

Vane-Log

Data Acquisition Software for Geotech's Electrical
Vane Apparatus



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Contents

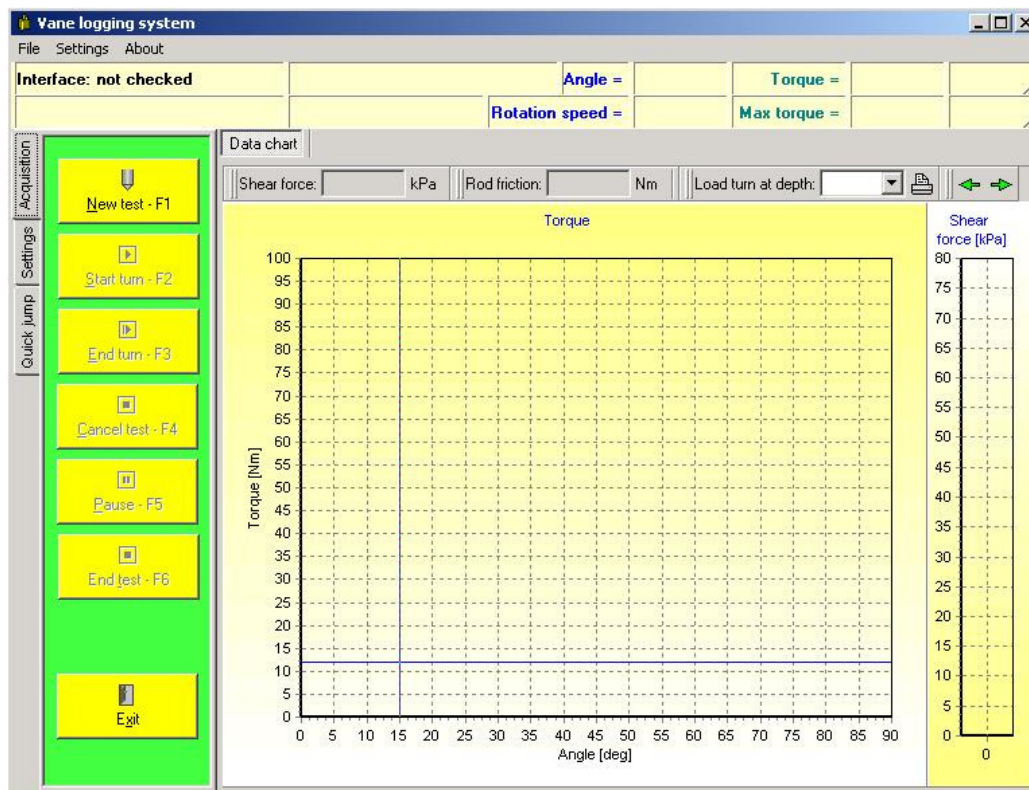
Contents	2
Installation	3
Structure	3
Acquisition	4
Settings.....	7
Communication	7
Test info	7
Range options	7
Color options	8
Bars.....	8
Depth confirmation	8
Presentation	9
Settings	11
Viewing options	12
Remoulded tests	13
Change units	13
Create vb1-files for import to AutoGRAF software	14
Export file as an image.....	14

Installation

To install Vane-Log, insert the Vane-Log CD into the CD-drive and run *setup.exe*. The installation follows the standard *Install Shield* procedure. Follow the instructions on the screen.

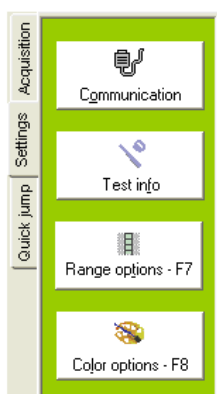
Structure

Vane-Log starts in acquisition mode, ready to run a new vane test.



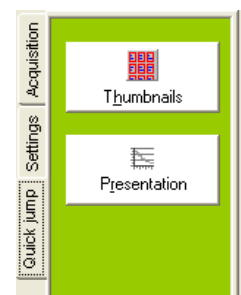
Vane-Log start-up screen.

In the left margin you can find three tabs: *Acquisition*, *Settings* and *Quick jump*.



The *Settings* tab activates the settings bar with buttons for different types of settings. You can choose between Communication, Test info, Range options and Color options.

The *Quick jump* tab activates the quick jump bar from which you can start the presentation module by clicking *Presentation* or browse for vane test data files by clicking *Thumbnails*.



Acquisition

To make a new data acquisition, click *New Test* in the *Acquisition* tab, or press *F1*.

Fill in the *Test info* sheet and press *OK*.

Note: It is very important to set the right vane type since this affects the obtained data.

Test info

Vane type:
Select vane type: Tapered lower end
Select vane size: 11.0 x 5.0 cm

Location data:
X = 0
Y = 0
Z = 0
Water level: 0
Pre-drilling: 0

Other:
Software: Vane-log 1.00
Sounding method: 13

General test options:
Borehole ID:
Date: 2011-09-19
Project:
Project ID: 1
Tester ID:
Operator:
Calibration factor: 1,000

Vane test options:
Running No.: 1
Sounding No.: 1

OK Cancel

Specify the directory and filename to save the data and press *OK*.

Spara som

Spara i: Vane Files

Senast använda dokument
Skrivbord
Mina dokument
Den här datorn
Mina nätverksplatser

Filnamn: 20110101_115.vct
Filformat: Vane cone tests

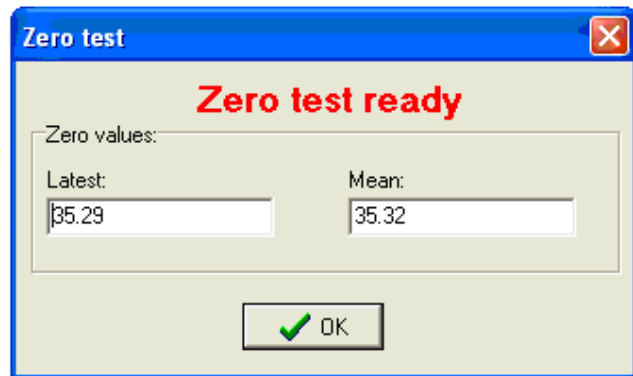
Spara Avbryt

The program now starts a zero reading of the gauges. The zero value should be in the interval 15 – 40.

If the zero value fall essentially under that interval, immediate service is needed.

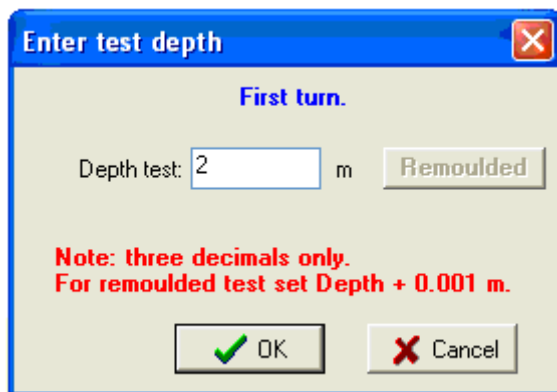
Wait until the zero reading is finished and press *OK*.

You are now ready to make the first turn.

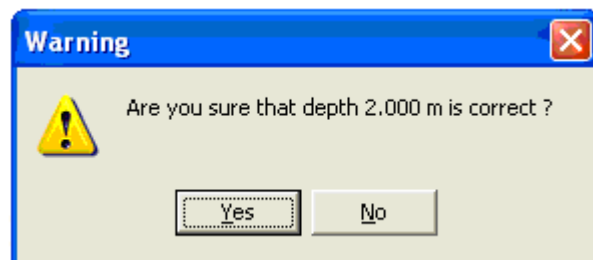


A dialog box titled "Zero test" with a red close button. The main text "Zero test ready" is in red. Below it, "Zero values:" is followed by two input fields: "Latest:" with the value "35.29" and "Mean:" with the value "35.32". At the bottom is a button with a green checkmark and the text "OK".

When the depth for the first turn is reached, press *Start turn*, or *F2*, to start the vane tester. Enter depth level and press *OK*. Verify the depth in the appearing dialogue box.

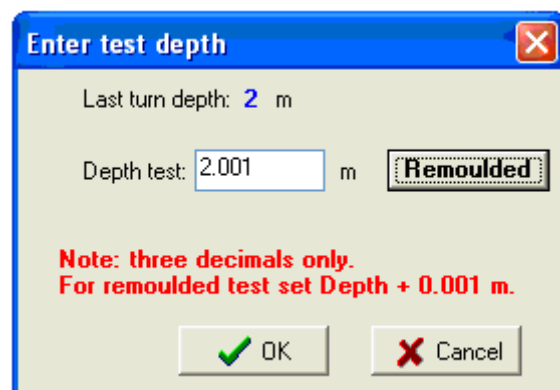


A dialog box titled "Enter test depth" with a red close button. The text "First turn." is in blue. Below it, "Depth test:" is followed by an input field containing "2" and the unit "m". To the right is a button labeled "Remoulded". Below this, a red note says "Note: three decimals only. For remoulded test set Depth + 0.001 m." At the bottom are two buttons: "OK" with a green checkmark and "Cancel" with a red X.



A dialog box titled "Warning" with a red close button. It features a yellow warning triangle icon. The text asks "Are you sure that depth 2.000 m is correct ?". Below the text are two buttons: "Yes" and "No".

If it is desired to remould at the same depth as the previous turn, press the *Remoulded* button. The depth will remain, but the third decimal will be replaced with a serial number, starting at one, that increments each turn when remoulding is selected.



A dialog box titled "Enter test depth" with a red close button. The text "Last turn depth: 2 m" is shown. Below it, "Depth test:" is followed by an input field containing "2.001" and the unit "m". To the right is a button labeled "Remoulded". Below this, a red note says "Note: three decimals only. For remoulded test set Depth + 0.001 m." At the bottom are two buttons: "OK" with a green checkmark and "Cancel" with a red X.

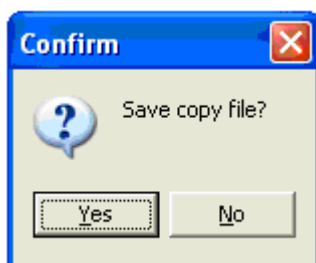
During the test the torque graph is presented on the screen.



Acquisition.

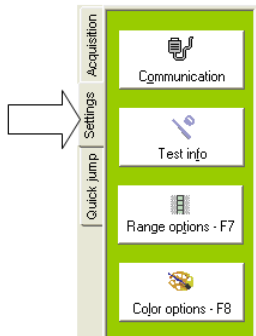
The first part of the curve shows only rod friction and when the vane starts to turn in the ground the curve shows the rod friction and the vane torque together. Use the mouse pointer to place the vertical line right before the point where the vane torque starts to increase. The program calculates the shear force assuming that the force registered on the left side of the line is rod friction and the force registered on the right side of the line is rod friction plus vane torque. On the scale to the right you can see the shear force.

When the ground material brakes, press *End turn*, or *F3*. Make the same procedure on each depth. After the last turn is ended, press *End test*, or *F6*. The vane test is now completed.



After the test is ended, all data is saved automatically in the file specified at the test start. There is however a possibility to immediately save the data to an additional backup file, for example on a USB flash memory. If you want to save a backup file, answer *Yes* when the dialogue box appears.

Settings



In the settings module changes in the the acquisition software can be made. Select the settings tab and choose one of the options.

Communication

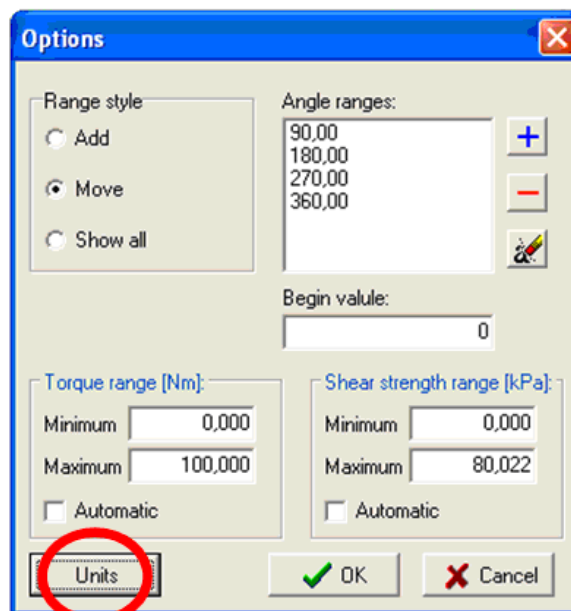
Serial port settings.

Test info

Opens the Test info sheet

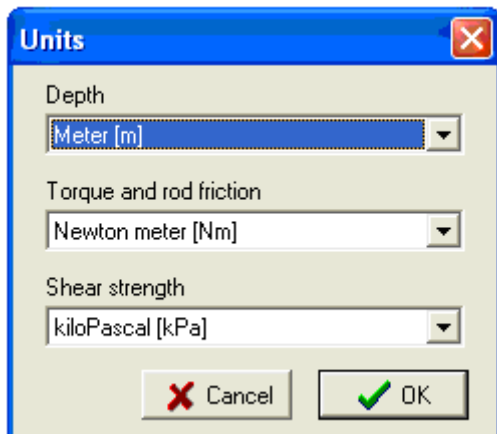
Range options

Settings for torque, angle and shear strength ranges.



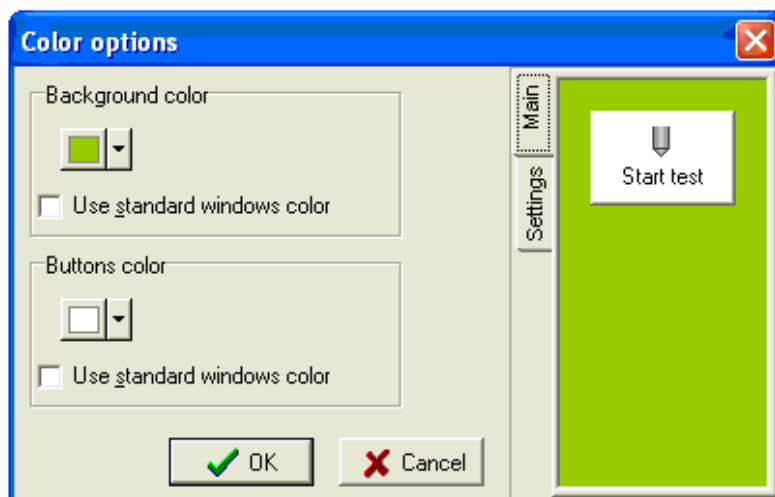
To change the units, open *Settings* → *Range options*, or press F7, and then press the Units button.

Now you can change the units for the Depth, Torque and Shear strength scales.



Color options

Settings for background and buttons color.



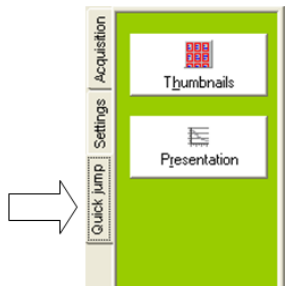
Bars

Viewing options for the test. Select or unselect *Angle/Torque* and *Max Torque/Rotation speed*.

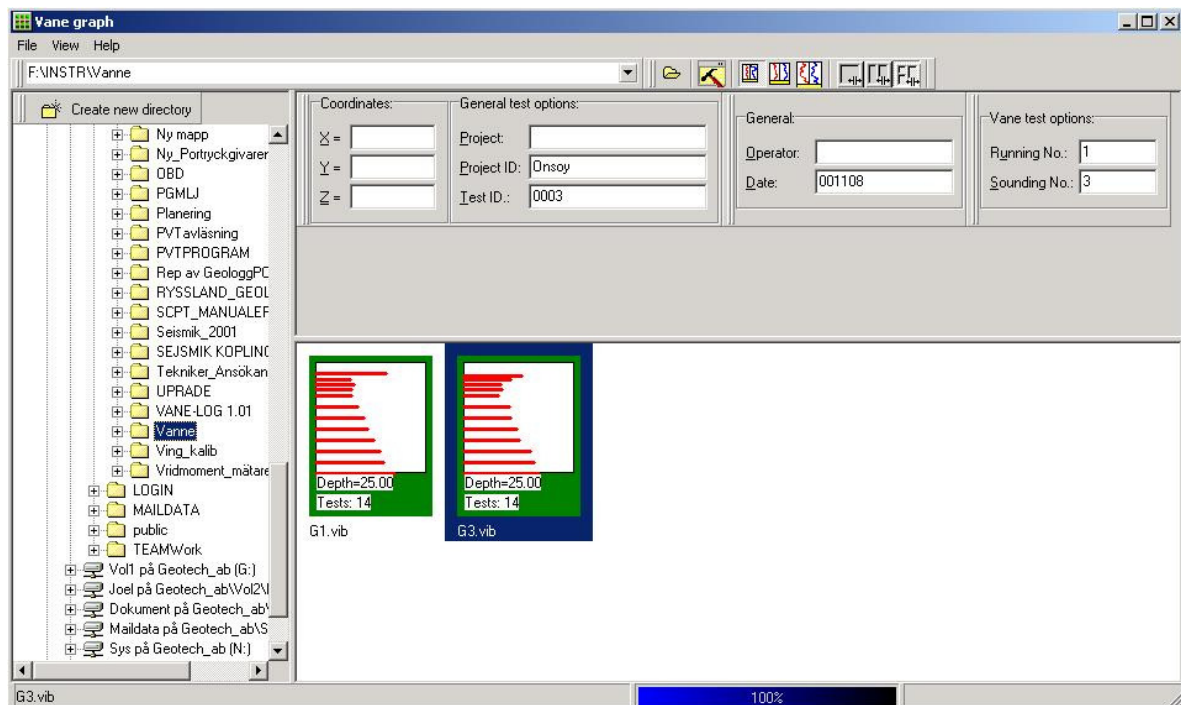
Depth confirmation

Select or unselect depth confirmation.

Presentation



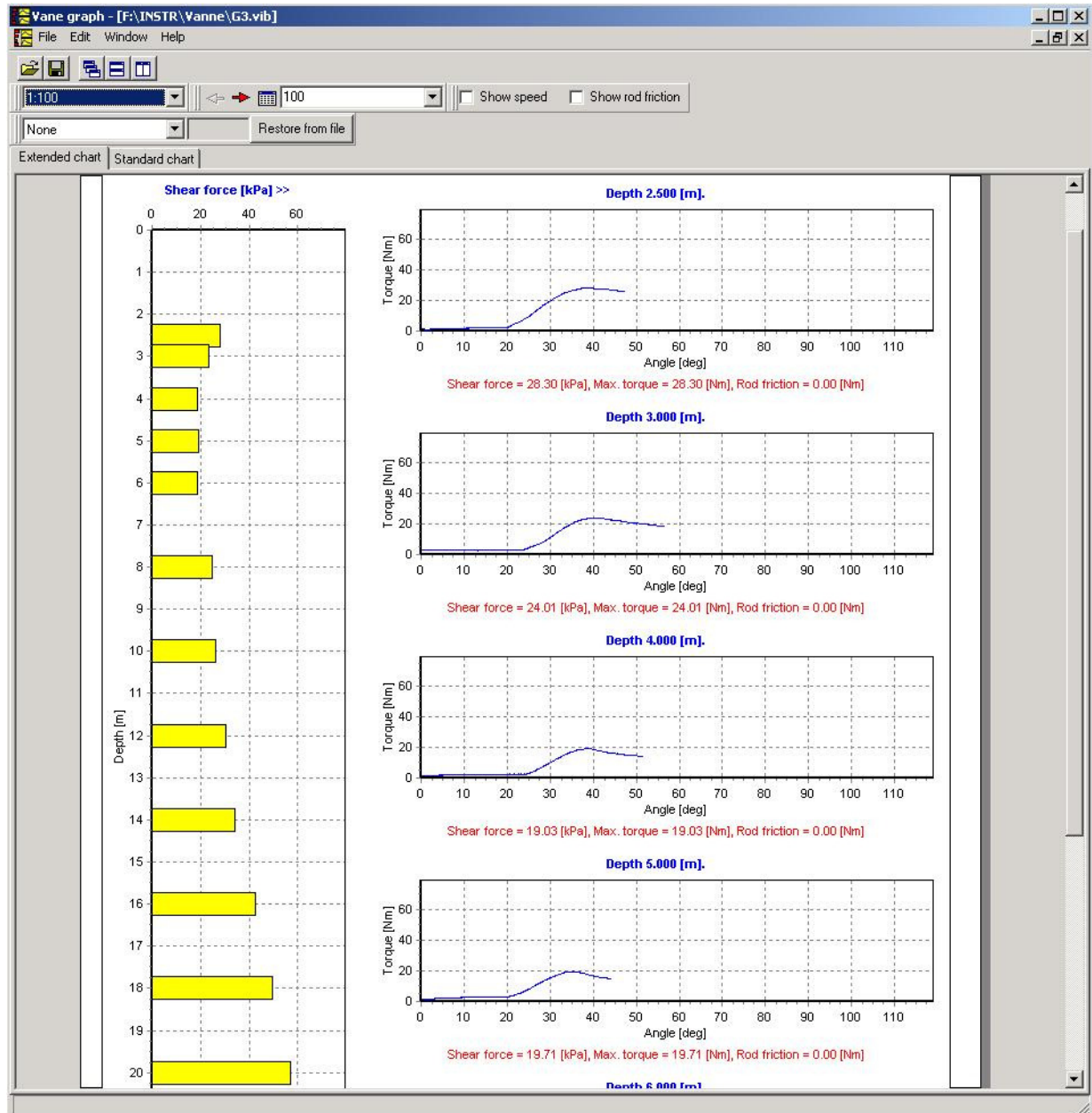
In the presentation module you can open files for viewing. Select the Quick jump tab and press Thumbnails.



Thumbnails.

In the window that appears you can browse the hard drive for vane test data files. When you select a folder in the left part of the window, the files in it will appear as thumbnails in the right lower part of the window. In the right upper part of the window you can see the test information of the thumbnail you select.

To open a file for viewing you double click the thumbnail. The file is shown in a new window called Vane graph. It starts default with the *Standard chart*-tab open. The Standard chart presents the Torque/Speed-graphs. For a graphical view of other parameters, open the *Extended chart*-tab.



View of a vane test. Extended chart.

Settings

The settings in Vanegraph are made under *Edit*.

Options

Extended chart settings

Extended chart

* vs. depth chart

X Axis values

☐ Shear strength

☐ Maximum torque

☐ Rod friction

Chart position

Left position: 0,64 [cm]

Chart width: 5,90 [cm]

Bar width: 5 [mm]

Horizontal Bar

Horizontal Line

Point

Torque/Speed charts

X Axis values

☐ Angle

☐ Time

Size

Height: 5,27 [cm]

Width: 13,68 [cm]

Standard chart settings

Standard chart

Torque/Speed charts

X Axis values

☒ Angle

☐ Time

Size

Height: 5 [cm]

Width: 20 [cm]

Single graph settings

Single graph

Single chart size

Height: 0,00 [cm]

☐ Fit height to page

Width: 0,00 [cm]

☐ Fit width to page

☐ Fit to page

Chart position

Left position: 0,00 [cm]

Top position: 0,00 [cm]

☐ Centered

Settings for units and sheet appearance

All

C:\Program\Geotech\WaneLog\logo.bmp

Load logo

Units

GEO TECH

Table font:

Description font: Arial 6

Main font: Arial 8

Info lines font:

Font style: B I U

Test info

Displays the test info sheet.

Chart settings

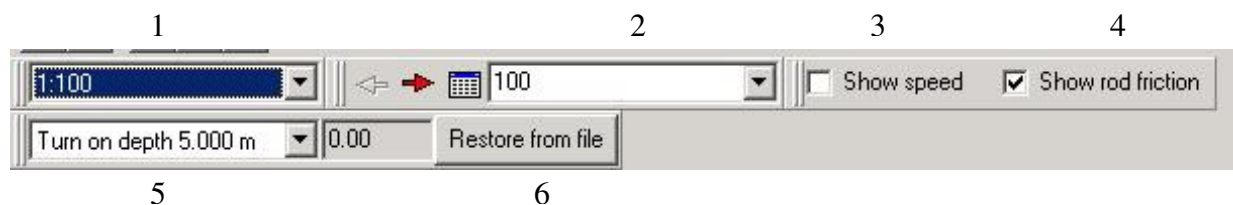
Range and color settings for the graphs in Standard chart and Extended chart.

Table edit

Editing and additions to test information.

Viewing options.

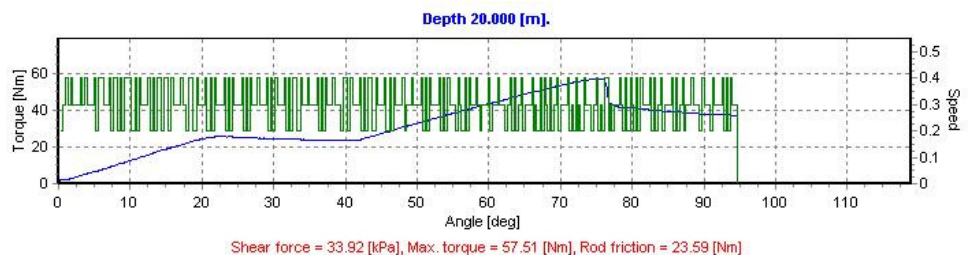
In the upper part of the window you can set viewing options for the vane chart.



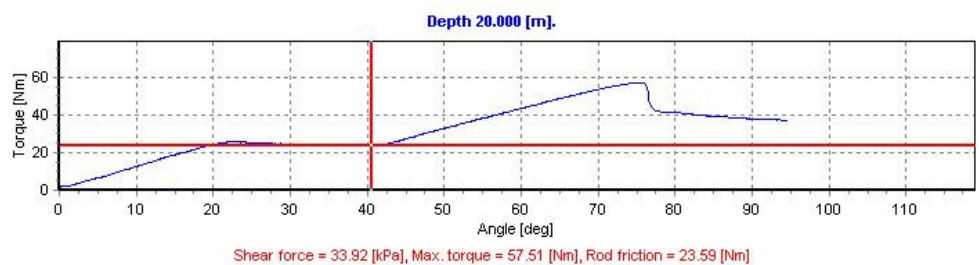
These options are:

1. *Depth scale* for the shear force.
2. *Viewing size*.
3. *Show speed*. If this is marked the speed will be shown in the graph.
4. *Show rod friction*. If this is marked a red cursor will appear in the graph. It should be used for specifying the rod friction of the curve.
5. *Depth selection*.
6. *Restore from file*. Loads the current file without changes.

Speed shown in graph.

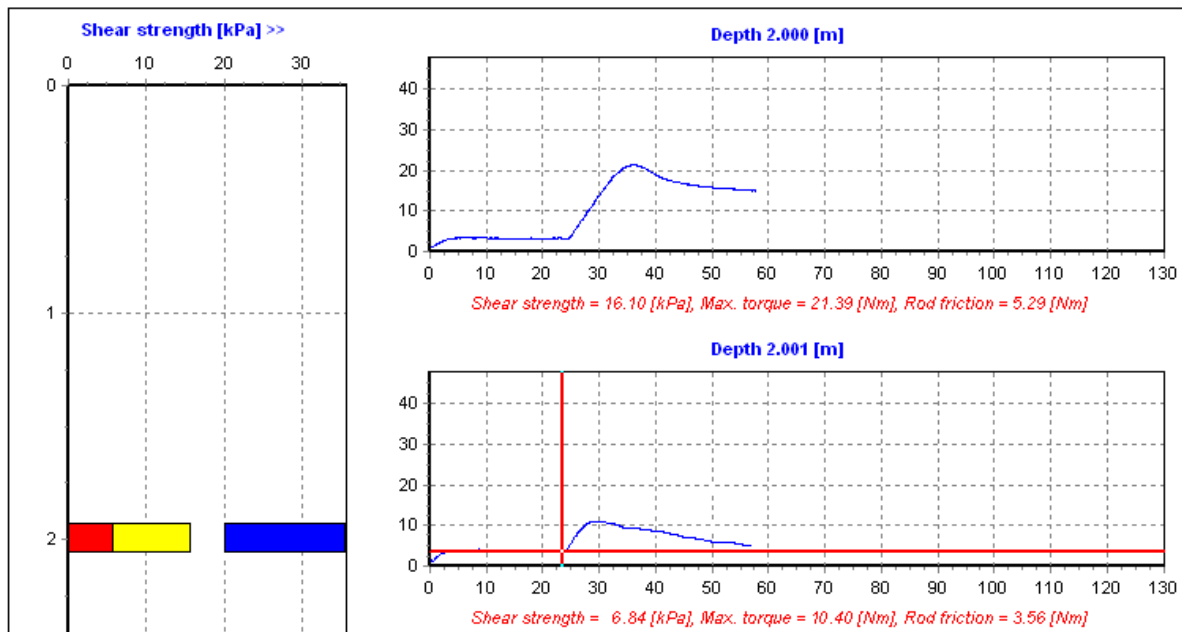


Rod friction specified in graph.



Remoulded tests

It is possible to use remoulded tests to calculate soil sensitivity.

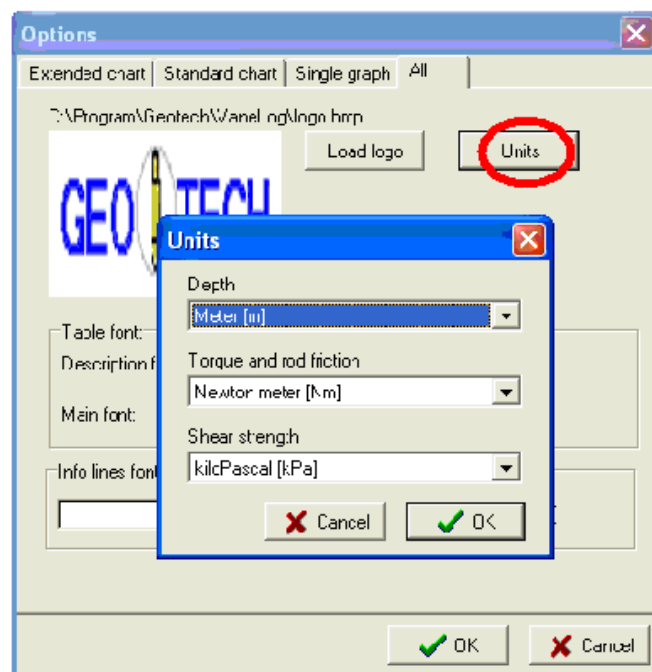


Undrained and remoulded turns.

Change units

To change units, open *Edit* → *Options* and then select the *All*-tab and push the *Units* button.

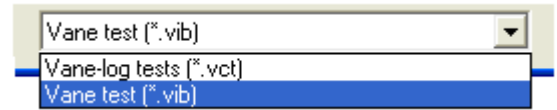
Now you could change the units for the Depth, Torque and Shear strength scales.



Create vb1-files for import to AutoGRAF software

The original vct-file can easily be converted to a vb1-file through these steps.

1. Open the desired file in Vane graph.
2. Open *File* → *Save As...*
3. Write or select the file name and select the *.vib file format.
4. Press *Save*



This action creates two copies of the file in each *vib* and *vb1* formats.

Export file as an image

To convert the file into an image format:

1. Open the desired file in Vane graph
2. Open *File* → *Export*
3. Select target directory
4. Write file name without file extension
5. Select file type: bmp, jpg or gif
6. Press *Save*