : <14>
TYPE SET BY : < 9>        DATE : <15>           BOREHOLE : <20>
SETUP FILE : <10>        TEXT : <16>           reserved (location) <21>
-----
REDUCED LEVEL <27>
DEPTH <28>
10 <29> pointer to data field of Setup file
16 <31> pointer to data field of Text file
19 <32> pointer to data field of Datum for Reduced Levels
11 <33> pointer to data field of Orientation angle
END
-----

```

The necessary changes to the **context keywords** in the file CONVOCAB.ENG are illustrated in paragraph 5.5 above.

Please note the change to the field **position pointer** number <32> where the value 17 has been revised to 19.

5.7 Changing to Another Symbol Library (PROLIB.DAT)

The graphic patterns of the symbols are not accessible to the user, but different libraries can be called (if available). The vocabulary file PROVOCAB.* defines the name of the symbol library to which the code numbers of the soil and rock names refer. It is written as the first line after the end following the soil and rock names. In the illustration below the library name is PROLIB.DAT. Any other available library name may be specified.

FILE PROVOCAB.ENG

```

. .
/ROCKHEAD/SYMB6/[CH48]
/WEATHERING HORIZON/SYMB7/[CH49]
WATER SEEPAGE/WATER STRIKE/SYMB8[CH50]
END
PROLIB.DAT

```

5.8 Changing the Soil and Rock Name Vocabulary (PROVOCAB)

The file PROVOCAB.* carries the dictionary of soil and rock names and links them through code numbers to the graphics library arrays. Here is a condensed listing of part of the file:

FILE PROVOCAB.ENG

VOCABULARY

 This is a list of keywords/phrases and codenumbers of corresponding soil symbols. This file may be edited/alterd to suit the users preferences. A phrase to be recognised must be preceded and followed by a slash. The first phrase to occur before a given codenumber will be the default soil descriptor which will be used in summary listings. Codenumbers must be enclosed in square brackets, with the last of a set followed by a period. The number of phrases associated with a single symbol code is not limited so synonyms formed by a number of single symbol codes are allowed and may be assigned any name. In the case of a short phrase also forming part of a longer one, then to ensure proper recognition the shorter phrase must be arranged to follow after the longer in the list below. This list is also the collating sequence for symbol summaries.

BEGIN

AS ABOVE

.

/BOULDERS/[SA01].

/SCATTERED BOULDERS

/OCCASIONAL BOULDERS/[SA48].

/GRAVELS

/GRAVEL/[SA02].

/GRAVELLY/[SA03].

/SAND/[SA04].

/SANDY/[SA05].

..

Here is an example of how a user can change this file.

- ◆ *Suppose he wants a new rock type called coal which is to have the same symbol as WAD, which he no longer needs.*
- ◆ *He wants **LATERITE** and **OUKLIP** as synonyms for DENSE FERRICRETE.*
- ◆ *He wants the option of using the phrase **SCATTERED LUMPS OF LATERITE** in his profiles and selects the same symbol as NODULAR FERRICRETE.*

He might revise the file as follows:

FILE PROVOCAB.ENG

- before

```
..
/BRECCIATED/[SA46].
/CHERT/[SA21].
/WAD/[SA22].
/DENSE FERRICRETE
/HARDPAN FERRICRETE
/DENSE MANGANOCRETE
/HARDPAN MANGANOCRETE/[SA23][SA29].
/NODULAR FERRICRETE
..
```

FILE PROVOCAB.ENG

- after

```
..
/BRECCIATED/[SA46].
/CHERT/[SA21].
/COAL/[SA22].
/DENSE FERRICRETE/LATERITE/OUKLIP
/HARDPAN FERRICRETE
/DENSE MANGANOCRETE
/HARDPAN MANGANOCRETE/[SA23][SA29].
/NODULAR FERRICRETE/SCATTERED LUMPS OF LATERITE/
```

5.9 Changing Table of Abbreviations for Attributes in Borehole Logs (PROVOCAB)

The file PROVOCAB.* defines the table of abbreviations which is printed at the top of the Attribute Page (for Borehole logs only)s.

FILE PROVOCAB.ENG

```

..
-----
TABLE OF ABBREVIATIONS (FOR BOREHOLE LOGS)
-----
This is the list of abbreviations which appears on the attribute page header.
Note that WEATHERING is omitted in view of the easy to use bargraph option. The
wording may be edited but beware of exceeding 14 lines or 80 characters.
Anything not wanted can be removed or replaced. This table will move with the
left margin of the attribute page.
Begin
ROCK FABRIC          GRAIN SIZE          JOINT ROUGHNESS     ROCK HARDNESS
MF-massive           FG-fine grained    SLJ-slickensided   EHR-extremely hard roc
BF-bedded            MG-medium grain    SJ-smooth           VHR-very hard rock
FF-foliated          CG-coarse grain    RJ-rough            HR-hard rock
CF-cleaved                                MHR-medium hard rock
SF-schistose         JOINT SPACING      JOINT SHAPE         SR-soft rock
GF-gneissose         VCJ-very close spacg  CUR-curvilinear    VSR-very soft rock
LF-laminated         CJ-close spacing    PLA-planar
                     MJ-medium spacing   UND-undulating
                     WJ-wide spacing     STE-stepped
                     VWJ-very wide spacng  IRR-irregular
End
-----
...

```

The user can customise the whole of this table. It can also be changed for a particular job or hole in the notes block of the text, by using the keyword ABBREVIATIONS: followed by the new script: If the new script is blank then, of course, nothing is printed. The number of lines used should not exceed 14. Since the starting margin of the table will follow the left margin of the attribute page, the maximum line width is not fixed: If it does not fit on the page the tail end will be lost.

When using a proportional font one cannot entirely rely on spaces between words to give a neat arrangement. So to allow proportional fonts to be used the program scans the first line for double-spaces, and tab positions are chosen. Subsequent lines are similarly scanned and the word groups are tabbed to dot positions defined by the **first line**. Thus when re-defining this table, care must be taken to space out the first line to give suitable column positions without overlap.

5.10 Logos

Apart from the obvious use of a pre-printed sheet, there are three methods available to print a **Logo** on the profile page.

- ◆ **Using a Printer Macro:** Printers which are fully HP-compatible will support macros. The logo macro can then be downloaded to the printer once after switching on. This considerably reduces the printer file size with a corresponding reduction in the volume of data to be transmitted and the time taken to print.

To use a printer-resident macro the setup file should be edited to reflect the macro **ID Number**.

- ◆ **Using an embedded raster graphic file:** The raster graphic codes can be sent to the printer embedded as part of the output file for each profile page.

To do this, edit the LOGOID –in JET SETUP Layout– to be the **name** of the raster graphic file instead of a macro **ID number e.g. LogoJ**. Note that the filename must begin with a letter, and be less than 6 characters long. For PCL and printer output the filename must have the extension PCL e.g. **LOGOJ.PCL** and be available on the **dot6000** directory.

- ◆ **Using a PDF logo:** A logo file prepared with Adobe Acrobat PDF Writer (or any other PDF writer, e.g. CutePDF) can be printed by **dot6000** to a PDF output file by naming the **Logo ID** as above, e.g. **LOGOC**. The filename must have the extension PDF e.g. **LOGOC.PDF** and be on the **dot6000** directory. The PDF option supports full colour logos.

In the above methods, the LogoID can also be called in the text file by using the keyword LOGO: in the header, but do not add the extension. It is thus possible to switch logos even between holes in a job. Note too that it is possible to control the position of the logo (if the code has been so written) from the setup file and also from the text-file headers by specifying the LOGOX: and LOGOY: parameters.

Your supplier will be able to quote a price for creating a LaserJet macro, raster graphic file, or PDF containing your company logo.

5.10.1 Example: Creating a Logo PDF File

In essence, all you have to do is to write your logo to a PDF file named with no more than five characters in the file name, using any PDF file writer. The CutePDF Writer (Freeware) is one such program, obtainable free of charge from <http://www.cutepdf.com>. Once you have a PDF writer installed, open your existing logo in any program, for example Windows Paint (**Start > Programs > Accessories > Paint**). In **File > Page Setup**, remove centering, set the left margin to 15 mm and the top margin to 17 mm. With **File > Print...**, print to CutePDF. It will ask for a file name: For example, use C:\dot6000\LOGO1.PDF. Use Jet Setup or HotPlot to alter the SET file to use PDF name, in this case LOGO1. Print a test file from dotPLOT. If the logo is in the wrong place, you have a choice of reprinting your logo to PDF with different margins, or alternatively adjusting the Logo position using Jet Setup or HotPlot to change the SET file. Repeat until the logo is correctly positioned.

5.10.2 Technical Note: Editing .SET Files Directly for Logos

In the setup file there are two columns of logo data, the first is for the PCL logo and the second for PDF. If you are using PCL output, then the data is read from and written to the first column, if PDF then the second. dotPLOT knows which mode you are in when making changes. The special logo file Logo0.PDF is specified as LOGO0 in the setup file (you never add the extension when talking through Jet Setup). PDF will crash if the filename is blank, and the PDF logo routines in dotPLOT require something to chew on, so LOGO0.PDF was built in as a place holder until the customer gets his own logo on the road.

6. Special Features

6.1 Format Control

6.1.1 Default Format of the Profile Page

It is an objective of the formatting algorithm to ensure that the **description** of a layer must fall on one page and not cross a page boundary. This restriction applies also to the notes, i.e. the formatted notes block must fit onto one page. A check is made in the formatting program to ensure that this requirement is met. If it is exceeded the text is curtailed, a message is displayed and a warning appears on the printed page.

Working within the current margins and indentations, all lines in a paragraph are automatically **word-wrapped** and **even-justified** except for the last. Empty lines in the text file are ignored. This scheme can be modified and disabled as follows:

6.1.2 The Format Control Characters

These characters can be customised –except where indicated– by editing the relevant .SET file (at your own risk!) or more safely using HotPlot's **Edit** button next to the Setup File choice.

The following are the default settings:

- | = character (bar) to omit symbol of next soil word when searching for all keywords in layer (new feature in dot6000).
- _ = character (underscore) to underline next word (new feature in dot6000).
- ~ = character (tilde) for forcing a soil symbol. If you use this or the acute accent then all desired soil symbols in the layer must be so marked.
- ` = character (acute accent / backward apostrophe) for forcing and underlining a soil symbol. If you use this or the tilde then all desired soil symbols in the layer must be so marked.
- \ = character to cause a line-break (backslash)
- ^ = character to represent a hard space (caret / circumflex)
- { = character to start indent (opening brace / curly bracket)
- } = character to end indent (closing brace)
- \$ = character to switch primary fonts (dollar)
- # = character to cause two columns on the profile page (hash)
- / = character (slash) for end of block, i.e. Header, Descriptions, or Notes/Attributes (can not be customised).
- // = characters (two slashes) for end of hole (can not be customised).
- /// = characters (three slashes) for end of file (can not be customised).

To use any of these format control characters in text with the format function defeated, they should be preceded by the **escape character** (the double-quote “).

The customisable control characters may be customised by editing the group of set up files *.SET, or using the HotPlot SET File Editor (last Tab).

6.1.3 Modifying the Normal Format

The characters mentioned below assume that you are using the default control characters as listed directly above, not any customised character.

- ◆ UNDERLINING is obtained by placing an underline (_) before the word concerned. A backward apostrophe (`) can be used instead to both underline and force the following word to be recognised as a soil symbol. It is toggled off by a space or punctuation mark.
- ◆ A LINE BREAK can be forced at any point using a single backslash character (\ or customised character).
- ◆ BLANK LINES can be created in a layer description using line breaks.
- ◆ A double backslash (\\) on a line by itself will produce a hard **page break**.
- ◆ THE HARD-SPACE (^ or customised character) can be used between pairs of words so that the words **stick together**.
- ◆ INDENTATION (indentation) is easily achieved


```
{
by using pairs of braces to indent to any level permitted by the available
line length, which is dependent on the current margins and indent module.
  {
    The indent module default is 4 chars but this value can be changed in
    the setup or in the text file using the keyword INDENT : dd in the
    header for the job.
  }
}
```

A line containing only a brace is not printed.
- ◆ SWITCH PRIMARY FONTS can be done by placing a dollar sign at the spot where the switch is to occur. The font then toggles between FONT 1 and FONT 2. If a soil type is affected then the dollar-sign should be placed ahead of the underline or tilde.
- ◆ TWO-COLUMNS ON THE PROFILE PAGE are obtained by placing the # symbol at the spot where the text is to jump into the second column. If a double symbol ## is used at least once then every description and the notes-block will be split into two columns and a vertical dividing line will be drawn between them.

6.1.4 Format Disable

It is sometimes useful to **disable** word-wrap-and-justify. This can be done using a single hard-space character ^ on a line by itself.

```

^
    To           indicate    that       the
Block          of           text       which
Follows        is           to        be used
Verbatim, exactly as it appears on screen
^

```

The next hard-space on a line by itself will **enable** the normal wrap-and-justify default. The line(s) containing only a toggle character will not be printed.

This device allows **simple tables** of data to be easily constructed. Note that the position of the caret in relation to the block is significant as it determines the position on the page. The block is placed with the caret on the left text margin.

```

^
-----
    date          time          read          write
-----
    1.2           2.3           3.4           4.5
    5.6          10.1          14.2          15.6
    1.2           2.3           3.4           4.5
-----
^

```

In this example the block would be indented **2 characters**.

Within a block the indent and line-break characters are disabled. The formatting rules will work in the notes as well as in the main body of the description.

Note on underline: With format **disabled**, all spaces inside a block automatically become hard-spaces. Therefore underlining will run to end-of-line or the next punctuation mark.

6.1.5 Non-Printing Text

All text placed inside **brackets** [square brackets] will be removed before printing.

In the Header block, any lines which do not contain a keyword and colon will not be printed. This allows comments to be made ahead of each profile. The presence of a colon without a keyword will cause an error message to be displayed during conversion.

6.1.6 Margins on the Profile Page

The left and right margins may be controlled by the setup file and also by using the keywords PPLHM and PPRHM followed by a value in the job header. The COMPRESS parameter will behave the same way. A **positive** value moves the margin **towards** the centre and a negative value moves it away. The limiting values are:

PPLHM	:	-390 to 1200 measured as dots at 300 dip
PPRHM	:	0 to 1200

6.1.7 Margins on Attribute Page (Borehole Logs Only)

The attribute page margins are controlled in the same way as the profile page margins, but using instead the keywords APLHM: and APRHM. The limits here are:

APLHM	:	-200 to 1500 measured as dots at 300 dpi
APRHM	:	-100 to 1500

The text file TUTORIAL.TXT contains this discussion and will demonstrate the effect of the format control characters on the printed page. To obtain a printout run the program selecting the hole number TUT001.

6.1.8 Page Length, Top and Bottom Margins

The length of the field used for printing on a page is set at 3200 dots (10.677 inches, 271 mm) as supplied. This value may be customised and the bottom of the page will move accordingly. The top header block as supplied is 300 dots below the top edge and will bump down to suit the table of abbreviations for the attribute page if it exceeds 7 lines. The bottom footer block as supplied is 300 dots above the bottom edge of the field. The perimeter border is set at 34 dots away from the edges of the field. The page length, the header and the footer block sizes may be modified in any of the setup files using JET-SETUP.

There are 300 dots to one inch, or approximately 12 dots to 1 mm; the abbreviation dpi stands for **dots per inch**.

6.1.9 Positions of Job Titles and Footer Titles

The horizontal positions of the job title and footer titles can be moved using the parameters specified in the setup file. Please refer to the discussion on JET-SETUP in chapter 3.

6.2 Soil Symbol Selection

OBJECTIVE: The objective of the program is to **intelligently interpret** the stream of words in the text file as though they were typed directly from field notes or from a tape recording, to select correct symbols for the soil and rock types and to do this with the minimum of editing and manipulation by the user. To achieve this a number of methods have evolved by which the soil symbols can be called up or be detected by the program:




- ◆ **DOING NOTHING:** From dot6000, the program automatically recognises all soil symbols and uses them in the profile. You do not need to mark key words anymore.
- ◆ **OMITTING KEYWORDS:** You can override dot6000's automatic recognition of a word by placing a vertical bar (|) before the word.
Example: *Clay, residual |Ferricrete*. (Clay symbol will be used, Ferricrete will be ignored)
- ◆ **UNDERLINING ANY WORDS:** You can underline any word by placing an underscore (_) before the word. (New from dot6000 onwards)
- ◆ **USING UNDERLINED KEYWORDS:**
A word preceded by the acute accent / backward apostrophe (` –top left on keyboard) will appear underlined. If the word is a recognised soil type, then its symbol will be plotted in the corresponding layer. Using this symbol turns off automatic recognition of keywords for that layer. You must then manually mark all keywords for that layer using acute accent or tilde.
Example: *`silty / clayey `SAND*. (Case insensitive)
- ◆ **USING NON-UNDERLINED KEYWORDS:**
If a word preceded by a tilde (~) is a recognised type then its symbol will be plotted, but the word will not be underlined. Using this symbol turns off automatic recognition of keywords for that layer. You must then manually mark all keywords for that layer using acute accent or tilde.
Example: *~sandy ~SILT*
- ◆ **USING THE KEYWORD IN SQUARE BRACKETS**
Any words in square brackets are checked against the vocabulary and will give a symbol to match. All words inside square brackets are removed from the text before printing.
Example: *[SANDY] [Silty] [clay]*
- ◆ **USING THE CODE NUMBERS IN BRACKETS::**
This is the same as they keyword in square brackets, just harder work.
- ◆ **USING THE PREVIOUS DESCRIPTION:**
Used with the tildes **~As ~above**will repeat the previous symbol.
- ◆ **PREVIOUS MODIFIED:**
~As ~above will repeat the previous symbol and further symbols may be added to the mix:
Example: *~As ~above but with ~SCATTERED BOULDERS added*.
- ◆ **MODIFIED FURTHER:**
The previous compound symbol can be further modified:
Example: *~As ~above, in a ~DENSE FERRICRETE matrix*.
- ◆ **EMBELLISHED KEYWORDS:**
The standard symbol can be embellished by adding others.
Example: *A layer of `BOULDERS.
[GRAVELS] [SAND] [WELL CEMENTED]*
- ◆ **USERS OWN:**
Although a description might even underline a keyword, any symbol can be forced and the interpreter can be disabled by placing an asterisk [*] in square brackets. In this example the dense ferricrete will not be detected and another compound symbol will appear instead:
Example: *`DENSE FERRICRETE [CLAY] [SA27] [SAND] [*]*
- ◆ **THE BOTTOM OF HOLE SYMBOL:**
This is invoked by placing a plus sign in the last layer depth word.
Example: The very last layer description might read:
10.1+ Hole stopped on ~dolerite with ~QUARTZ VEINS.

All the special characters used above can be customised to use other characters, by editing the SET file or using the HotPlot Settings File Editor. The characters referred to above are the defaults.

The sample file TUTORIAL.TXT supplied with the program contains the text of this discussion and will print a profile demonstrating all of the techniques. Run the program and select hole number TUT002. Read the discussion on SYMBOLS FOR IGNEOUS ROCKS directly below for further information on the use of compound symbols.

6.3 The Symbols for the Igneous Rocks

The table shows the classification of Igneous Rocks and the relationship to the symbols in the dot6000 graphics library.

		< Leucocratic...Melanocratic...Hypermelanic >				
		< Light Coloured grading to Very Dark >				
		SYENITE FAMILY	DIORITE FAMILY	GABBRO FAMILY	PYROXENITE FAMILY	
44	+	44 17	44 41 17	44 42 17	44 43 17	PLUTONIC 17 +
FREE	x	44 18	44 41 18	44 42 18	44 43 18	HYPABYSS 18 +
QUARTZ	v	44 19	44 41 19	44 42 19	44 43 19	VOLCANIC 19 +
(empty)	+	17	41 17	42 17	43 17	PLUTONIC 17 +
(symbol)	x	18	41 18	42 18	43 18	HYPABYSS 18 +
	v	19	41 19	42 19	43 19	VOLCANIC 19 +
45 OLIVINE +		45 17	45 41 17	45 42 17	45 43 17	PLUTONIC 17 +
OR FELS- x		45 18	45 41 18	45 42 18	45 43 18	HYPABYSS 18 +
PATHOID v		45 19	45 41 19	45 42 19	45 43 19	VOLCANIC 19 +
		SYENITE FAMILY	DIORITE FAMILY	GABBRO FAMILY	PYROXENITE FAMILY	
		(empty symbol)	 41	 42	 43	

The numbers in the table are the [SA CODE NUMBERS] of the symbols. The table shows how the three symbols for **depth of formation** (+) (x) (v) are combined with the three symbols for the families (conveying **colour**), and the symbol for **free quartz** (alternatively **olivine** or **felspathoids**) to give unique compound symbols. A compound symbol can thus be viewed and construed in the same sequence and with the same criteria as the rock specimen itself.

The vocabulary supplied has been constructed using most of the common names and their corresponding compound symbols; however the user may customise it to incorporate any other names or phrases that he wishes the program to recognise. The program will also function if the text file specifies the constituent symbols of a rock type, although it must surely be harder work. The following three descriptions are equivalent and will produce the same compound symbol:

```
:A ~quartz dolerite.
:A ~hypabyssal rock, ~gabbro family with ~free quartz visible.
:[SA18] [SA42] [SA44].
```

Furthermore the symbol for BRECCIA [SA46] can be superimposed on any other symbol or compound. It is also possible to superimpose SCHIST [SA47] or METAMORPHIC [SA16].

6.4 Header Keywords

The keywords in the header of the text file are used by the program to detect the data for the header of the job. They are defined in the file CONVOCAB.ENG. (See the part listing in Section 5.5 above on page 49).

Many of the values carried by the setup file can be modified by specifying them in the header for the job or hole, and these will then override the settings of the setup file for all holes that follow.

The scale to be used for a job can also be specified by writing the keywords SCALE: and a value in the header. This will define the smallest number of pages to be used for the plot and the same scale will be used for all the holes that follow.

The series of standard scales are carried in data files external to the program, SCALES.IMP for imperial and SCALES.MET for the metric series. These files are editable and users may alter them to suit.

6.5 Sundry Layout Features

6.5.1 Include Files

The command [INCLUDE FILE] can be added to the header of an attribute; the first zone to follow is then taken as the name of a file containing data in columnar format, i.e. DEPTH : ATTRIBUTE VALUE OR DESCRIPTION.

This means that a large amount of data can be easily plotted and any limits relating to the length of the text file and number of attributes can be bypassed. This will be especially useful in cases of wishing to plot data logged automatically into a disc file such as by a data logger, resulting in data at very close intervals. Synonyms for the command INCLUDE FILE can be added to CONVOCAB.*

The sample file C:\dot6000\PLOTTEST.TXT has an example using the [INCLUDE FILE] C:\dot6000\PLOTTEST.DAT.

6.5.2 Logarithmic Bar Graphs

The attribute header must have the command [GRAPH ###] present. The optional number is used as the base width of the bar graph. The keyword [LOG] will cause the graph and any subdivision lines to be drawn to a log scale, the left of the column being zero = LOG(1).

6.5.3 Line Graphs

One can plot a vector line graph if the printer supports HPGL. To do so the keyword [HPGLrwtm] is added to the attribute header of the graph, in addition to the keywords [GRAPH] and [INCLUDE FILE]. The optional codes rwtm control as follows:- r = radius of dot to be placed at the sample points - dot units w = width of line - dot units t = line type (as per HP GL/2 line types) m = pattern pitch (per HP GL/2) NOTE that this option will only work with an INCLUDE FILE on an HPGL printer such as HP IIIP or LJ4 and upwards.

6.5.4 Line Drawings, Shading and Hatching

Simple drawings using HPPCL shading and hatching can be assembled using the following scheme:

[D x]	draws two lines x-dots apart, 1 dot thickness, centred.
[D x y]	draws two lines x-dots apart, y-dots overall, centred.
[D x y z]	draws two lines as above, offset z from middle of column
[D x y z Aw]	draws two areas as above, shaded or cross hatched,
[D x y Aw]	where Sw will shade the areas, Xw will cross hatch, using HP standard pattern w. These may be superimposed.
[D filename]	appends code contained in named file.
[R] [L]	codes to justify text Right/Left, default centre

This enables simple drawings such as "Well Construction" to be printed. Refer to the text file WELLTEST.TXT for an example.

6.5.5 Raster Lines and Bands

Raster lines may be drawn in a graphed attribute column. This is done by adding the command [Ryyy] to the header of the graph attribute. For example [R5] will produce a solid raster line at 5 unit depth intervals down the column and [r2.5] will add dotted raster lines at 2.5 unit intervals. These may be superimposed. An example of the two latest commands is available in PLOTTEST.*

Single bands may now be called from the NOTES block to be placed at any level on the soil stave. Refer examples HATCH.TXT and PLOTTEST.TXT

6.5.6 Imported Raster Graphic Drawings (PCL only)

The file GRIDTEST.TXT demonstrates the importation of a raster graphic file, BOREHOLE.LST. This works for PCL output only and is ignored in PDF and other output. It requires the borelog module.

Example:

```
ATTRIBUTE : Borehole Construction [DRAW] [WIDTH=350 FIXED]
5 :      BOREHOLE.LST 28 .5
```

The attribute keyword [DRAW] will cause a PCL raster graphic file to be imported into each layer zone that follows. The layer zone description scripts (following line(s)) are then interpreted as:-

```
Depth : DrivePathFileName Xoffset Yoffset
```

In this case the offsets are 28 dots and .5 m, and only one depth is defined.

6.5.7 Footer on Every Page

An option exists whereby the footer can be printed on EVERY page instead of only on the LAST page. This is done by making the dots-per-footer parameter in the layout, into an ODD number. For example, change 300 dots-per-footer to 301.

6.5.8 COMPRESS: keyword

Up to nine of the attributes may be placed on the Right Hand Page while the remainder will be placed on the Left. This is done by specifying (for example) COMPRESS:403 which will allocate 403 dots on the Right Hand Page for the last THREE attributes on the log. The last digit in the compress code signifies the number required, but a zero will mean ALL. This will override the Compress Borelog option in the active SET file.

6.5.9 RESOLUTION: keyword

Raster resolution can be changed from 150 default to 300 by using the keyword RESOLUTION:300 in the text file.

6.5.10 SUB-LAYERS / SUB-STRATA feature

The line drawn across the page between layers can now be selectively suppressed. This gives the illusion of sub-layers within a description, and allows one to switch soil symbols within a layer. This feature is controlled by the word [SUB] or [SUBn] in the description text, where n is an integer in the range 0 to 7, operating as follows: nul = 0 = 1 = suppress the right hand portion of the line, 2 = suppress the depth value, 4 = suppress the zig-zag portion of the line.

6.5.11 A3 Paper

Paper size may be A3 or A4, thus output for a borehole log can be printed on one A3 page – provided your printer has that capability. Jet Setup or HotPlot's SET File Editor can be used to set the paper size, but it is essential to edit any OLD setup files (e.g. STANDARD.SET) and remove the page size code (/027&l26A) or printer reset code (/027E) at line 39. If this is not done, these codes could take priority and annul the A3 instructions.

6.6 Colour in PDF Output

This Section was first issued as PAINTLIB.DOC = Colour Support for dot4001, dated 24-11-2003.

Some of the features mentioned here are demonstrated in the Sample file CHIPTTEST.TXT.

Colour for soil symbols and attributes is supported from dotPLOT 4001 PDF. It is controlled by the input text file. Here are some examples:

"[paint red]" - the symbol will be stroked black on a Red background.

"[Paint red]" - the symbol will be stroked Red on a white background.

"[PAINT red]" - the whole symbol will be coloured Red.

The spelling of the operator "paint" is defined at the end of CONVOCAB.ENG The word can be changed to suit the local dialect of the user, but, whatever the spelling, there are three ways to capitalise the operator, each having a different outcome:-

The operator as LOWERCASE will cause black strokes on a Colour background.

The operator as MIXEDCASE will cause Colour strokes on a white background.

The operator as UPPERCASE will cause Colour to overpaint the whole field.

Immediately following the operator, the Colour is specified as an operand which can be called in four different ways:-

1. The Colour operand can be any of the colour names in the library file C:\dot6000\PAINTLIB.ENG. These colours have been defined in terms of either the standard ACI index codes (AutoCAD Colour Index) or the RGB ColorSpace. The list can be changed by the user. Spaces in the common names have no effect and the spelling is not case-sensitive. The user may add colours and re-define them.
2. If the Colour operand is a single integer, it is interpreted as meaning one of the standard ACI codes.
3. If the Colour operand has three or more values, then the last three are interpreted as denoting the Red, Green and Blue components in the RGB ColorSpace, e.g. "[paint red green blue]". In this case "red green blue" must be three integers in the range 0 - 255.
4. An alternative wording "[RGB red green blue]" can be used. In this case "red green blue" must be three real numbers in the range 0.000 - 1.000.

6.6.1 Library of Common Colours

In the library PAINTLIB.ENG some common colours have been defined in terms of either RGB coordinates or one of the standard ACI codes. The file C:\dot6000\PAINTLIB.PDF displays these colours. The ACI indexes may be changed if required and colours may be completely re-defined using one's own combination of RGB values. By way of example, the outcome from the standard ACI colour "light yellow = 51" is not nearly as convincing as the explicit alternative "light yellow = 255 255 160". Note that in PAINTLIB.ENG integers are used for RGB components in the range 0 to 255.

If the library of colours is altered, one can use the program C:\dot6000\PAINTLIB.EXE to read it and build a new viewable PDF page to demonstrate the effects.

If a Layer Description carries a colour phrase, then the soil symbol for that layer will be modified accordingly. A colour phrase in the header of an Attribute will become the default colour for that column. A colour called for a particular attribute Zone will over-ride, but the default will be restored for subsequent zones. Only one colour phrase (the last) will be recognised in a Layer Description or an Attribute header, or an attribute Zone.

Whether the keyword "[paint" or "[RGB" is used in the text file, the same rules will apply to the capitalisation of the operator.

If the Header carries a colour phrase, then this will become the HIGHLIGHT colour for the text. A double asterisk (**) in the text will toggle the colour between black and highlight. The text will then be stroked in the current colour on a white background.

6.6.2 Using the RGB Colours

The file C:\dot6000\RGBCUBE.PDF displays a standard RGB colour space as a 3-D cube with axes Red, Green, Blue. Each axis is one unit long; coordinates are specified as real numbers in the range 0.000 to 1.000. In this space it will be seen that the three primary corners are Red, Green and Blue so that:-

1 0 0 is fully saturated Red
 0 1 0 is fully saturated Green
 0 0 1 is fully saturated Blue

Between the three primary corners are the complementary corners, also known as the CMY colour space (or CMY Cube):-

1 1 0 is fully saturated Yellow
 0 1 1 is fully saturated Cyan
 1 0 1 is fully saturated Magenta

The furthest corner 0 0 0 is black, the nearest 1 1 1 is white.

If a colour is modified by diminishing the coordinates towards 0 0 0 the result will be a colour of similar hue but tending to black, that is, the Illumination is reduced. For example 0.5 0 0 is a dark brownish red.

If the colour is modified by moving the current coordinates towards 1 1 1 then the new colour will be of similar hue but tending towards white, that is the Saturation is reduced. For example 1 0.8 0.8 is a very light red.

Consider the case that you wish to specify a "light orange". You know that "1 0 0" is Red, "1 1 0" is Yellow. It is reasonable that orange would lie midway and "1 0.5 0" is the obvious choice. To make it lighter, you would move the point from that position in the RGB cube towards 1 1 1 and the result could be "1 0.75 0.5". To make it darker you could use values "0.5 0.25 0".

To express this in other words, the position of the point inside the RGB-cube determines the Colour. All points lying on the vector from the black corner have equal hue, those closer to 0 0 0 are darker - i.e. have less Illumination. All points lying on the vector from the white corner have equal hue, but those closer to 1 1 1 are whiter - i.e. are less Saturated.

6.6.3 Using the ACI Colours

The file C:\dot6000\ACIPALET.PDF displays an approximate array of the standard ACI (AutoCAD Color Index) colours and codes. The general scheme for the codes is as follows:-

Codes 1 - 9 = The eight corners and centre of the RGB cube.
 Codes 10 - 249 = If evenly divisible by 10, the hues are fully saturated, lying in the range RGB 1 0 0 thru 0 1 0 thru 0 0 1 to 1 0 0.
 If odd, then they have reduced saturation and are lighter.
 If even, then they have reduced illumination and are darker.
 Codes 250-255 = Shades of grey, graded from dark to light.

6.7 Fence Diagrams

A separate module for Fence diagrams exists, but is not much used. See separate text manual for this module. PDF output is not supported for the Fence module.

7. Disks, Storage and Limits

7.1 File System

The normal **word-processor** files will go onto the user's standard document directory system.

The **text** files could be treated as temporary, if a word-processor source remains, since editing should in such cases be done on the word-processor file, not the text file.

The temporary **transfer** files are required only as input for the printing module and are automatically deleted immediately prior to conversion of the next new text file.

7.2 Program Limitations

The program has a long and successful history, but bugs occasionally emerge.

Users who strike problems are asked to please contact the authors and supply the relevant details.

7.3 Working Data Limits

The current limits are as follows:

Number of layers per hole	66 (no layer to exceed one page)
Number of Notes	36 (all must fit on one page)
Number of samples per hole	36
Number of pages per hole	12 (after format)
Number of Symbols in Summary	36
Number of elements in symbol	12 (white space counts too)
Number of Attribute Columns	25
Number of Attribute lines	500 (including names)
Number of holes per job number	120 (capacity of screen display)
Number of lines in Attribute name	7

7.4 Transfer Filenames

The filename for a transfer file is made up of the last three alphanumeric characters of the job number plus the last three alphanumeric characters of the hole number, zero filled to avoid blanks (hated by DOS)>

The transfer file has the extension .TRX; Filenames are case-insensitive and will all be up-cased.

Note that a blank job-number or hole-number will result in 000 being substituted and excessive carelessness could lead to a file named 000000 which by the rules of DOS would contain only the last of that set.

7.5 Printing to a Disk File

Profiles can be printed to various disk file types from the dotPLOT main menu as follows:

- ◆ Press <F3> as many times as required to select either OUTPUT to PRNTFILE.PDF or another format (see below), as required.
- ◆ Note on the <F4> key representation on screen what address is set for output files, e.g. ADDRESS C:\DOTFILES. If this is not acceptable, press **F4** and type a new address.
- ◆ Press <F2> as many times as required to select ACTIVITY PROFILES, then
- ◆ Press <F1> START.

If the output is to a print file then it is given an appropriate extension.

- ◆ .PDF for Adobe Acrobat PDF (Portable Document Format) files.
- ◆ .PCL for PCL print files
- ◆ .PGL for HPGL print files
- ◆ .DXF for DXF (AutoCAD Document Exchange Format) files
- ◆ .PRO for Swift View

In addition a directory is created for the job and print files are copied to this job directory. At the same time they are renamed with the full borehole name plus extension.

The files can later be printed on any suitable machine with the DOS **binary file copy** command:

```
COPY A:*.PRO /B LPT1 <Enter> for all files on A: disk,
(or COPY /B A:*.PRO LPT1 <Enter> for some versions of DOS)
or
COPY A:JJJ*.PRO /B LPT1 <Enter> for a particular group JJJ.
```

Since the **symbol summary** for a job has no hole-number as such, the printer file for the summary will have a name of the form JJJ000.PDF. A **test symbol** printout has no job-number and no hole-number and so the filename will be 000000.PDF.

First make sure that any **soft fonts** required in the setup have already been downloaded and are available at the printer.

For PDF output, Windows Explorer can be used to open the file with Adobe Acrobat Reader and hard copy can be obtained from suitable installed printers. HotPlot can be set to automatically open PDF files after a dotPLOT run.

7.6 File Management

All setup files and language files are straightforward text files using the alpha-numeric ASCII characters 032 through 127 and may be readily edited. The temporary transfer files have the extension. TRX and are different; they tend to have very long lines, which a simple editor will not manage and they employ some special characters in the range (128) to (255) for the format control codes; it is therefore not advisable to edit the transfer files.

All files can be deleted, copied etc. with ordinary DOS and Windows commands or utilities. There are no hidden files.

7.7 Long Job and Hole Numbers

With dot6001 of 17 March 2010, we have changed printouts so that the job number box will expand as necessary to fit the title plus job number. This allows longer job numbers (over 8 characters). The new job box is backwards compatible.

Hole numbers should preferably not exceed 8 characters – they may exceed 8, but only the rightmost 8 will be used for the output filename. The Hole number box does not expand as the job number box now does, so a practical limit (using 10 pt Arial) is 10 characters with the standard "HOLE No:" label, or 12 if the label is customised to "HOLE:".

8. Sample Output

8.1 Soil and Rock Symbol Library

A printout of the soil and rock symbols can be printed to PDF file or a HP LaserJet printer from the dotPLOT main menu as follows:

- ◆ Press <F3> as many times as required to select either OUTPUT to PRNTPDF or OUTPUT to PRINTER, as required.
- ◆ If you are printing to file, note on the <F4> key representation on screen what address is set for output files, e.g. ADDRESS C:\DOTFILES. If this is not acceptable, press F4 and type a new address.
- ◆ Press <F2> as many times as required to select ACTIVITY TEST-SYMBOLS, then
- ◆ Press <F1> START.

The screen displays the names of the 83 symbols available, reproduced here:

```

T E S T   R O U T I N E
=====
ROUTINE TO PRINT THE SYMBOL LIBRARY SUMMARY SHEETS.
THIS TEST ROUTINE DOES NOT REQUIRE A VALID PASSWORD.
YOU MAY NOT CHOOSE MORE THAN 36 SYMBOLS AT A TIME.
(You must spell the symbol names exactly as below)

```

BOULDERS	SCATTERED BO	GRAVELS	GRAVELLY	SAND	SANDY
SILT	SILTY	CLAY	CLAYEY	CONGLOMERATE	SANDSTONE
MUDROCK	COAL	DOLOMITE	LIMESTONE	QUARTZITE	BANDS
PLUTONIC	HYPABYSSAL	VOLCANIC	DIORITE FAMI	GABBRO FAMIL	PYROXENITE F
FREE QUARTZ	GRANITE	QUARTZ DIORI	QUARTZ GABBR	QUARTZ PYROX	GRANITE PORP
QUARTZ DIABA	QUARTZ DOLER	RHYOLITE POR	QUARTZ ANDES	QUARTZ BASAL	DIORITE
GABBRO	PYROXENITE	DIABASE	DOLERITE	ANDESITE	BASALT
NEPHELINE SY	OLIVINE DIOR	OLIVINE GABB	PERIDOTITE	TINGUAITE	OLIVINE DIAB
OLIVINE DOLE	KIMBERLITE	PHONOLITE	OLIVINE ANDE	OLIVINE BASA	OLIVINE
QUARTZ VEINS	METAMORPHIC	SCHIST	BRECCIA	CHERT	WAD
DENSE FERRIC	NODULAR FERR	SPARSE FERRI	DENSE CALCRE	NODULAR CALC	SPARSE CALCR
CALCRETE	WELL CEMENTE	PARTIALLY CE	RUBBLE	FILL	CRUSHED ROCK
CONCRETE	PERMANENT WA	PERCHED WATE	UNDISTURBED	DISTURBED SA	CHEMICAL SAM
ROOTS	ROCKHEAD	WEATHERING H	WATER SEEPAG	BAND	

> Enter START SYMBOL, END SYMBOL (skip to abort)

The symbols printed in the sample file C:\dot6000\Manual\SYMBOLSA.PDF were obtained in four separate runs, using start and end names as follows:

```

BOULDERS, VOLCANIC      <ENTER>
DIORITE FAMI, BASALT    <ENTER>
NEPHELINE SY, SPARSE FERRI <ENTER>
DENSE CALCRE, BAND      <ENTER>

```

For you this sequence will produce four separate pages (or PDF files).

8.2 Sample Text Files

8.2.1 EXAMPLES.TXT

The file EXAMPLES.TXT is used for general testing of the program. It is included in the installation and loaded onto folder C:\dot6000. It contains 3 sample holes:

<u>Job No.</u>	<u>Hole No.</u>	<u>Description</u>
MANUAL	DEM001	Used for testing purposes.
MANUAL	DEMO 2	An example of a simple typical profile using underlining of the soil name to call the symbol.
MANUAL	DEM03	A simple profile showing how soil symbols are called using the tilde and uppercase soil name with underlined soil consistency.

The examples can be run from **dot6000** by calling the text file C:\dot6000\EXAMPLES.TXT. The expected output can be found in the file C:\dot6000\Manual\EXAMPLES.PDF. Note that due to the inconsistent hole numbering, hole DEM03 appears second in the file, and DEMO 2 last.

8.2.2 TUTORIAL.TXT

The file TUTORIAL.TXT contains demonstrations of various techniques. It is included in the installation and loaded onto folder C:\dot6000. It contains 2 sample holes:

<u>Job No.</u>	<u>Hole No.</u>	<u>Description</u>
MANUAL	TUT001	A tutorial text file demonstrating format and format control.
MANUAL	TUT002	A tutorial text file showing all the different ways by which soil symbols are called up and detected by the program.

Run **dot6000** using the text file C:\dot6000\TUTORIAL.TXT. The expected output can be found in the file C:\dot6000\Manual\TUTORIAL.PDF.

8.2.3 BORELOG.TXT

Unless you have a licence for borehole logs, this Borehole Log example will run as a DEMO. The file BORELOG.TXT included in the installation and loaded onto folder C:\dot6000 contains 2 sample borelogs:

<u>Job No.</u>	<u>Hole No.</u>	<u>Description</u>
MANUAL	BH03	An example of a simple borehole log using the attributes page (4 pages)
MANUAL	BH09	A more detailed borehole log example using two columns in the profile, tabulated attribute data input, and the SAMPLES: option (2 pages).

Run **dot6000** and call the text file C:\dot6000\BORELOG.TXT. The expected output can be found in the file C:\dot6000\Manual\BORELOG.PDF.

8.2.4 Other Sample Text Files

Other sample files included with the program and loaded onto folder C:\dot6000 are:

<u>File Name</u>	<u>Description</u>
CHIPTTEST.TXT	To demonstrate use of PDF plus colour [** toggles colour on/off]. One hole, no: 23 on job no: 1306011. The printing of this profile requires the 'borehole' version of dotPLOT.
GEOSURVY.TXT	Detailed use of the borehole log attribute page including use of tabular format for the joint descriptions, APLHM to move A-page left hand margin, APRHM for A-page right hand margin and PPLHM to move the P-page left hand margin. One hole, number: BH 009. Requires borelog module.
GRIDTEST.TXT	Demonstrates dotPLOT with vertical grid lines drawn on a bar-graph, log scales for the bar-graph, and the importation of raster graphic files (BOREHOLE.LST, for PCL output only, ignored in PDF and other output). Job no 30611, Hole no 231. Requires borelog module.
HATCH.TXT	Demonstrates use of dotPLOT with percussion drilled borehole. The printing of this profile requires the 'borehole' version of dotPLOT
PLOTTEST.TXT	Simpler version of chiptest.txt demonstrating use of [HPGL6132] to cause an HPGL printer to plot a vector line graph. Job no: 1306011, Hole no: 23. Example using [INCLUDE FILE] C:\dot6000\PLOTTEST.DAT, emulating a data logger. Requires borelog module.
TEST3000.TXT	Demonstration of various aspects of soil profiles. Job no: 5447, four holes, nos D 33 To D 36.
WELLTEST.TXT	Demonstrates dotPLOT drawings using well construction example. Job no: 30611, hole no: 231. Requires borelog module.

8.2.5 Miscellaneous Files

The following supporting files should not be removed:

<u>File Name</u>	<u>Comments</u>
GREP.COM	Useful for finding text within files, for debugging.
BOREHOLE.LST	A PCL raster graphics file imported in the example GRIDTEST.TXT (for PCL output only, ignored in PDF and other output)
KEYFILE1.DAT	Required in hotspots, used for the menu blocks in promenu.
PLOTTEST.DAT	Example of an include file for dotPLOT, emulating a data logger.
WORDPAD.SIG	Needed in proconv.bas, as it contains the header signature of files written in Wordpad, and controls the switch to deal with input from MSWord doc or Wordpad files. Do not delete it.
CASED	Needed for typical borehole construction "drawing".
COLLAR	Needed for typical borehole construction "drawing".
ENDHOLE	Needed for typical borehole construction "drawing".
PACKED	Needed for typical borehole construction "drawing".
SLOTTED	Needed for typical borehole construction "drawing".
UNCASED	Needed for typical borehole construction "drawing".

9. Revision List and Updates On-Line

From time to time HotPlot and dotPLOT are revised to add enhancements and fix bugs.

To avoid us having to revise this manual for every program change, the list of recent revisions is now updated on-line at <http://www.softwareafrica.co.za/dotplot-whats-new.htm>.

To download the latest update to the programs, go to the dotPLOT Setup web page:
<http://www.softwareafrica.co.za/dotplot-setup.htm>

Please also consult HotPlot's HTML Help. This file installs with HotPlot and runs directly from it but can also be downloaded separately from the link above. HotPlot Help is kept up to date with each new revision, whereas this manual is updated only when necessary.

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