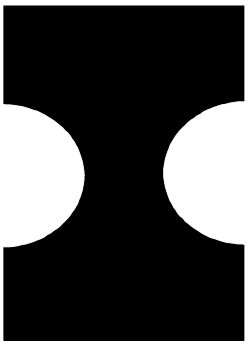

HOGENTOGLER

Coneplot 2.22 for Windows 98
and
Cleanup 2.22 for Windows 98

Operating Instructions

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Coneplot for Windows 95/98
Version 2.22

Hogentogler & Co., Inc.
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Columbia, MD 20815
USA

Table of Contents for Coneplot

1. Introduction

Hogentogler & Co., is proud to announce the release of Coneplot for Windows version 2.21. Major changes include the addition of soil behavior to depth plots, improved seismic support, the elimination of the initialization program, and foreign language support. Improved error handling and greater tolerance for damaged file headers help make Coneplot 2.21 more robust than previous versions.

2. Opening Screen

Figure 1 shows the opening screen. There are three types of tests that Coneplot can plot/process: cone soundings, pore pressure dissipations, and seismic tests. To plot/process a test, press the appropriate button listed in the middle of the screen.

Figure 1

If Coneplot is being started for the first time, it is necessary to setup the program parameters. The following prompt appears when the program is started for the first time.

Figure 2

Click **OK** or press enter to go to the Program Setup screen. This screen can be accessed at any other time by clicking on **Program Setup** on the menu bar.

3. Program Setup

The program setup screen is shown in figure 3.

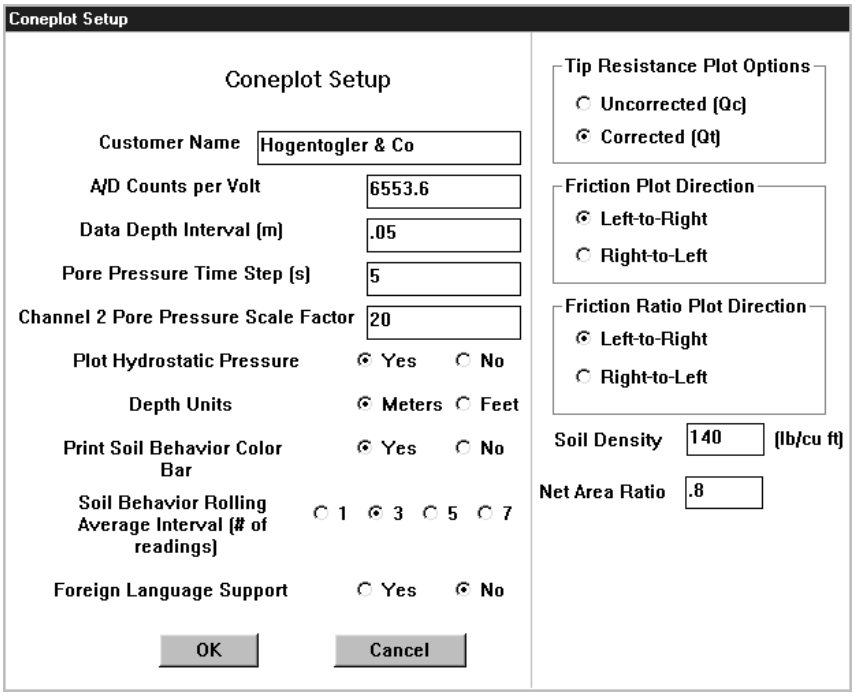

Figure 3

Following is a brief explanation of the fields and how to set them up:

Customer Name is the name that will appear on the top of all the graphs.

A/D Counts per Volt is dependent on the model of the Hogentogler field computer used to collect the data. For most users, this number is 6553.6, but for a few customer the number may be 3276.8. A configuration sheet identifying which number should be used will ship with the software. If there are any questions, contact Hogentogler.

Data Depth Interval is the distance between depth counts and is usually set at .05 m. This is standard for Hogentogler systems, but some users might use .025 m depth counts.

The **Pore Pressure Time Step** is the number of seconds between dissipation readings. Five seconds is standard for Hogentogler systems, but if this number is changed on the field computer, then it will need to be changed here.

Channel 2 Pore Pressure Scale Factor is not used, but is placed here for future expansion.

Plot Hydrostatic Pressure: Click **Yes** to have the hydrostatic pressure plotted on the pressure vs. depth plots.

Depth Units: Click **Meters** to have the depth default to meters, or click **Feet** to default to feet.

Print Soil Behavior Color Bar: Click **Yes** to have a color bar plotted whenever the soil behavior type is plotted vs. depth.

Soil behavior rolling average: This averages friction ratios and tip values when determining soil behavior type. For example, a value of three will average the current reading with the reading before it and the reading after it. On most Hogentogler field systems with 5 cm depth counts, the interval is 15 cm which translates to a rolling average of three. A value of one means no average.

Foreign Language Support: Click **Yes** to use different languages and character sets in both the menus and printouts. This requires a file provided by the local agent. Click **No** to use English as the default language

Tip Resistance Plot Options: Click on Qc to plot Qc vs. depth or click on Qt to plot Qt vs. depth.

Friction Plot Direction and **Friction Ratio Direction**: Allows the user to plot these two values either left to right or right to left.

Soil Density: This number can vary from place to place. The default # is 120.

Net Area Ratio: .8 is standard for all Hogentogler cones.

Press **OK** to save the values, or press **Cancel** to exit without saving the new values.

4. Depth Plots and Tabular Lists

Open CPD file

To plot/print data from soundings, click on **Depth Plots**. Doing so brings up the **Open File** dialog box in figure 4. This box will display all of the sounding files in the current directory (all Hogentogler sounding files have a *.cpd file extension). Select a file and press **Open**.

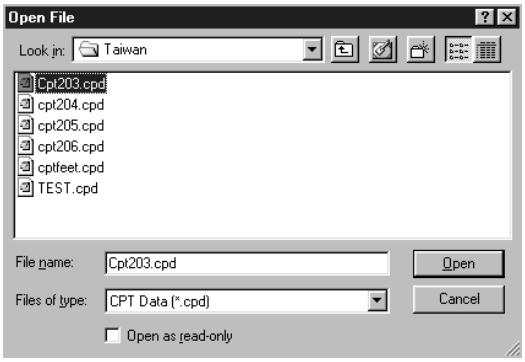

Figure 4

Coneplot imports the file and displays the available channels (fig 5).

Figure 5

Add Data

Coneplot can also import additional data to display with the sounding data. To do so, click on **Add Data** on the menu bar. An **Open File** dialog box will appear. Select the data to import and press **Open**. If the file has a valid structure, the added data will show up in the **Available Channels** box as an extra channel. An example of importing data is described in **Generate Profile** on page 19.

Select Channels

Select the channels by clicking once on each one individually (see figs 6 through 8). The channels will be plotted or printed in the order they are selected. The current selection order is shown in the **Selected Channels** box. To deselect a channel, click on it again. It will be removed from the **Selected Channel(s)** box.

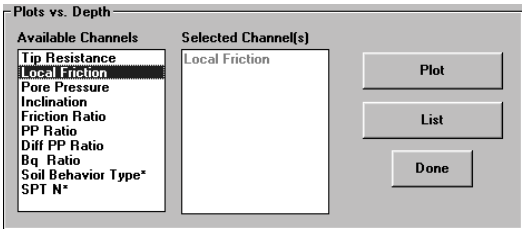

Figure 6

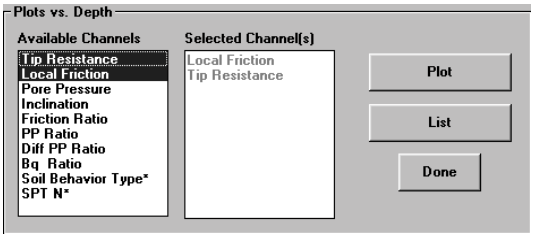

Figure 7

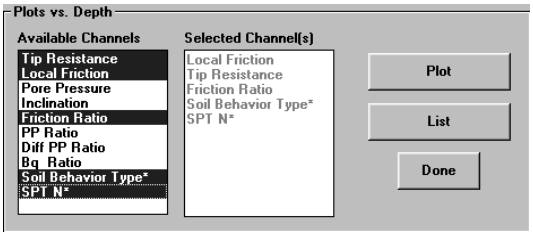

Figure 8

Depth Plots

After selecting the channels, click on **Plot** to plot a graph of the channels vs. depth. Figure 9 shows an example of a depth plot.

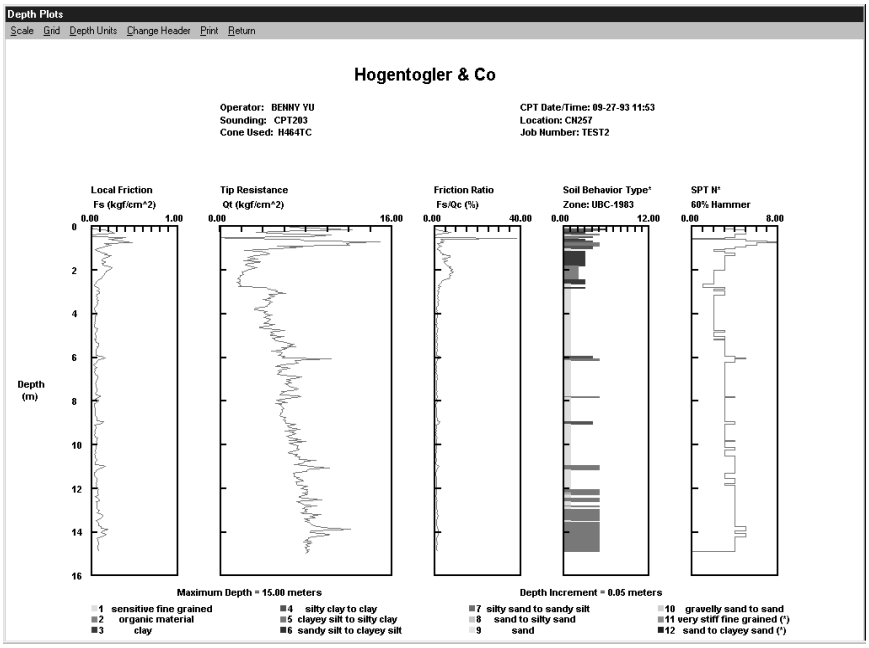

Figure 9

Scale

Each plot can be individually scaled by clicking on **Scale**. Figure 10 shows the **Scale Coneplot** window.

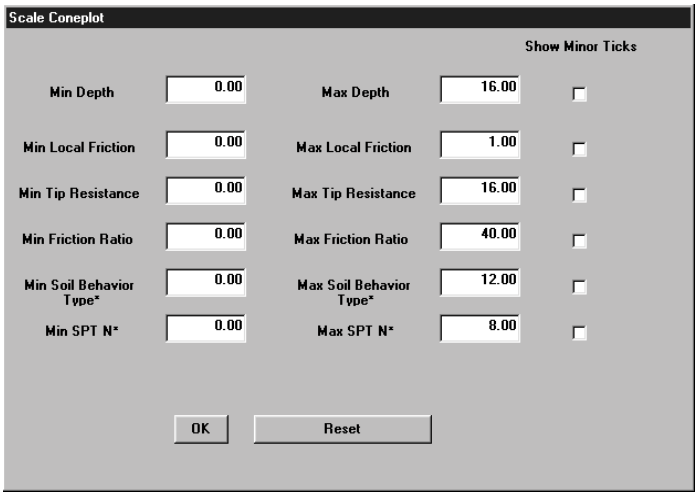

Figure 10

Enter the scale values and press **OK**. Press **Reset** to reset the scales to the original value. Click on **Show Minor Ticks** for each individual channel to increase the number of tick marks for that individual channel. This can help with interpolation of the data. On some graphs, however, the minor ticks can cause the graph to be too cluttered.

Grid

Click on **Grid** to turn the grid on or off. Figure 11 shows the graph with the grid on.

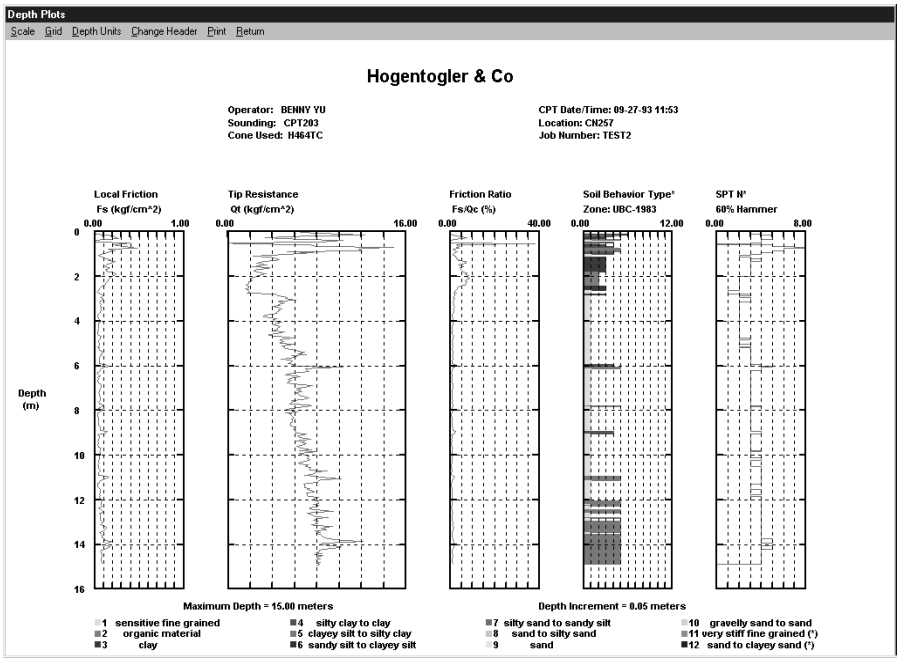

Figure 11

Depth Units

Click on **Depth Units** to change the depth units from meters to feet or vice versa.

Change Header

Click on **Change Header** to display change the headers. This brings up the following screen.

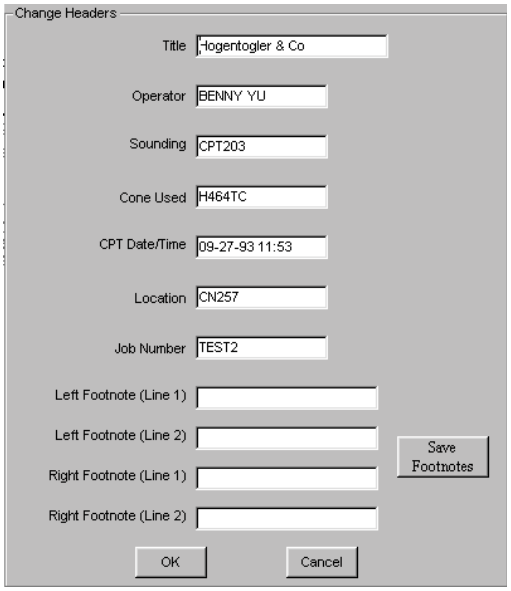

Figure 12

The individual headers or footnotes on the graph can be changed here, but the change is only for printing the graph. It will not modify the data file. To have the footnotes print on every graph, press the **Save Footnotes** button.

Print

Click on **Print** to bring up the printer dialog box (fig 13). Press **OK** to print the plot.

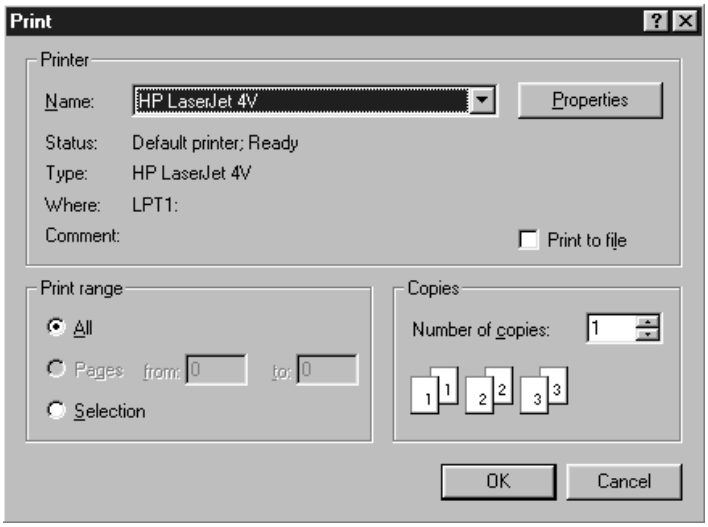

Figure 13

Return

Press **Return** to go back to the channel selection screen.

List Parameters

From the channel selection screen (fig 5), the **List Parameters** button is used to print data or output data to a text file.

Select channels in the same manner as described in section 4 and press **List Parameters**. The screen if figure 14 will appear.

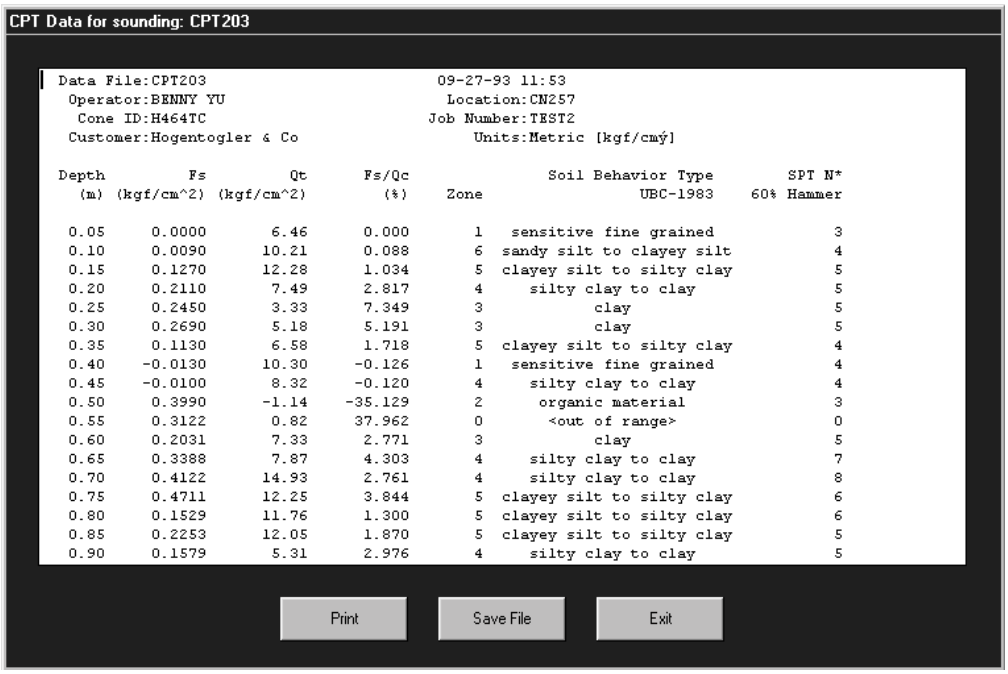

Figure 14

The header information is at the top of the computer and the data is listed in columns. Notice, the columns are listed in the order they were picked.

Press **Print** to print the list, **Save File** to save it to a text file, or **Exit** to return to the parameter select screen.

5. Pore Pressure Dissipations

To plot/process pore pressure dissipations, click the **Pore Pressure Dissipations** button on the opening screen (fig 1). An **Open File** dialog box will appear. Select the desired dissipation file (*.pdb) and click **OK**. The corresponding sounding file (*.cpd) must be in the same directory as the dissipation file. If it is not, the dissipation file cannot load due to missing header information. Users of the FDAS (or Indy) should pick files with the (*.ppd) extension.

If the file is loaded and there are no errors, the following screen appears.

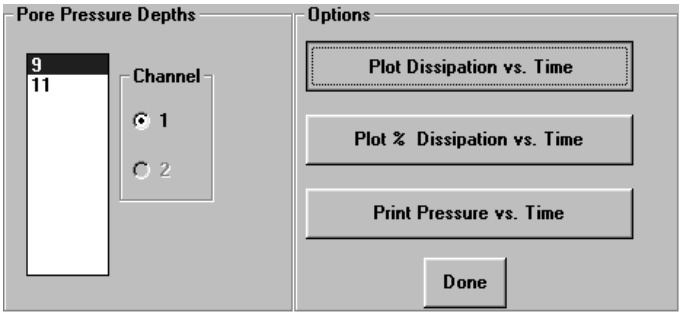

Figure 15

Select Depth

Select the depth of the dissipation by clicking on it once with the left mouse button. Up to ten depths can be selected at a time. To deselect a dissipation, click on the depth a second time.

Plot Dissipation vs. Time

After selecting the depth(s), press the **Plot Dissipation vs. Time** button to plot the dissipation. The plot of a single dissipation is shown in figure 16.

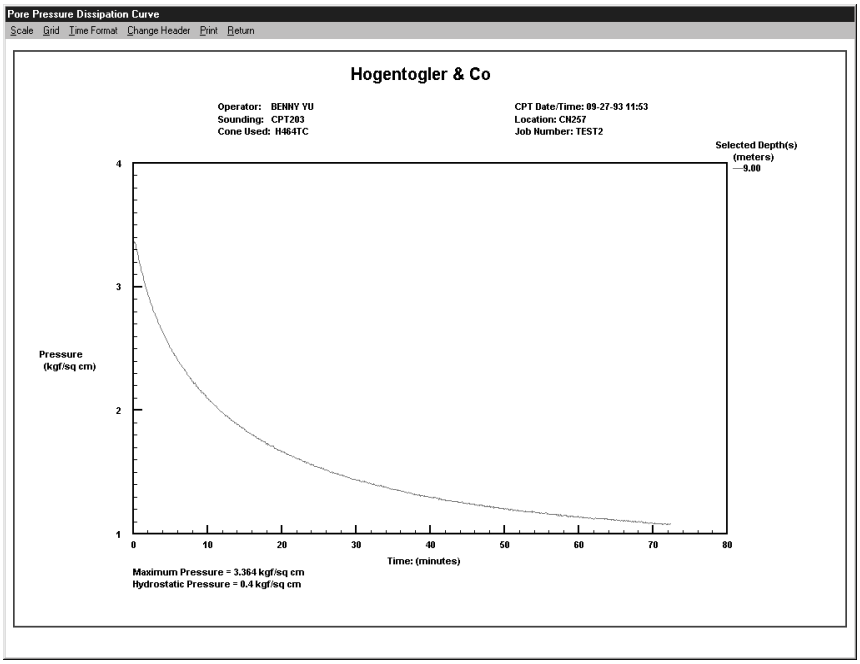

Figure 16

If more than one depth is selected, the different depths can be distinguished by the color of the line. The key is in the upper right hand corner of the graph.

Scale

The graph can be scaled by clicking on **Scale**, which will bring up the following window (fig 17). Enter the new values for the scale and press **OK**. The graph will scale automatically.

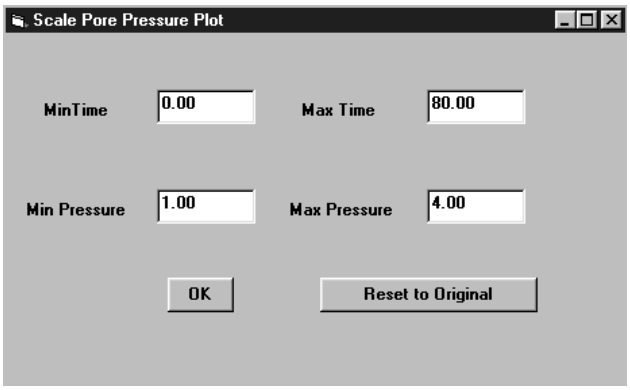

Figure 17

Grid

The grid is turned on or off by clicking on **Grid**, which brings up the following window.

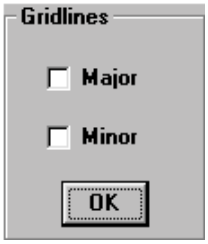

Figure 18

If **Major** or **Minor** are not checked, click on **Major** to turn on the major grid lines and click on **Minor** to turn on the minor grid lines. When the grid lines are on, the graph looks like figure 19.

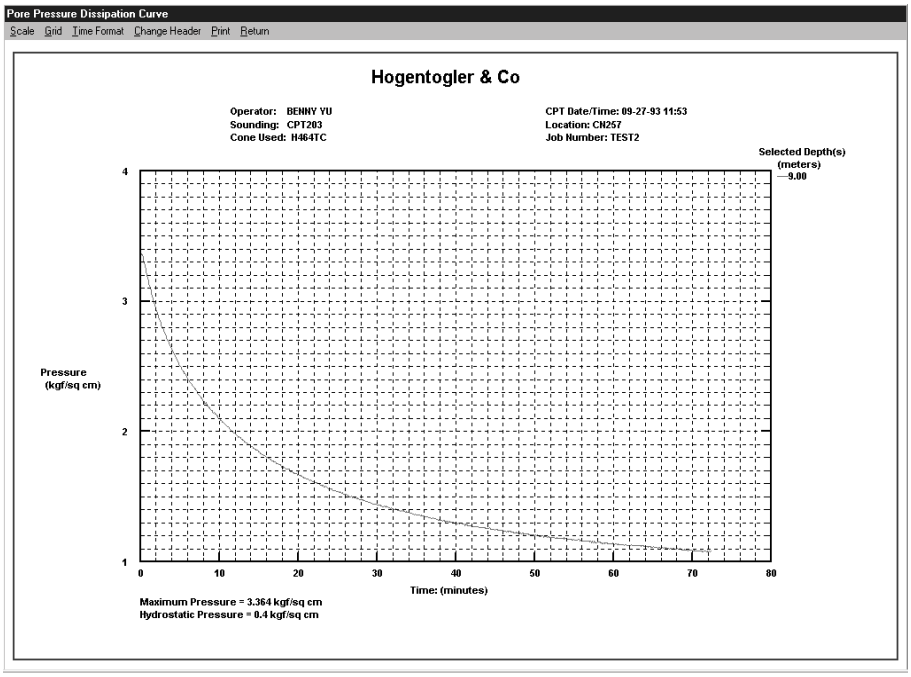

Figure 19

Time Format

When the dissipation is first displayed, the format of the graph is pressure (y-axis) vs. linear time (x-axis). The graph can also be displayed as pressure vs. log(time) or pressure vs. square root of time. Figure 20 shows the pressure vs. log(time).

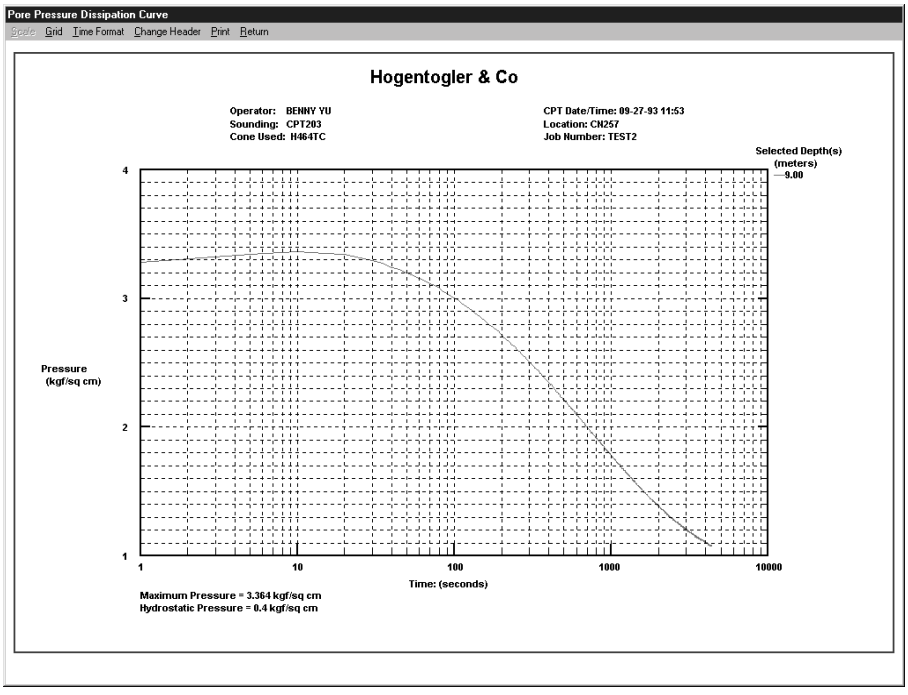

Figure 20

Change Header

As in the depth plots, the header in the dissipation plots can be changed. Click on **Change Header** in the menu to bring up the window in figure 21.

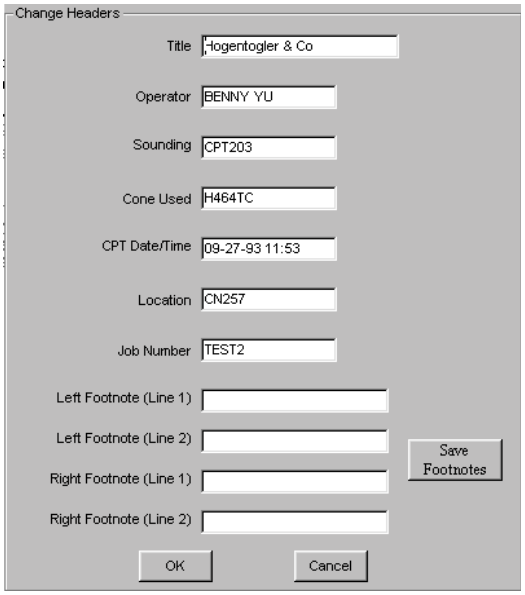

Figure 21

Change the header and press **OK**. The change is for printing only and will not be saved to the data file.

Print

Click on **Print** to print the graph. This will bring up the **Printer** dialog box. Configure the printer or press **OK** to print. The graph will print as it is shown on the screen.

Return

Press Return to return to the depth selection window.

Plot % Dissipation vs. Time

To plot the pressure vs. time as a percentage of the difference between the maximum pressure and the hydrostatic pressure, go to the dissipation selection window (figure 13), select the dissipation depth and click on **Plot % Dissipation vs. Time**. A sample graph is shown in fig 22.

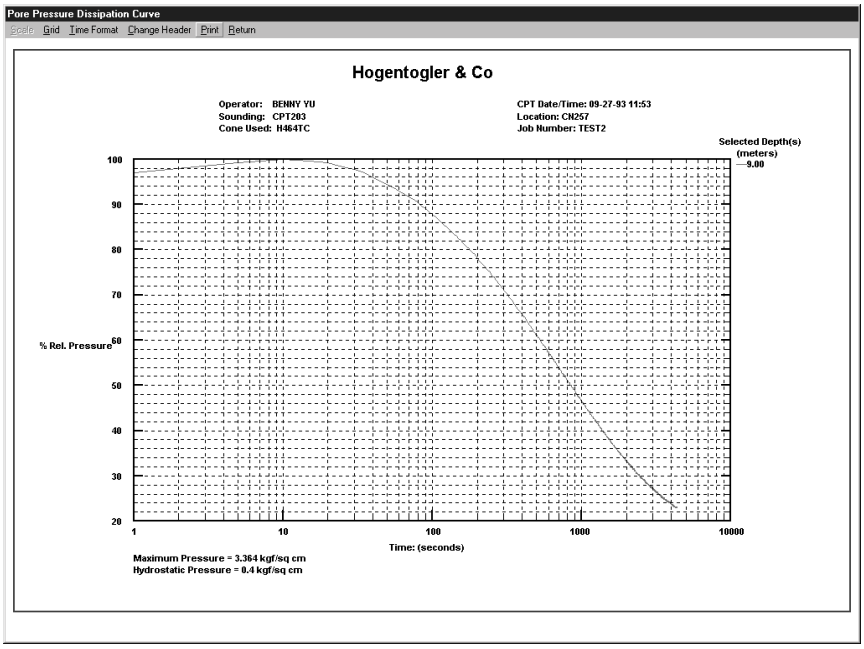

Figure 22

Only one dissipation can be plotted at a time. On the graph, 100% is the maximum pressure and 0% is the hydrostatic pressure.

Print Pressure vs. Time

Coneplot can export dissipation data to ASCII. Select the depths that are to be converted and click on the Print Pressure vs. Time button. The following screen will appear.

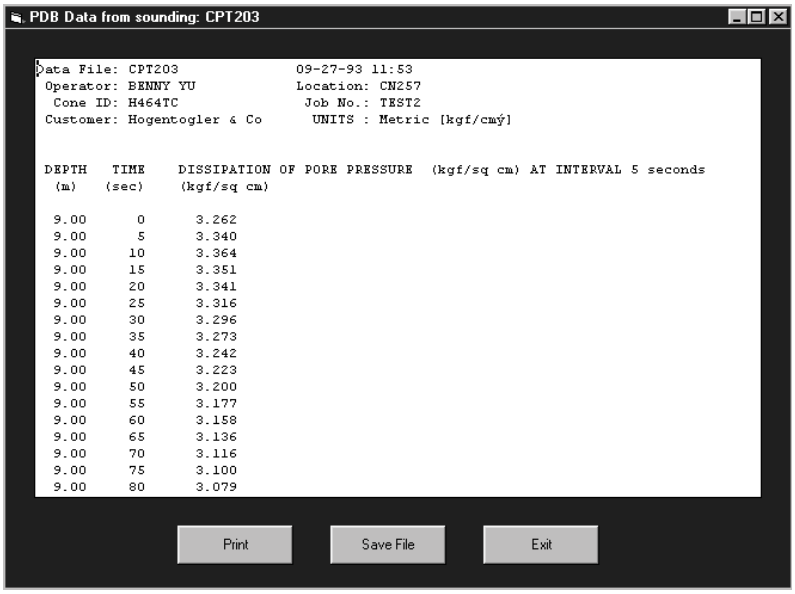

Figure 23

Press **Print** to print the data.

Press **Save File** to save the data in a text file. A **Save File** dialog box will appear. Enter the

filename and press **OK**.

Press **Exit** to return to the dissipation selection screen.

6. Seismic Processor

The functions of the old CPTSEIS program for Windows have been enhanced and added to Coneplot. Using Coneplot, up to 30 seismic tests can be plotted at a time along with delays and velocities of each test. Also, the headers and depths of the files can be edited and multiple files can be converted to text with one click.

From the startup screen, click on **Seismic Processor** to start the Seismic Processor. The Seismic Processor file selection screen will appear (figure 24).

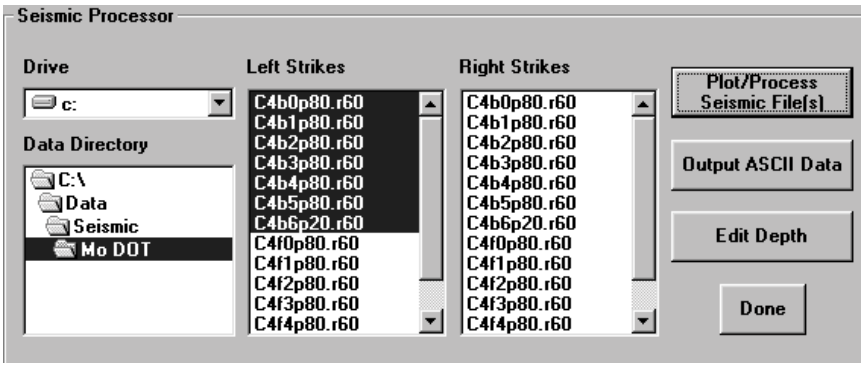

Figure 24

Select Files

Use the **Drive** and **Data Directory** boxes to navigate to the directory where the seismic data files are located. NOTE: All of the files that are to be plotted must be in the same directory. Since seismic files do not have extensions, all of the files in the directory will be listed in both the **Left Strikes** and **Right Strikes** boxes. To pick a data file, go to the **Left Strikes** box and click on the file once with the left mouse button. To select multiple data files, hold down the CTRL key and click on each file once. The **Right Strikes** box is only used to plot seismic tests performed at the same depth but from the opposite direction as tests selected in the **Left Strikes** box. If a file selected in the Right Strikes box does not have the same depth as a file selected in the **Left Strikes** box, it will not print.

Plot/Process Seismic Files

Figure 24 shows seven tests chosen for plotting or processing. To plot/process the tests, press the **Plot/Process Seismic** File(s) button. This will bring up the prompt shown in figure 25.

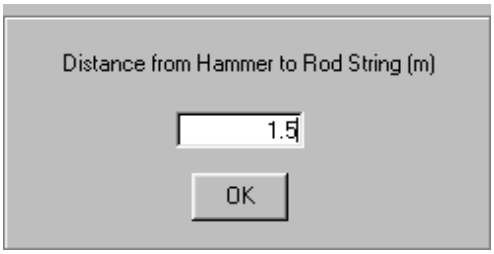

Figure 25

Enter the distance from the strike plate to the rod string. This parameter is important to

calculate the actual distance from the hammer to the cone. Press **OK** to go to the multigraph screen (figure 26).

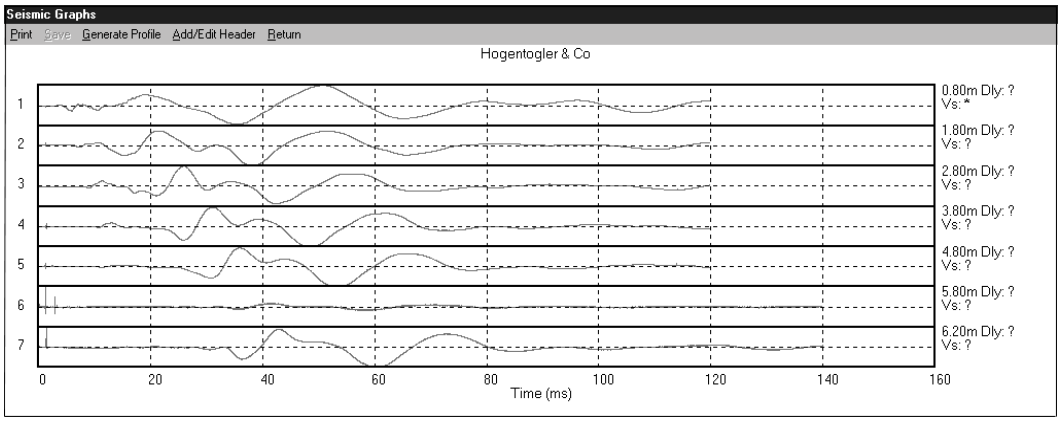

Figure 26

The tests selected previously (figure 24) are plotted from top to bottom in order of increasing depth. The graphs are numbered on the left and the depth, delay and velocity for each graph are listed to the left.

If both left and right strikes are selected, the graphs will show up as figure 27.

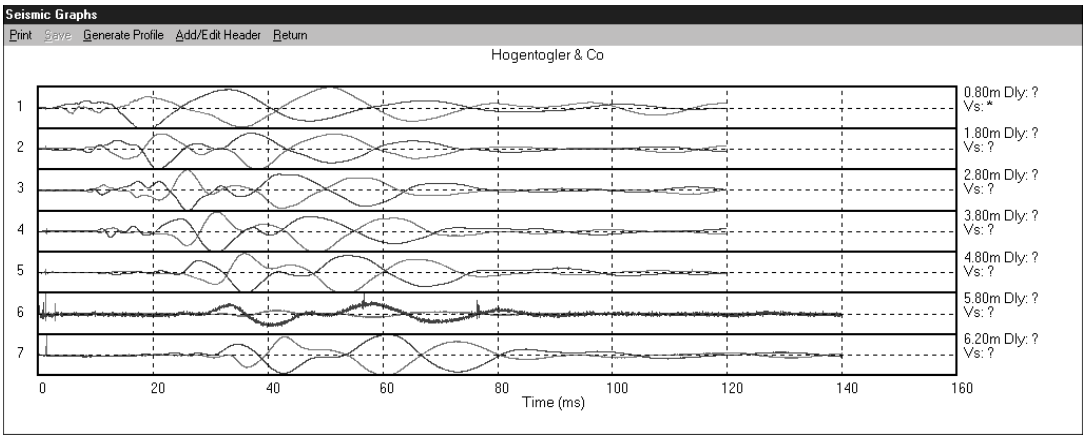

Figure 27

Determine Delay/Velocity

To determine the delay and velocity for a test, move the mouse to the corresponding graph and click the left mouse button once. This brings up the screen in fig 28.

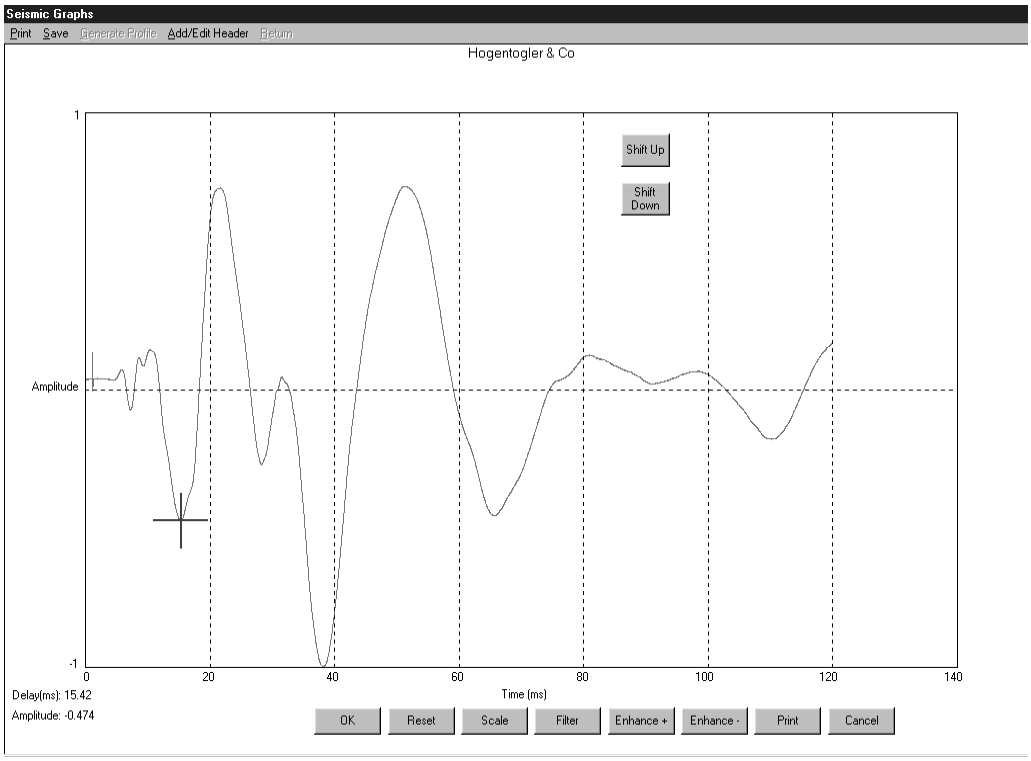

Figure 28

Move the mouse from left to right within the boundaries of the graph in figure 28 to move the cross-hairs to the desired point. In the lower left hand corner are the current coordinates of the cross hair. The delay is the x axis position and the amplitude is the y axis position. Click the left mouse button once to freeze the cross-hairs and set the delay. If the delay was set incorrectly, press the **Reset** button. If there is not enough resolution to correctly set the delay, the graph can be scaled by pressing the **Scale** button. To print the graph, press the **Print** button. Use **Filter** to smooth out the graph and use **Enhance+** and **Enhance-** to increase or decrease the amplitude. **Shift Up** and **Shift Down** move the graph up or down relative to the x axis.

The updated graph can be saved to a file by clicking on **Save** from the menu. Only the left strike data (red line) will be saved.

Once the delay has been set, press **OK** to return to the multi-graph screen. The program will calculate the velocity by dividing the distance between the current graph and the previous graph with the difference in the delays of the current and previous graphs. If the delay of the previous graph has not been calculated, the program will inform the user that the velocity for the current graph cannot be calculated (figure 29).

Figure 29

The reference layer is automatically assumed to be the previous layer (previous graph).

Generate Profile

Once the delays have been determined and the velocities calculated, a delay or velocity vs. depth profile can be generated. This file can be imported into a spreadsheet or into the depth plots.

To import a profile into a depth plot, bring up the desired sounding file as described in Section 4. Once the file has been opened and the channels are displayed (fig 5), click on **Add Data** in the menu bar. An **Open File** dialog box will open. Choose a delay profile (*.dly) or the velocity profile (*.vss). A new channel, either **Seismic Delay** or **Seismic Velocity**, will be added to the **Available Channels** box (figure 30). Select the channel to graph it. A delay or velocity profile will graph as a step graph (figure 31).

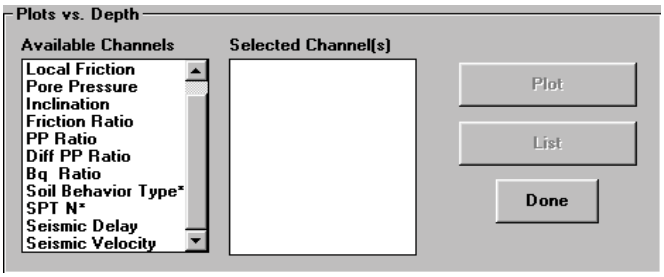

Figure 30

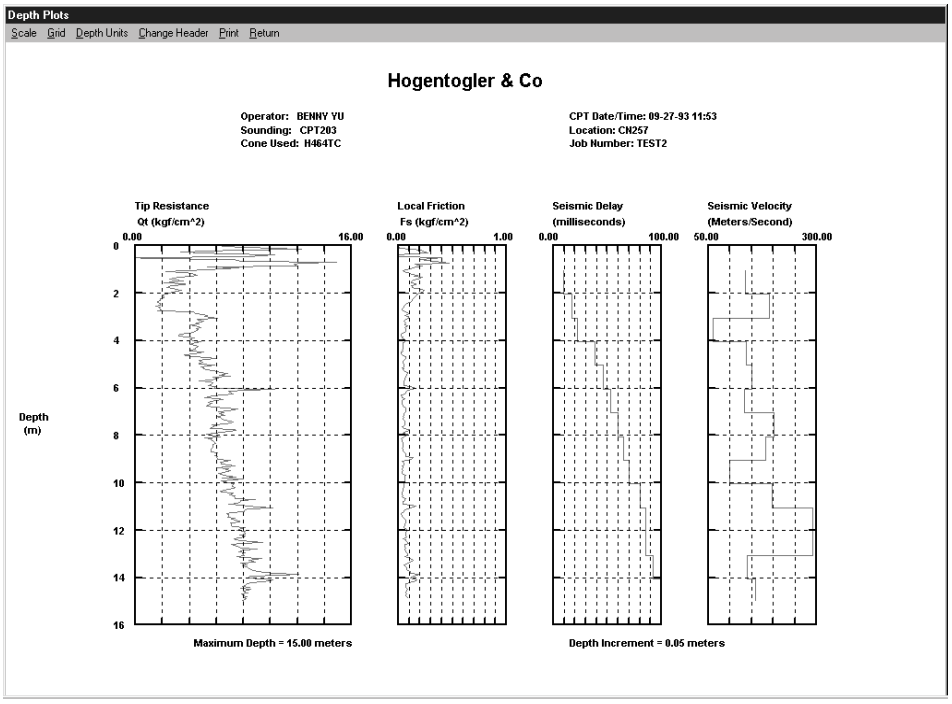

Figure 31

The step graphs for delay profiles have one difference from those for velocity profiles. A delay profile will step the graph to the delay at the selected depth. For example, in figure 31,

the graph steps to 70 milliseconds at the depth of 9 meters. This is the delay that was determined at this depth. On a velocity profile however, the velocity for 9 meters, 180 meters/second, is stepped up at that depth's reference layer, which happens to be 8 meters.

Output ASCII Data

From the **Left Strikes** box, choose which files are to be converted to ASCII. Press **Output ASCII Data** to convert the files. The new ASCII files will be created in the same directory as the seismic files and will have the same names as the seismic files but with a ".txt" added to the end. The ASCII files will have a small header and two columns of data, column one is the time and column two is the amplitude.

Edit Depth

To edit the depth or the header of a seismic file, select the file from the **Left Strikes** box and press the **Edit File** button. The prompt in fig 32 will appear. Edit the data and press **OK** to save it. Only one file can be edited at a time.

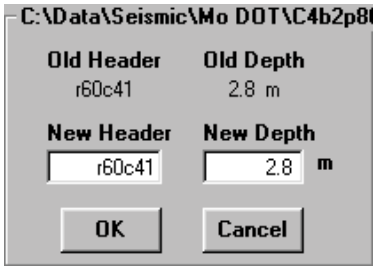

Figure 32

Appendix A

Installation

Coneplot for Windows ships on a CD-ROM and is bundled with Cleanup. To install the program, insert the CD-ROM into the CD-ROM drive. Go to the Coneplot directory and double click on Setup.exe. The following screen will appear.

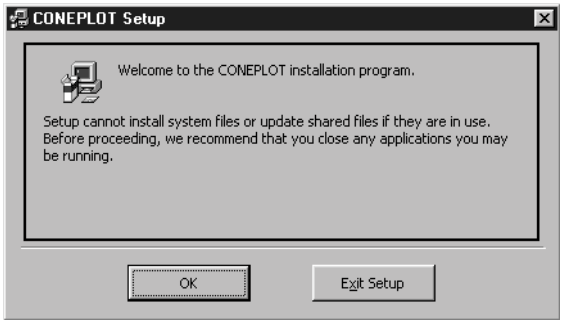

Figure A1

Press **OK** to continue. This will bring up the next screen in figure A2. Click on the button in the upper left hand corner to install the program. Follow the rest of the on-screen instructions. When the installation routine is finished, the window in figure A3 will appear. Coneplot is now installed.

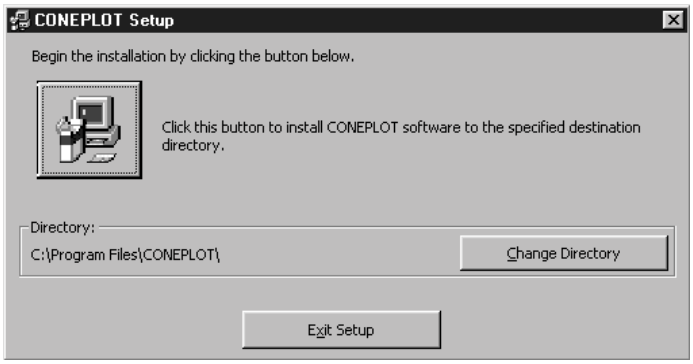

Figure A2

Figure A3

Removal

Coneplot for Windows can be removed using the Windows uninstall feature. Click on **Start** in the lower left hand of the screen. Go to **Settings** and then to **Control Panel**. Go to **Add/Remove Programs**. Highlight **Coneplot** and press **Add/Remove**. Follow the instructions on the screen to remove the program.

Appendix B.

Creating a profile

Coneplot for Windows 2.21 allows the user to create a datafile that can be imported and displayed with the cone channels in the depth plots. The program can generate a seismic delay or velocity program automatically. In figure B1 the text of a velocity profile is shown.

```
step
XXX
Seismic Velocity
(Meters/Second)
Depth(m) Velocity(m/s)
   1.00      2.00    133.39
   2.00      3.00     72.76
   3.00      4.00     57.66
   4.00      5.00     84.78
   5.00      6.00    140.90
   6.00      7.00    155.10
   7.00      8.00    142.91
   8.00      8.95    168.21
   8.95      9.95    155.10
   9.95     10.95    215.14
```

Figure B1

The structure of the file is as follows:

Line 1 describes the type of graph. Type **straight** to do a point to point graph (such as the tip or friction graphs) or type **step** to do a step graph like the seismic delay or velocity graphs. The difference between the delay and velocity step graphs is explained on page 19.

Line 2, **XXX**, is the foreign language descriptive header. This appears above the graph, if Coneplot has been set up for foreign language.

Line 3, **Seismic Velocity**, is the English descriptive header. This appears above the graph.

Line 4, **(Meters/Second)**, is the units text.

Line 5 contains the column descriptors. Columns 1 and 2 share the same descriptor, **Depth(m)**. Column 3 uses the second descriptor, **Velocity (m/s)**.

The rest of the file is the data. Column 1 is the start depth for the data in column 3. Column 2 is the stop depth for the data in column 3.

Appendix C.

Troubleshooting

A CPD file will not load

Check the first two lines of data (the header) for commas. Coneplot for Windows cannot tolerate commas in the file.

A PDB file will not load

Check to see that the corresponding CPD file is in the same directory as the PDB file. If it is, check the CPD file for commas.

The controls on the screen are overlapping, or part of the graph is missing

Make sure that the computer is not in 640 x 480 (VGA) mode. Coneplot requires a resolution of at least 800 x 600.

There is a large empty space where a graph should be on the depth plot

Deselect all of the parameters and then select them again. Make sure that each parameter is clicked on individually. DO NOT try to hold the shift key and select parameters by dragging the mouse.

The seismic or dissipation data from the field computer does not match the output from Coneplot

Go to the **Program Setup** screen and make sure that the A/D Counts per Volt is correct for your setup.

Cleanup for Windows 95/98
Version 2.22

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1. Introduction

Hogentogler & Co., is proud to announce the release of Cleanup 2.21 for Windows 95/98. Cleanup is now able to handle conversion between different units, is more fault tolerant and easier to use. In addition to these changes, Cleanup 2.21 adds foreign language support (contact the local distributer for availability).

2. Start Cleanup

To start the program, press the **Start** button on the Windows main screen, go to **Programs**, go to the **Cleanup** folder and press **Cleanup**. Figure 1 shows the opening screen.

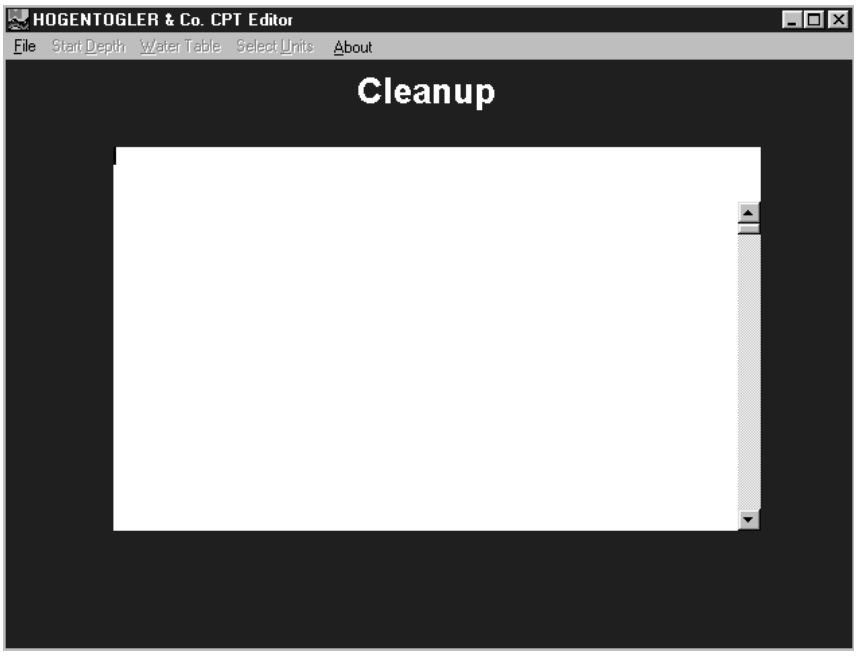

Figure 1

3. Open a File

Click on **File** and then on **Open**. This brings up the **Open File** dialog box in figure 2. Select a file and click **Open**.

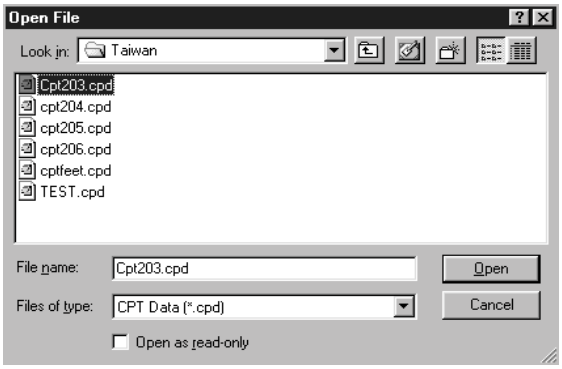

Figure 2

Cleanup will input the file and display the header information and the first 10 lines of data (figure 3). The channels (tip, friction, etc..) and units (lbs, Mpa, etc..) are listed at the top of each column.

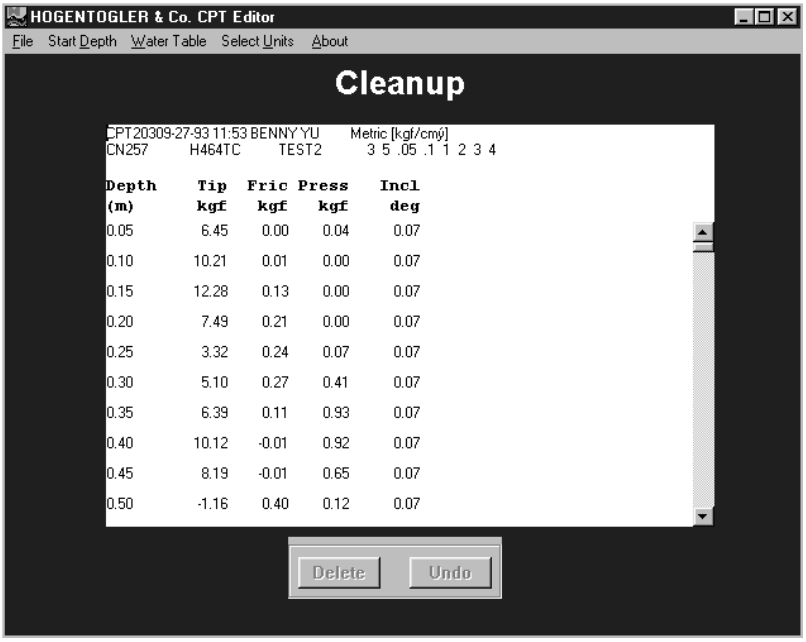

Figure 3

4. Edit Data

Once the file is imported, it can be edited. To edit a reading, click on the reading to highlight it. Once a reading is highlighted, it can be edited.

For example, in figure 3, the friction reading at .45 meters is -0.01. To change this, click on the -0.01 once to highlight it. Then edit the data directly.

5. Delete a reading

If a reading was caused by a spurious depth count it can be deleted. Go to column 1, which is the depth column, and click on the unwanted depth count. The depth and the related readings will be highlighted in red (figure 4). Notice, the friction reading that is highlighted is 10 cm behind the other highlighted numbers. This is because of the friction delay of 10 cm.

To delete the reading, click on the **Delete** button. The reading will be deleted and the other readings will be advanced by one depth count. For example, if the reading at .25 meters is deleted, the reading at .30 meters moves up to .25 meters and all of the following readings advance similarly. Figures 4 and 5 show the result of deleting the reading at .25 meters from the file that was imported in the previous section. Click on **Undo** to undelete the reading. To delete another reading, click on another depth and click on **Delete**.

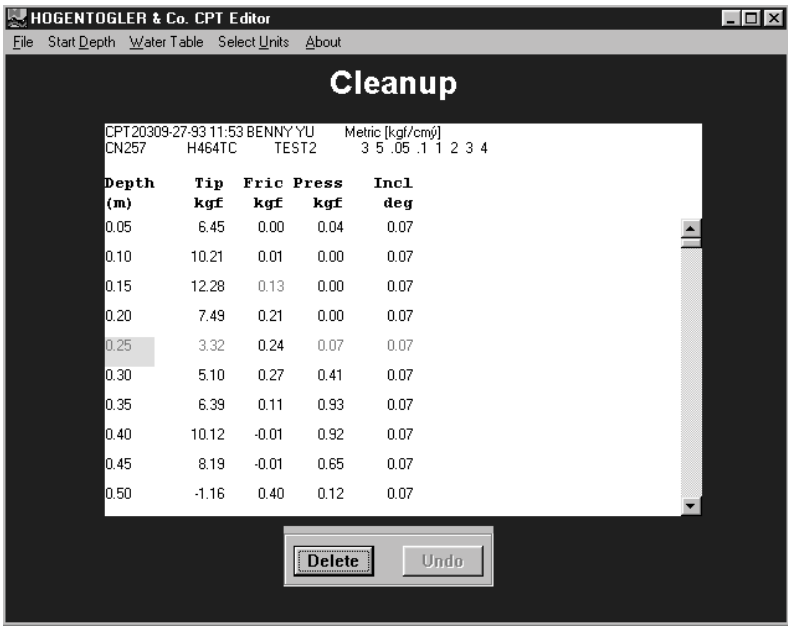

Figure 4

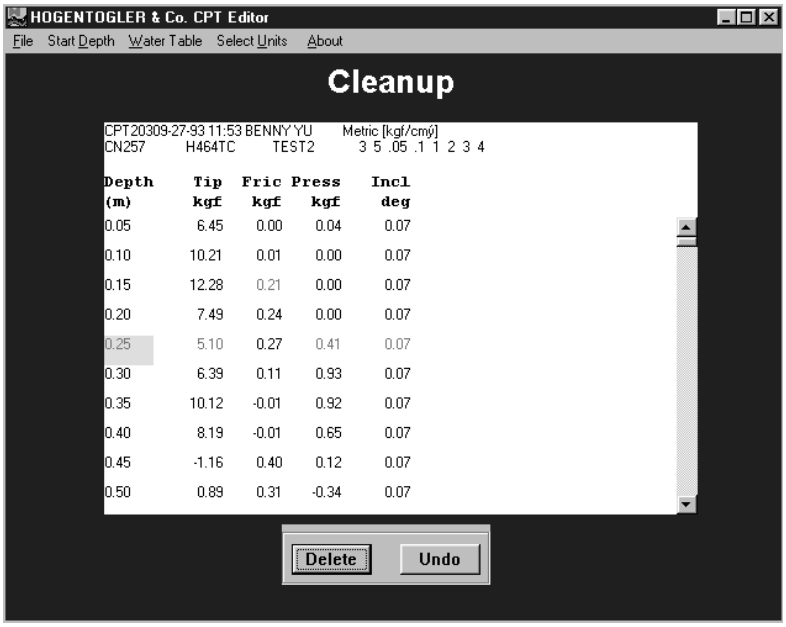

Figure 5

6. Change the Start Depth

If the sounding has the wrong start depth, it can be changed. Go to the menu bar and click on **Start Depth**. This will bring up the dialog box in figure 6 with the current start depth. Enter the new start depth and press **OK**. All of the readings will be referenced to the new start depth.

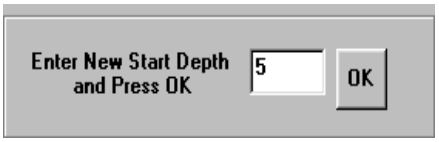

Figure 6

Keep in mind that the start depth is not the depth of the first reading. The first reading occurs one depth count past the start depth. For example, a sounding that starts at the surface has a start depth of 0 m. However, the first reading has a depth of .05 m if a 5 cm depth count is used. Similarly, in a sounding that has a start depth of 10 m, the first reading has a depth of 10.05 m.

When the start depth is changed, the program will ask if the water table depth should be changed (fig 7). The current water table depth and the new water table depth are shown. The new water table depth can be edited here. Press **Update** to update the water table depth or **Don't Update** to keep the current depth.

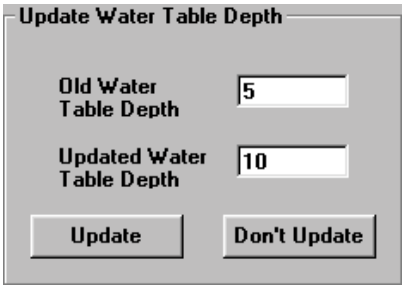

Figure 7

7. Change Water Table Depth

The water table depth can be edited by clicking on **Water Table**. The current water table depth and the new water table depth are shown (fig 7). Edit the new water table depth and click on **Update** to keep the new depth or **Don't Update** to discard the change.

8. Select Units

Cleanup can convert files from one set of units to another. Click on **Select Units** to bring up the selection screen in figure 8. The current units will be selected. Click on the appropriate button for the desired set of units and press **OK**. The data will be converted automatically and the column headers will show the new units.

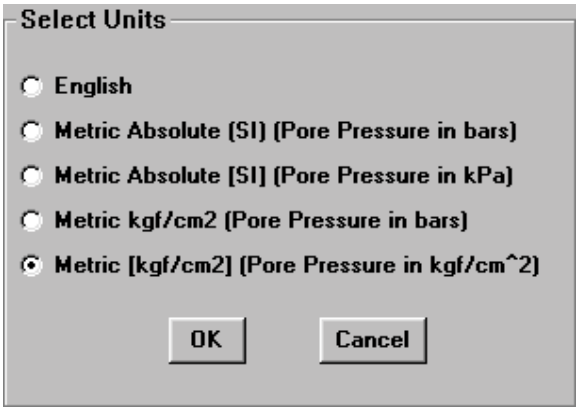

Figure 8

9. Merge Files

Cleanup can merge two sounding files together. This is necessary if a sounding is stopped and then resumed. First, open the file that contains the first part of the sounding (section 3). Next, click on **File** and select **Merge**. A dialog box will ask for the name of the file containing the remainder of the sounding. Select the file and press **OK.** Cleanup will add the second file to the end of the first. The start depth of the second file is discarded and is assumed to be the same as the final depth of the first file. For example, if a sounding is 15.05 meters deep and is merged with another, the readings of the second sounding will start at 15.10 meters (assuming a 5 cm depth count).

After the files are merged, the program asks wether to save the result (fig 9). Press **OK** to save the merged file or **Cancel** to return to the main screen where the merged file can be edited and then saved.

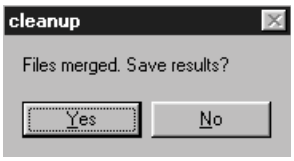

Figure 9

10. Save Files

To save files, click on **File** and then click on **Save**. This will bring up the Save File dialog box (fig 10). Type in the name of the file and then press **OK**. If a file with the same name exists the program will ask if it can overwrite the file. Press **OK** to overwrite the file or **Cancel** to return to the main screen.

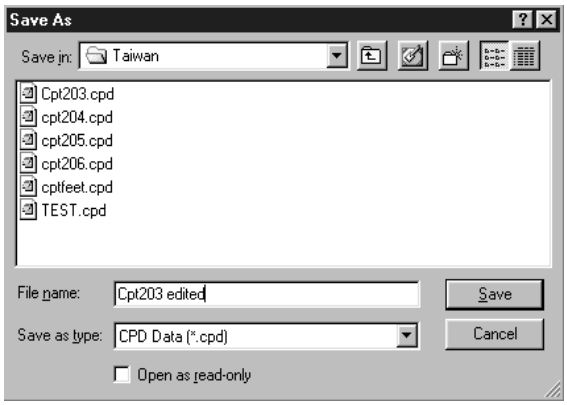

Figure 10

11. Cleanup Installation

Cleanup for Windows ships on a CD-ROM and is bundled with Coneplot. To install the program, insert the CD-ROM into the CD-ROM drive. Go to the Cleanup directory and double click on Setup.exe. The following screen will appear.

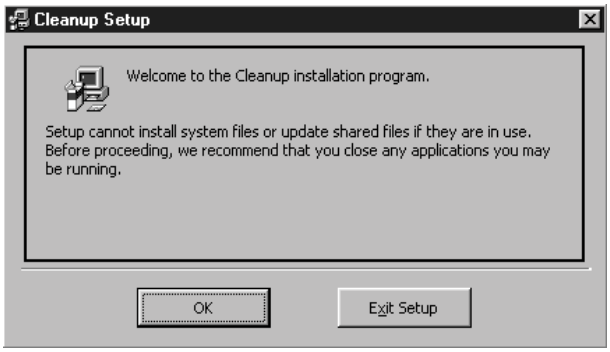

Figure A1

Press **OK** to continue. This will bring up the next screen in figure A2. Click on the button in the upper left hand corner to install the program. Follow the rest of the on-screen instructions. When the installation routine is finished, the window in figure A3 will appear. Cleanup is now installed.

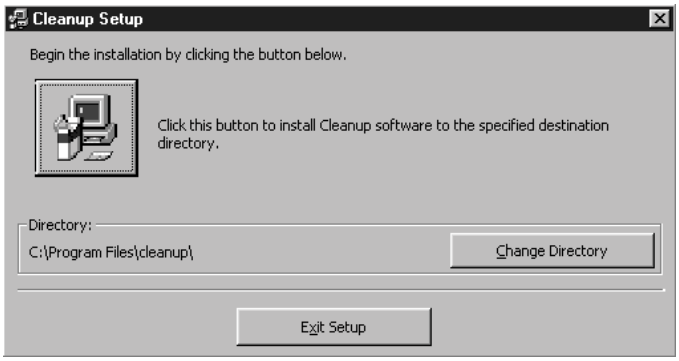

Figure A2

Figure A3

Removal

Cleanup for Windows can be removed using the Windows uninstall feature. Click on **Start** in the lower left hand of the screen. Go to **Settings** and then to **Control Panel**. Go to **Add/Remove Programs**. Highlight **Cleanup** and press **Add/Remove**. Follow the instructions on the screen to remove the program.