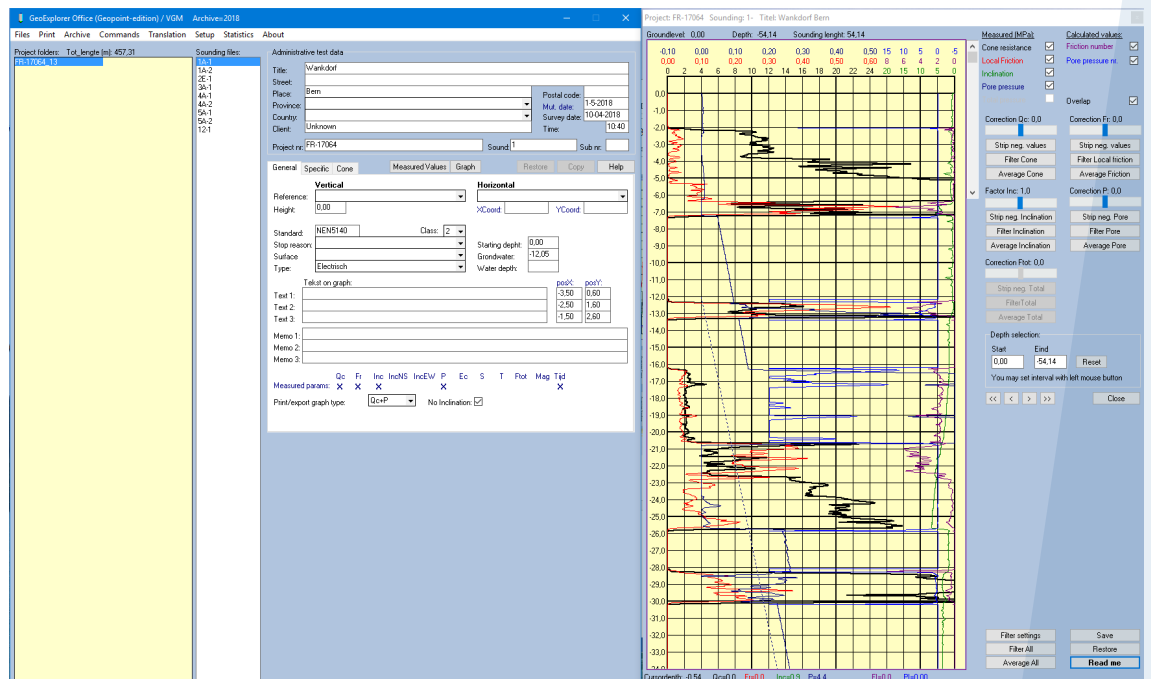
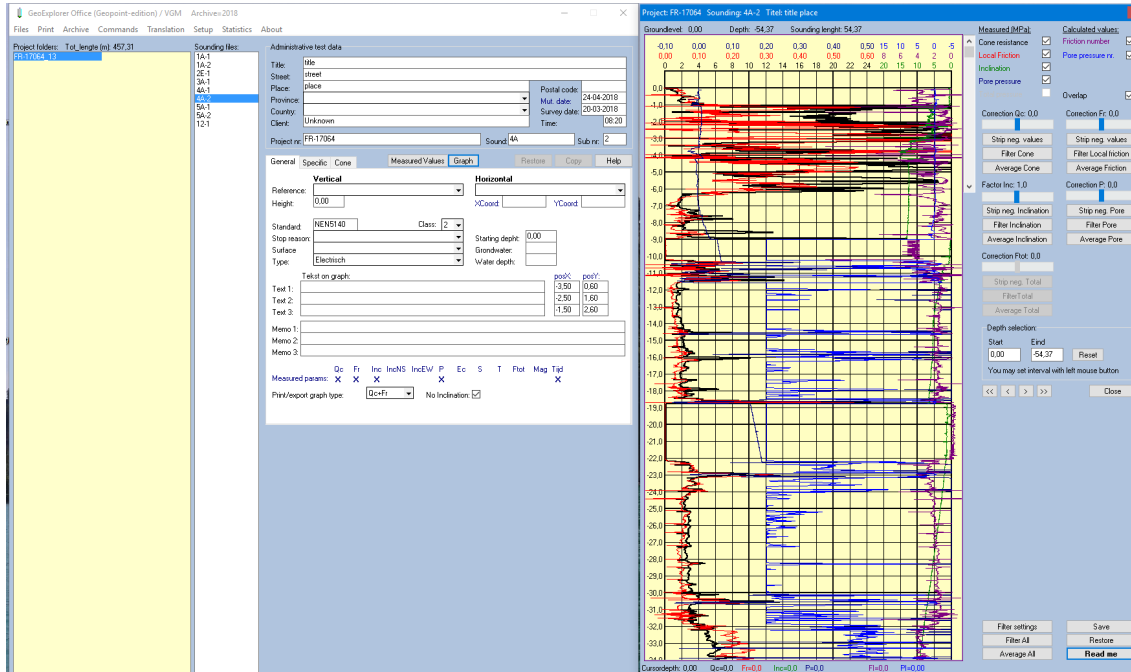


GeoExplorer Office V8.3

Manual



Meet the Difference

Contents

| | |
|--|----|
| About this user manual | 3 |
| 1. Introduction..... | 3 |
| 2. Software installation..... | 4 |
| 3. Data and archiving..... | 6 |
| 4. Importing the soundings..... | 8 |
| 5. Editing the sounding values..... | 11 |
| 6. Printing a sounding graph..... | 14 |
| 7. Other program options..... | 16 |
| 9. Interrupted sounding data (while drilling)..... | 17 |
| Sample end-product | 18 |

Nothing in this publication may be reproduced and/or made public by means of print, photocopy, microfilm or any other means without previous written permission from Eijkelkamp GeoPoint SoilSolutions. Technical data can be amended without prior notification.

Eijkelkamp GeoPoint SoilSolutions is not responsible for (personal) damage due to (improper) use of the product.

Eijkelkamp GeoPoint SoilSolutions is interested in your reactions and remarks about its products and operating instructions.

About this user manual



When the symbol shown on the left is placed before a section of text, this means that an important instruction follows.



When the symbol shown on the left is placed before a section of text, this means that an important warning follows pointing out a risk of injury to the user or damage to the device. Note: The user is at all times responsible for sufficient personal protection.

Text

Text in italics means that the actual text is shown on the display screen or the device.

1. Introduction

GeoExplorer Office is a program that can be used to read in, edit and store files that contain the measured values of soundings. In this document the GeoExplorer Office program is referred to as GEO.

Soundings can be supplied in various formats. Three formats can be imported into GEO:

- GEF files, created in accordance with the GEF 1.1.3 standard
- GeoPoint files, created in accordance with Eijkelkamp GeoPoint SoilSolutions format
- APB files, in accordance with AP van den Berg's Gorilla! format

Once the files have been imported and edited, GEO stores the soundings in its own format, which is derived from the GEF standard, but which is more elaborate. The files are saved in ASCII format because this makes it possible to have the sounding files read by other software, if required, many years later.

GEO can export the sounding data in the following formats:

- GEF files, created in accordance with the GEF 1.1.3 standard
- GEF files, created in accordance with a simplified protocol with fewer measured values
- GeoPoint files, created in accordance with Eijkelkamp GeoPoint SoilSolutions B.V.'s format

The measured sounding values can be elaborately manipulated graphically in GEO. This may be desirable, because the rough data from a sounding unit can create an untidy graph with lots of peaks due to the preciseness of the measurement. In addition, the transition between probing rods is sometimes reflected in the graphs as spikes.



The rough values read in are the actually measured values. In making adjustments to these values the user's own responsibility plays a major role: manipulated values are not measured values and therefore do not necessarily represent reality.

In terms of printing the sounding graphs, GEO provides a wide range of options enabling the user to adjust the print's layout as desired.

We wish you lots of work enjoyment and productivity with the use of GEO.

2. Software installation

The software is supplied in ZIP format. The ZIP file contains the required installation files in compressed format. The easiest is to create a temporary folder and to unzip the ZIP file into this folder. The ZIP file can be unzipped using programs such as WINZIP or Total Commander, for example. Once the ZIP file has been unzipped, click on the 'install.exe' file to start up the installation. The following window now appears:

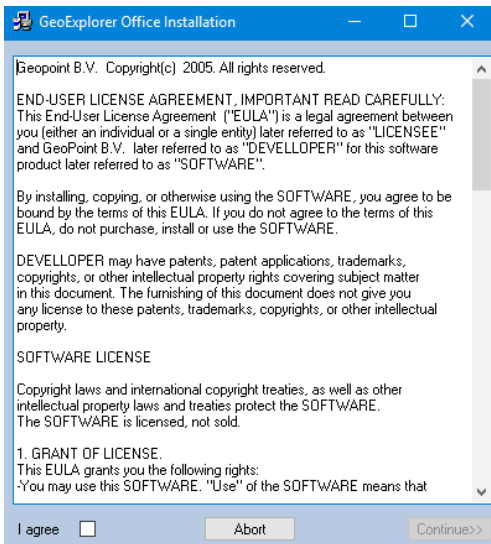


Figure 1: Check off 'I agree' and then click on Continue.



Note: For Windows 7 and higher it is not possible to install the program under C:\program files\. This would limit GeoExplorer Office's rights as a result of which it will not work completely. To prevent this a separate folder must be created (locally or on the network).

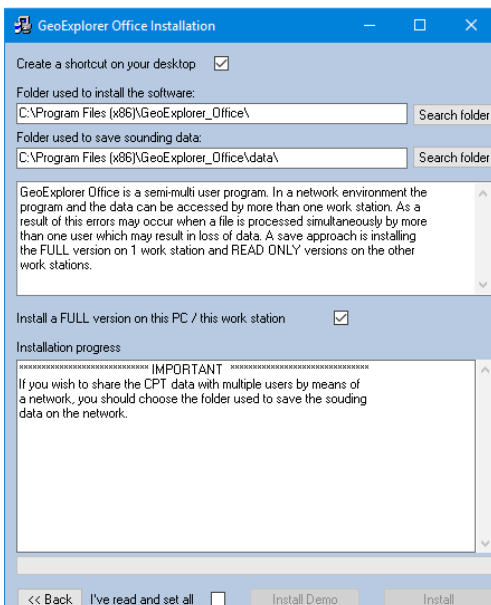


Figure 2: Click on 'Search folder' and select a new folder in which to store the software. Next check off 'I've read and set all' and then click on 'Install'.

The software can be installed as a full version (with read and write rights) or as a limited version (with read rights only).

If the software is installed on the network, it is recommended that one workstation is allocated for importing and editing the soundings and that as many workstations as necessary are configured with read rights only. This way you avoid any conflicts in the simultaneous editing of the same file.

If you checked off the '*I've read and set all*' checkbox, you have the option of installing a registered and a demo version of the software. Naturally the demo version only has read rights.

If an earlier version of the software has already been installed and you select the same folder for the installation of this new version, an existing setup file will be detected. All of your current preferences and settings are stored in this file. If you wish to save these settings, you must select 'No' when you are asked whether the existing file should be overwritten. If you select 'Yes', a new setup file will be created with the software's default values.



If your current setup file inadvertently contains erroneous settings, you can repeat the installation process and have the existing setup file overwritten during the installation.

3. Data and archiving

Before you start using the GEO software package, it is important to first create a well-organised folder structure. You can do this entirely in accordance with your own insights, however, this section contains a few examples.

Soundings can be supplied in various formats. Three formats can be imported into GEO:

- GEF files, created in accordance with the GEF 1.1.3 standard
- GeoPoint files, created in accordance with Eijkelpamp GeoPoint SoilSolutions format
- APB files, in accordance with AP van den Berg's Gorilla! format

The sounding data you receive (when you use a sonar cone) from the sounding unit consists of 4 files per sounding; namely a '0-file', '1-file', 'L-file' and a CSV file. Of these, the '0' and the '1' files are loaded into GEO. It is recommended that you create a folder on your computer or network and to subdivide it into year/month/project number. The 'rough' files from the sounding unit can then be copied to this folder. The files can then be loaded into GEO from this folder.

The results of the soundings, after editing in GEO, must also be stored in a well-organised fashion to prevent any data loss. GEO operates on the basis of a tight scheme for storing the soundings:

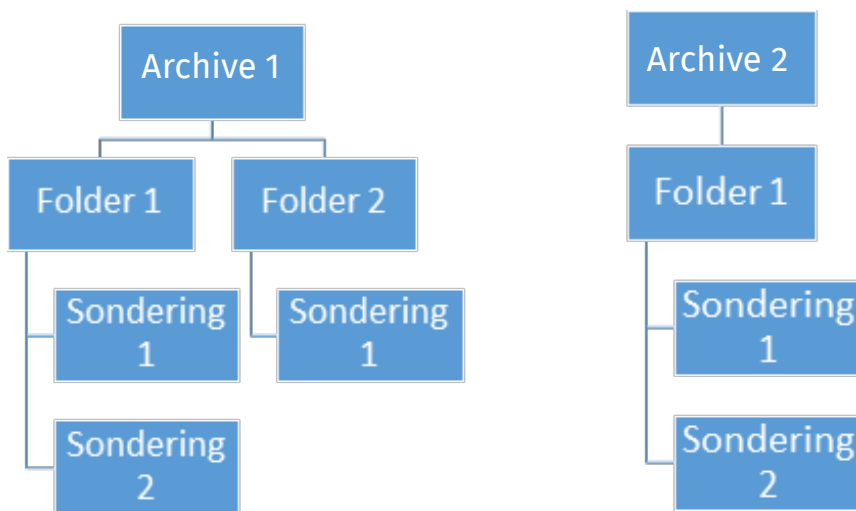


Figure 3: Archive structure

The archive folders can be located in various storage locations. We recommend that you use a single centralised data folder (for example, a sub-folder below the folder that contains the program (C:\GeoExplorer_Office\Sonderingen)). Each archive can be further sub-divided, for example on the basis of project numbers. The next chapter will go into further detail as to how you can create these folders. The edited soundings are saved as a DAT file. Each archive contains a project file. The administrative data for the projects is maintained in this file, such as the number of soundings and the highest ground level within a project. If the project file contains erroneous data or becomes otherwise corrupted, you can use the 'Commands > Rebuild index file' option to rebuild the archive's index file.

When you start up the GEO program for the first time, the following window is displayed:

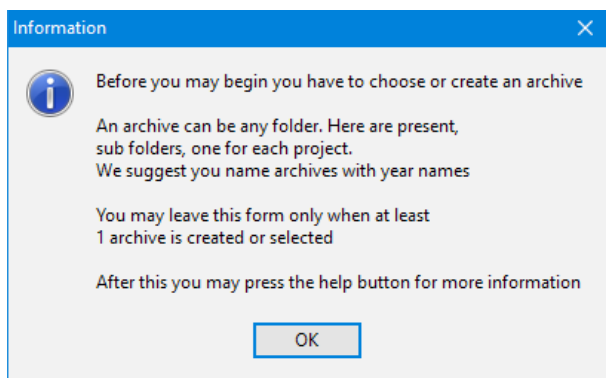


Figure 4: Pop-up window

Before you can continue, you must first create an archive folder on your computer or the network and select it in the pop-up window below (if an archive folder already exists, you can click 'Search' and after selecting the folder on 'Add'). All edited files are stored in the selected archive location. You can also enter a name here without making use of the 'Search' function. If the folder does not yet exist, you are asked whether it should be created.

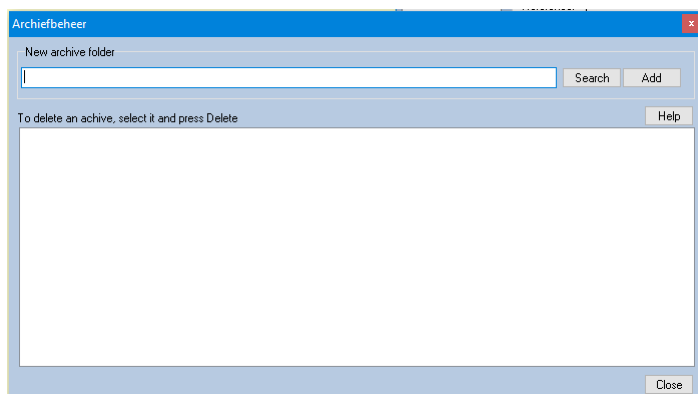


Figure 5: First archive folder



Tip: use years or months to name the archives, depending on the number of projects, to maintain proper oversight.

4. Importing the soundings

If you click on 'Files' in GEO followed by 'Import soundings', the following menu will appear:

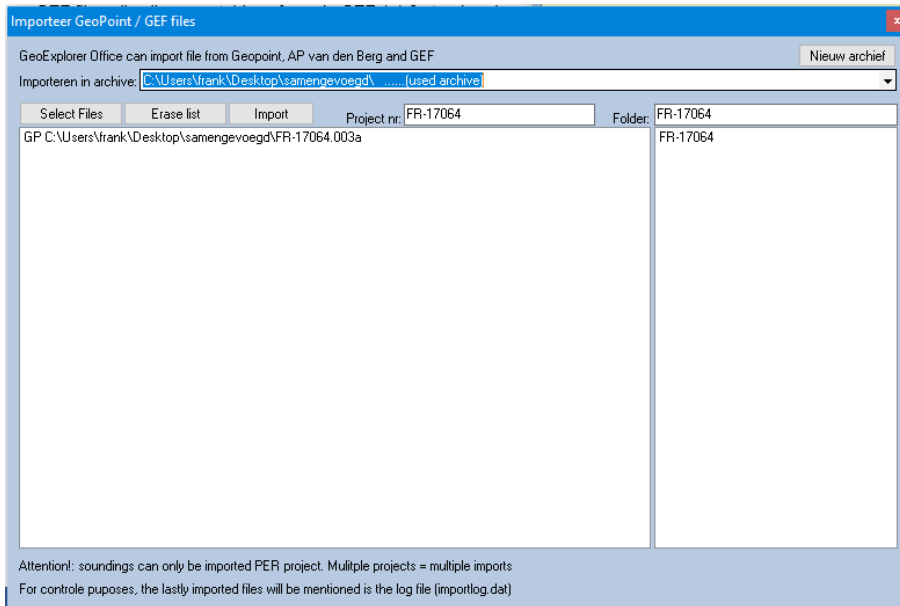


Figure 6: Importing the soundings

In the pull-down menu you can select the archive location where the sounding files are stored, or you can create a new archive.

If you click on 'Select files', you can select the desired sounding(s) you wish to load into GEO. The project number will be automatically transferred from the sounding (this can be adjusted manually). Next you must select or create the folder. A new folder is added to the archive in the form of a sub-folder.

Because the soundings are stored by project, the project number must be the same. As a result of this it is only possible to import soundings by project. In case you are importing the soundings of multiple projects, you must repeat these actions several times.

After you have imported a number of soundings from a project, a file will be created in the folder where the program itself is also located with the name 'Importlog.dat'. Here you can see which file types were imported, in which archive the edited data is stored and the location where the sounding data is stored.

Next click on 'Import'. If you use a sonar cone that the program does not yet know, 3 pop-up windows will appear in which you must enter the surface area of the tip and the friction mantle. Finally, the program asks if it is a subtraction cone. This information is available on the form supplied with the cone. Once you have completed these steps, the program remembers these cone values (which can still be changed manually at a later stage).

The following window now appears. The project folder appears on the left-hand side of this window, and under the header 'Sounding files' you will see the sounding(s) from the selected folder. Under the 'Archive' tab you can switch archives.

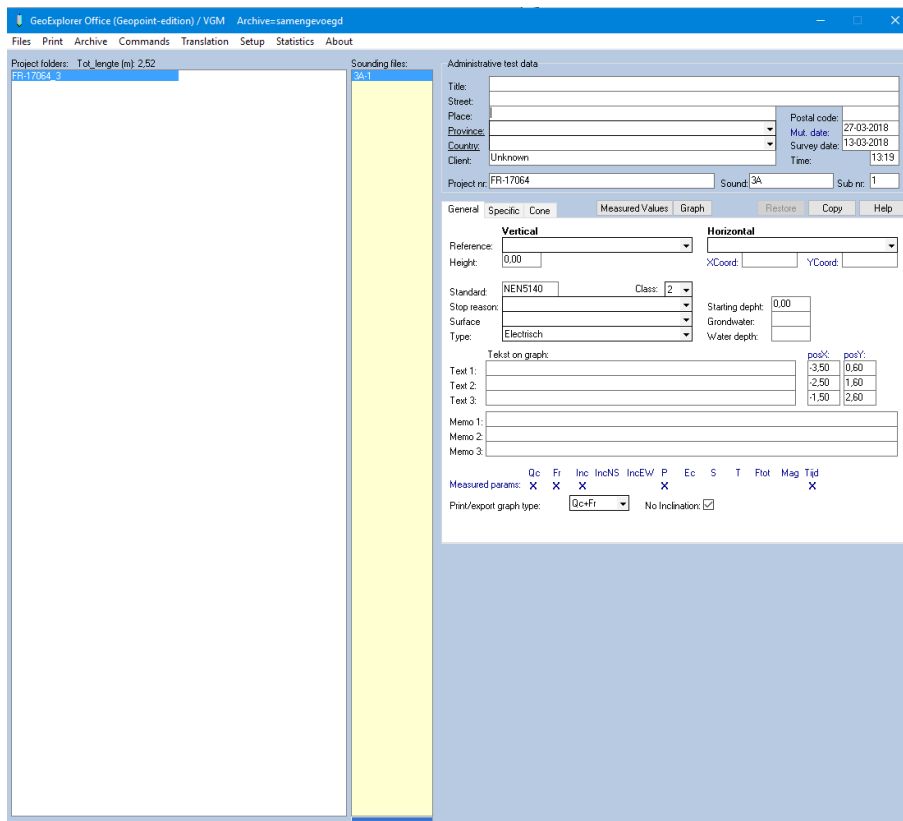


Figure 7: Main Menu

On the right-hand side you will see the 'Administrative test data' panel in which you can enter information about the sounding. When you place the cursor over a label, additional information appears. Under the 'General' tab you can enter information, such as reference, height, standard and class, groundwater, etc. You can load surveyed coordinates by clicking on 'Files' > 'Import coordinates'. This file must be a CSV file (saved as 'CSV list-separator character delimited') with the following structure (comma delimited):

| Sounding no. | X coordinate | Y coordinate | Height |
|--------------|--------------|--------------|--------|
|--------------|--------------|--------------|--------|

Figure 8: CSV file structure

It is also possible to add a text box to the graph, at any arbitrary position. In addition, you can select the parameters to be displayed in the graph here when you export or print the sounding.

You can also enter various other items under the 'Specific' tab. The default values are shown below:

General Specific **Cone** Measured Values Graph Restore Copy Help

Company:

Operator:

Vertical measuring method:

Horizontal measuring method:

Plotheight (m): Alt. depth control: Backflow compensator: Weight equipment (kN):

| | Qc | Fs | Inc | P | Ftot |
|------------------------------|------|------|------|------|------|
| Zero point shift before: | 0,00 | 0,00 | 0,00 | 0,00 | |
| Zero point shift afterwards: | 0,00 | 0,00 | 0,00 | 0,00 | |

Correctionmethod:

Figure 9: Specific tab

The cone details are shown under the 'Cone' tab, together with the values you entered when you first used the cone.

General Specific **Cone** Measured Values Graph Restore Copy Help

Cone number: Surface area tip: mm2

Cone standard: Surface friction mantle: mm2

Cone type: Distance tip-fiction mantle: mm

| | Qc: | Fr: | P: | Ftot: |
|-------------------------|-------|---------|---------|-------|
| Max. value: | 83,11 | 1316,89 | 2642,19 | |
| Measuring range: | | | | |
| Calibration zero point: | | | | |
| Calibration factor: | | | | |

Calibration date:

Figure 10: Cone tab

Tip: if you entered the administrative details for the first sounding, you can very easily copy these values to all soundings of the project. If under project details you click on one of the label descriptors for a field with the left mouse button, the label will be underlined. Then by clicking with the right mouse button or by clicking on the 'Copy' button, a pop-up menu is displayed with which you can copy that label to other soundings of that project.

Title:

Street:

Place:

Province:

Country:

Client:

Project:

Kopiëer gegevens

Selecteer alle headerlabels

De-Select alle headerlabels

Figure 11: Select and copy details

5. Editing the sounding values

After the sounding has been imported, the measured values can be edited. This can be done manually and graphically.

By clicking on the '*Measured Values*' button, the measured values can be directly adjusted manually. In the measured values form you can select whether you want to display the values relative to ground level or relative to the reference level. After entering the changes, the modifications can be saved by clicking on '*Save*'. If you entered changes that you do not want to save, you can close the form and select '*No*' when you are asked whether you want to save the changes or click on '*Restore*'.

A more advanced option is to graphically edit the measured values. To open the graphical form for the current sounding, click on the '*Graph*' button. The graphical form by default opens with a graph that displays all measured parameters (see Figure 12 on page 12). If you do not want a certain parameter to be displayed, you can turn it off by clicking on the checkbox at the top right.

In the graphical form you can perform edits for each measured parameter that are applied across the entire area or across the selected depth ('*Depth selection*'). While keeping the left mouse button depressed, you can also select an area in the graph that you wish to edit. If after this, when you click once on the graph with the left mouse button, the entire graph is once again selected.

For each measured parameter you can:

- Use the scroll bar to move the entire graph, or a portion thereof, to the left or to the right.
- Remove negative measured values, whereby the measured values are excluded at 0 (click on '*Strip neg. values*').
- Filter the measured values by clicking on the '*Filter*' button. The sharp peaks are removed during the filtering by averaging over a specific set of peaks. The averaging is performed on the basis of settings that can be adjusted with the '*Filter settings*' button. Be careful when it comes to changing the filter settings; the settings are set to realistic default values. It is recommended that you record the old values before you make any changes to these default values.
- You can calculate an average of the measured values using the '*Average*' button. During this process, a moving average of the parameter's measured values is continuously calculated. The result of this process is that the graph will acquire a smoother look.

You can perform these edits for all measured parameters over the entire graph or the selected depth all at once using the '*Filter all*' and '*Average all*' buttons. You can also repeatedly click on a button to perform a repeated edit. Figure 13 on page 13 contains an example of a processed graph.

If you have made changes to a graph, but decide you would prefer to retain the original values, select '*No*' when asked whether you want to save the changes or click on '*Restore*'.

Tip: by double clicking on the graph an area of 20 cm is always averaged. This way a deviating measured value can be filtered.

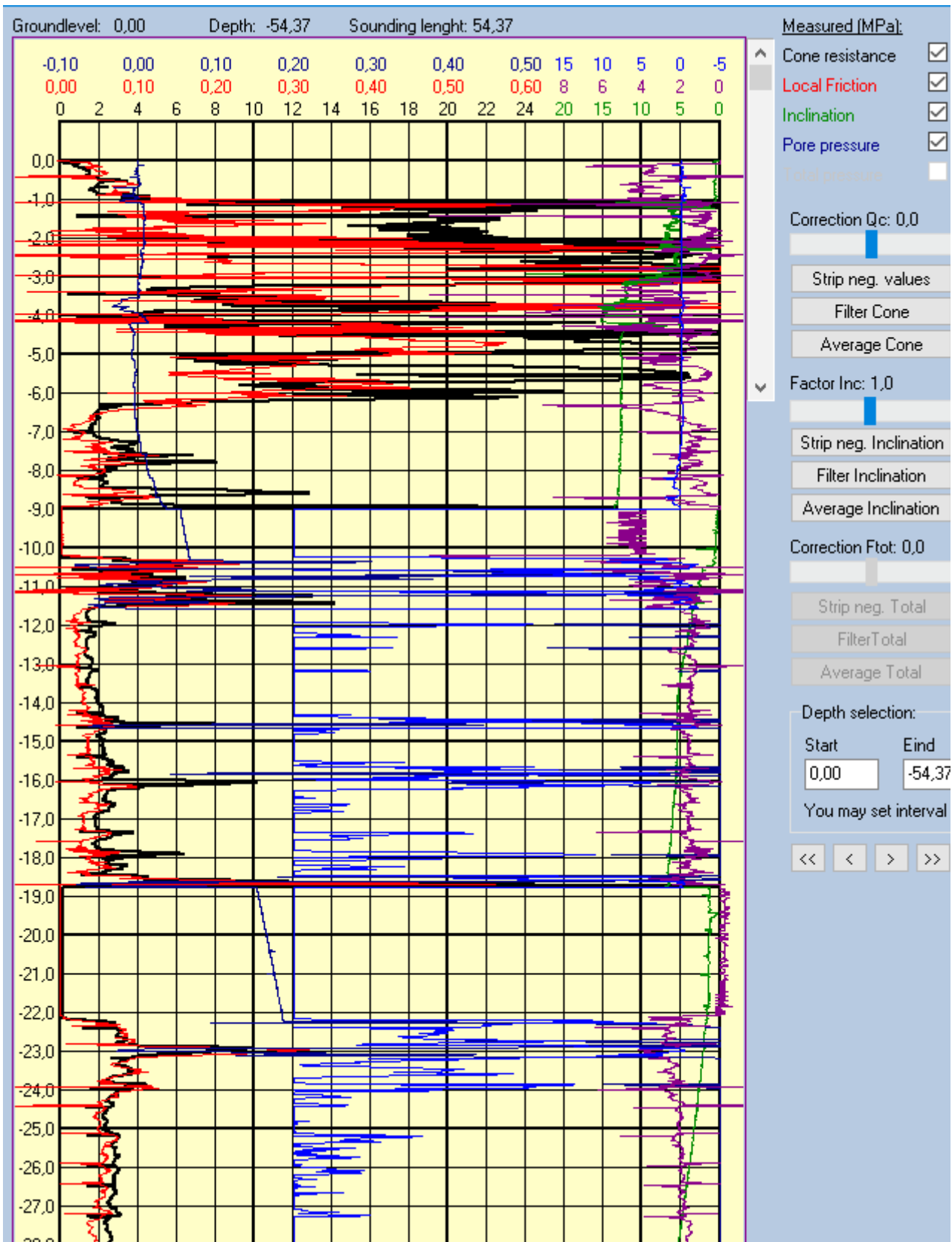


Figure 12: Graph without any edits

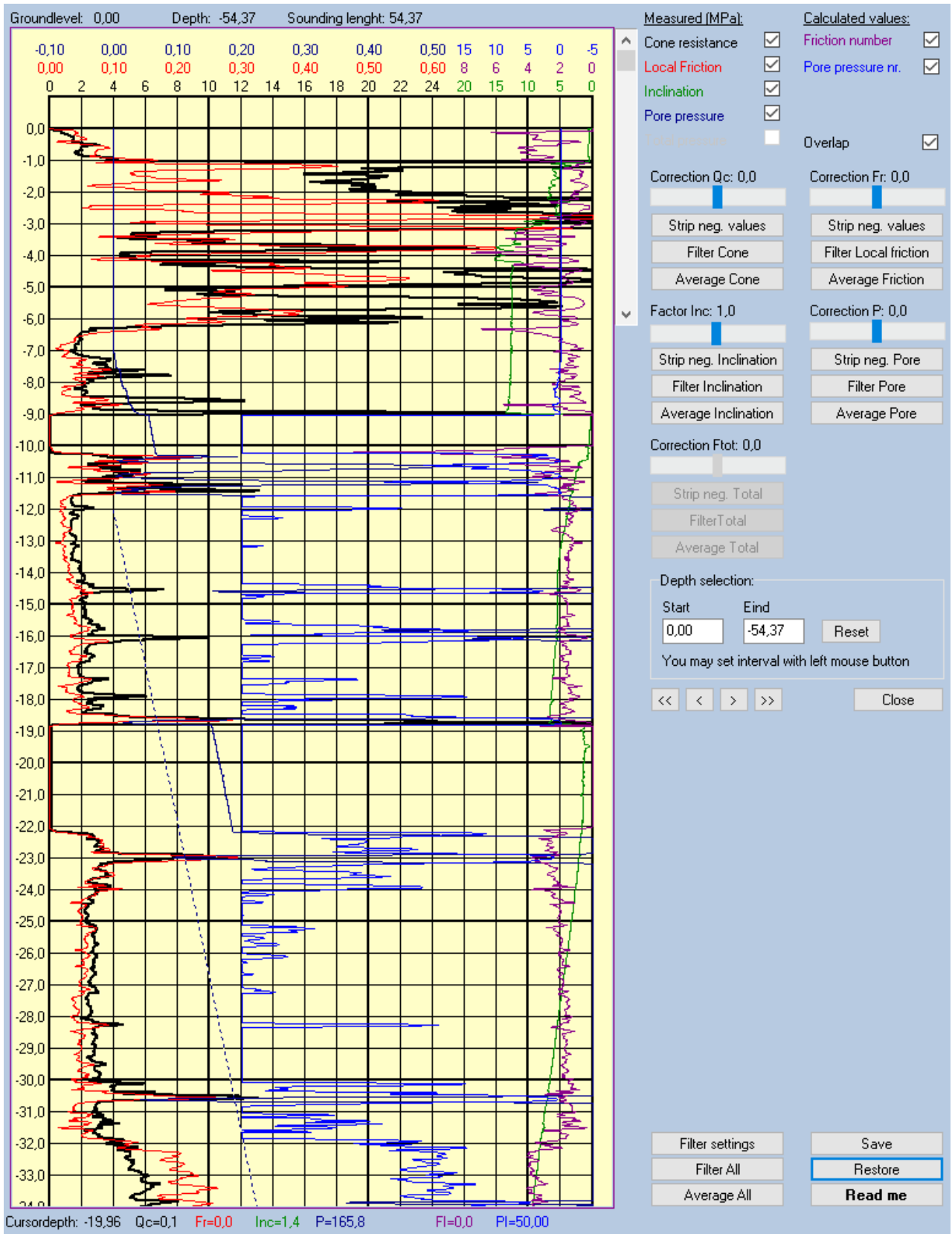


Figure 13: Processed graph

6. Printing a sounding graph

In GEO you can adjust the graph using various settings to suit your preferences. Under the 'General' tab in the main screen you can select the parameters to be displayed in the graph. You can also add text to your graph here.

Most print settings can be accessed by clicking on 'Setup' and 'Print settings' (Figure 14) on the main screen.

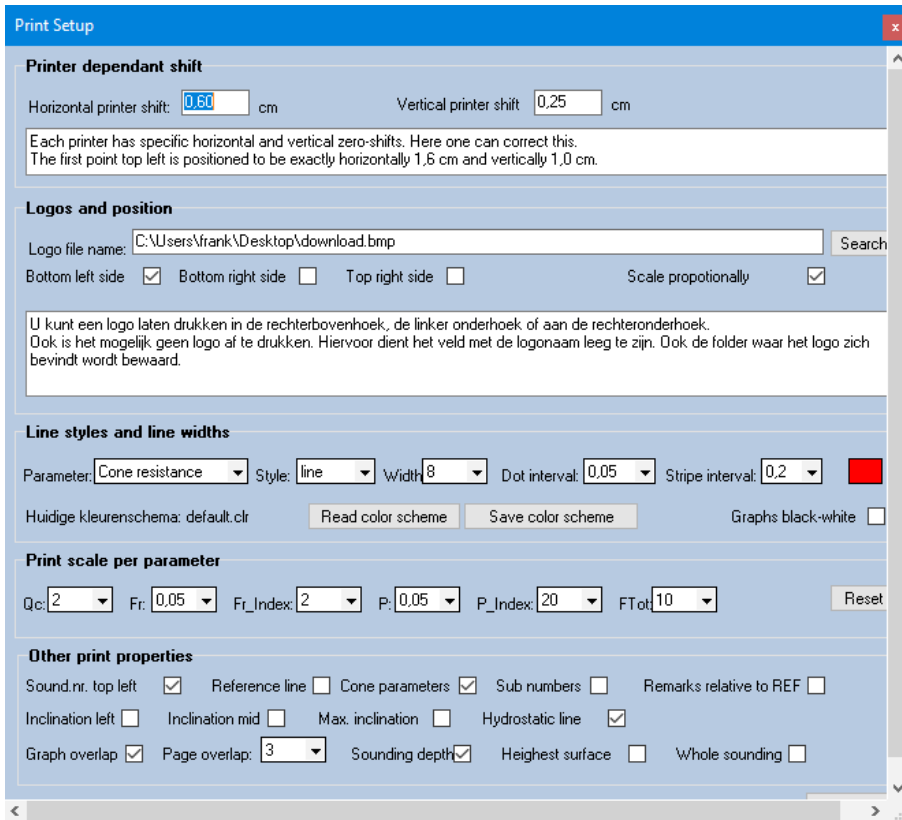


Figure 14: Print Setup

Various settings can be adjusted on the print setup form:

- The horizontal and vertical print shifts (0.65 and 0.25, respectively, by default). Every laser printer has a specific shift in a horizontal and vertical direction as a result of which the $(x,y) = (0,0)$ point does not correspond to the left top corner. These values are set to the correct default values. You can shift the entire graph further to the left, for example, to provide for a binding margin, by entering a larger number for the horizontal value.
- You can print a graphics image (e.g., a logo) (in BMP format) on the graphs, whereby you can select whether you want to print the images as 'Best fit' or scaled ('Scale proportionally'). In case of the 'Best fit' option the height or the width are adjusted. The image's proportions can therefore change and result in deformation. If the image is scaled, the length and width proportion is kept the same.
- In the 'Line styles and line widths' box you can select the colour, line style, printed line thickness and the size of the spacing between 2 dashes or dots.

In addition, there are a number of checkboxes that you can check or uncheck.

- Whether to print the sounding number at the top left or not. The sounding number is always printed at the bottom of the graph.
- Should the 0 depth line be printed relative to the reference level.
- You can indicate whether the average inclination values per metre should be printed in the left margin, inside the graph or not at all.
- Additional measurement data for this sounding can be printed at the bottom of the graph, if desired.
- You can decide whether or not to have the sounding's sequence numbers used internally by the program printed.
- You can choose a print in which the graphs of the parameters overlap each other or are kept separate.
- The measured values can be displayed as a function of the sounding length or sounding depth. If the graph is printed relative to the sounding depth, the depth at which the measurement is performed is adjusted to the actual value on the basis of the measured inclination.
- The '*Highest surface*' option is used to indicate whether all soundings in a project should be drawn in relation to the highest ground level in that project. Alternatively, the optimal plotting height is calculated for each sounding.

Once you have adjusted all of the settings as desired you can click on '*Print*' in the main screen.

Next, you can select the graph's raster size and whether you want to print all of the soundings in the relevant folder. By dragging with the left-hand mouse button in the 'Sounding Files' window, which contains the sounding numbers, you can select multiple soundings at the same time. These soundings can then be printed together.

After this you can select the printer.

7. Other program options

- *Files*
Under the '*Files > Export*' tab you can export data as a GEF file, Eijkelkamp GeoPoint SoilSolutions file or APB file.
- *Commands*
Under the '*Commands*' tab you can also change the sounding number and the project number.
- *Translation*
Under the '*Translation*' tab you can enter 3 translation options in the yellow columns. You can select these above the column. If you select the translation, then only the translation is displayed on the printed graph.
- *Setup*
By clicking on '*Setup*' in the menu, you can adjust GEO's properties as desired.
 - > '*Archive locations*'
When this option is selected, the archive form opens. You can create new archives here and delete other archives, provided they are not designated as working archives.
 - > '*Cone definitions*'
In GEO you can maintain a record for each sounding indicating which cone was used and what its calibration values are. In the '*Cone definitions*' field you can set the parameters for every cone that is in use. You can subsequently select the cones you have defined from the '*Cone*' tab in the main form. When a cone is selected all of the predefined values are automatically populated. If you specify that a cone is a 15 tonne subtraction cone and that its friction mantle is 22,500 mm², then when an Eijkelkamp GeoPoint SoilSolutions sounding is imported that uses this cone, the local friction is calculated on the basis of the cone's mantle surface area.
 - > '*Print settings*'
Section 6 includes an elaborate description of the print settings.
 - > '*Standard values*'
In GEO's main form you can specify details for a sounding using pull-down tabs with predefined values. In this function, a form is opened that you can use to specify the predefined values for each pull-down tab.
 - > '*Other settings*'
You can enter various administrative details for the GEF import/export here. You can also change the default positions of the text boxes here (which you can fill in under the '*General*' tab). The same applies to the default sounding class and export/print parameters. In addition, you can specify the use of a decimal point or comma here.
- '*Statistics*'
Provides an overview of the data in the archive and folder used.
- '*About*'
Provides the program's version number and the Eijkelkamp GeoPoint SoilSolutions contact details.

9. Interrupted sounding data (while drilling)

It is possible for a situation to occur that forces you to halt the sounding prematurely, for example when a hard layer is encountered. When this hard layer is drilled through and you then continue the sounding, a piece of data will be missing in the sounding after which a 'new' sounding is started. This means that you end up with multiple sounding files for a sounding. It would be nice to be able to merge these files to create a single continuous graph.

First, it would be useful to create a new folder; e.g. 'merged sounding'.

You can copy the '1-file' and the '0-file' of the first sounding in the series to this new folder. Next, the 1-file must be edited by opening it in the Notepad program. You will see the following:

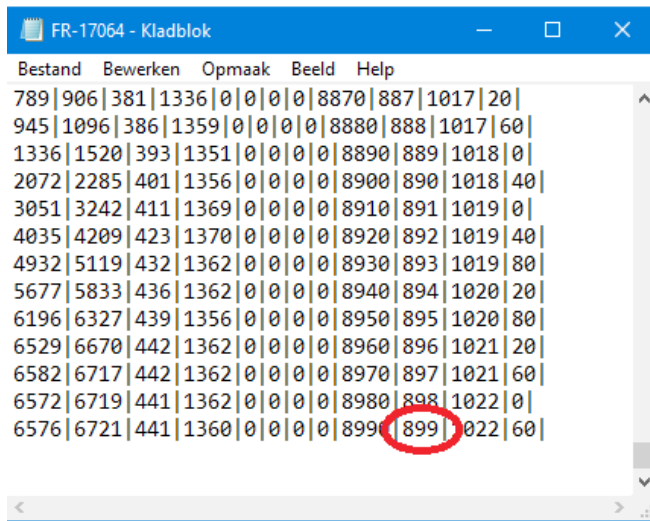


Figure 15: 1-file in Notepad

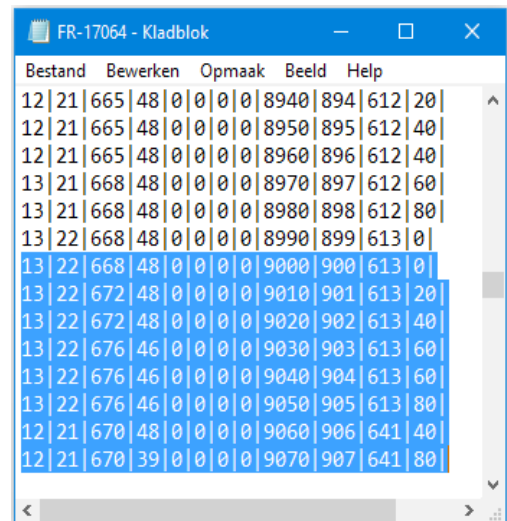


Figure 16: Data selection

You will see various measured parameters here, separated by a vertical line. To 'paste' the data from the other sounding correctly below one another, you must first locate the column that specifies the depth. This column contains the series that increases per centimetre (0-1-2-3, etc).

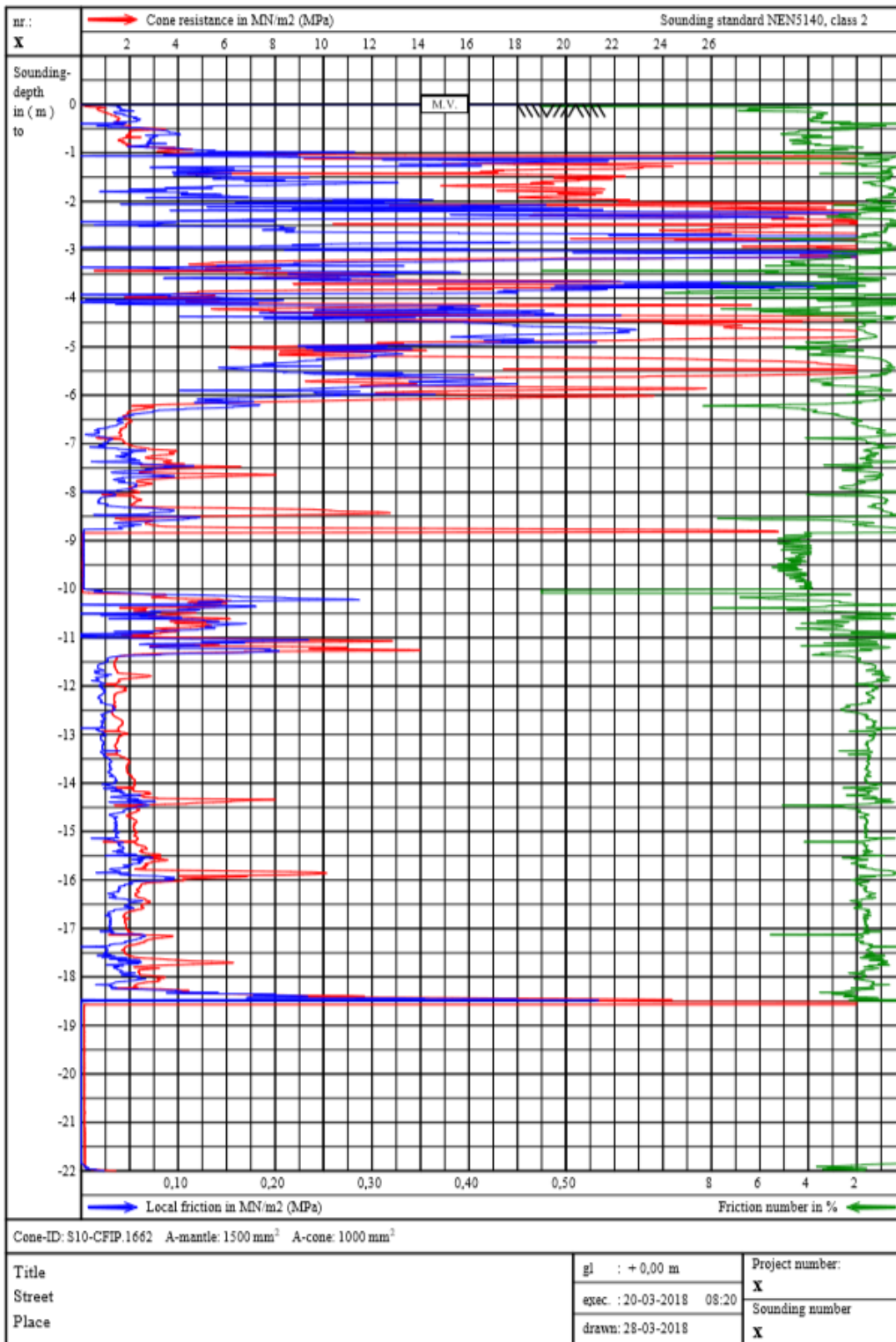
If you then scroll all the way down, you will find the final depth of the sounding (circled in red in Figure 15). The intent is to paste the data from the other soundings in the 1-file of the first sounding, which is located in the folder you created.

Next open the '1-file' of the second sounding in Notepad and scroll down to the previous final depth. Select the data following the previous depth entirely to the bottom and copy it (Figure 16).

Now paste this copied data into the 1-file of the first sounding. Ensure that there is no blank line between and at the end of the data series.

You can repeat these steps until the sounding is completely merged, depending on the number of interruptions. Save this file, which can now be imported into GEO as an ordinary sounding.

Sample end-product



Nothing from this document may be copied and/or made public by means of printing, photocopy, microfilm or in any other way whatsoever without the prior written permission of the publisher. Technical data can change without prior notification. Eijkelkamp GeoPoint SoilSolutions is not responsible/liable for damage/personal injury due to the use or misuse of this product. Eijkelkamp GeoPoint SoilSolutions is pleased to receive your feedback and comments about its products and this user manual.