

COUNTERLEDGE[®]

USER'S GUIDE



<http://www.endeeper.com>

©2008-2011 Endeeper. Copyright All Rights Reserved.

Ver. 29/04/2011

Summary

| | | |
|----------|---|----|
| 1. | COUNTERLEDGE Overview | 4 |
| 1.1. | Application..... | 4 |
| 1.1.1. | Installing from the WEB..... | 5 |
| 1.2. | Running COUNTERLEDGE on Windows | 5 |
| 2. | Main..... | 6 |
| 2.1. | Working with Descriptions | 6 |
| 2.2. | Main Buttons | 8 |
| 3. | Tutorial COUNTERLEDGE | 9 |
| 3.1. | How to Describe a New Description..... | 9 |
| 3.2. | How to Load a Description | 9 |
| 3.3. | How to Export Data | 9 |
| 4. | Help on Help | 10 |
| 4.1. | Toolbar..... | 10 |
| 4.2. | Navigation Panel..... | 10 |
| 4.3. | Contents Panel..... | 10 |
| 5. | Composition..... | 11 |
| 5.1. | Basic Tasks within the Composition Interface..... | 11 |
| 5.1.1. | Filling the Composition Table | 11 |
| 5.1.2. | Using the Stage | 12 |
| 5.1.2.1. | Free Mode | 12 |
| 5.1.2.2. | Advanced Mode..... | 12 |
| 5.1.3. | Handling Composition Table Lines | 13 |
| 5.1.3.1. | Constituent Selection | 13 |
| 5.1.3.2. | Copying and Pasting Lines | 14 |
| 5.1.3.3. | Deleting Lines | 14 |
| 5.1.3.4. | Moving Lines..... | 14 |
| 5.1.3.5. | Undo/Redo Actions | 14 |
| 6. | Save Description | 15 |
| 7. | Load Description..... | 16 |
| 8. | Stageledge | 17 |
| 8.1. | Free Mode | 17 |
| 8.2. | Advanced Mode..... | 18 |
| 9. | User's Guide..... | 20 |

Figures

- Figure 2.1. Description name at the top..... 6
- Figure 2.2. Main Interface 7
- Figure 5.1. Multiple selection example 14
- Figure 6.1. Save description dialog..... 15
- Figure 7.1. Load description dialog 16
- Figure 8.1. Stage Controller – Free Mode 17
- Figure 8.2. Stage Controller – Advanced Mode..... 18
- Figure 8.3. Stage Controller – Only map panel..... 20

1. COUNTERLEDGE Overview

COUNTERLEDGE is a complete database application for the description of any kind of thin-section.

- The system guides the descriptions, suggesting an order of description for the geologist;
- The system makes possible a detailed description and quantification of composition using an electromechanical stage controlled by computer and connected to a microscope;
- The system also allows the standardization of description terminology for all aspects that can be described about a description;
- COUNTERLEDGE has a module to export description data to HTML and Microsoft Excel formats.

1.1. Application

- This user guide contains all functionalities of COUNTERLEDGE Server version. Some features do not exist on Workstation version.

| Recommended hardware and software |
|--|
| * Microsoft® Windows, MacOS 10.4+ (Java 5+), Linux (Java 5+) |
| Pentium IV 2.4 GHz |
| 512 MB RAM |
| 300 MB of free hard disk space |
| Video resolution 1024X768 pixels |
| Network access (if database is not local) |

* The installer for Windows versions already includes a Java Virtual Machine version 1.6. Mac or Linux must already have a JVM 1.5 or greater, besides additional settings provided by ENDEEPER.

Installing from CD or Other Memory Unit

1. Put the CD or connect the memory unity with the installer;
2. Locate the CD-ROM driver or memory unit and double click on the SETUP file;
3. Installation program will start;
4. Follow the instructions in the screen:
 - Close all other applications;
 - Read the license and if you agree and want to continue choose "I agree";

- Choose directory where the system will be installed;
 - After finishing the installation, restart the machine;
5. The COUNTERLEDGE system is ready to run.

1.1.1. Installing from the WEB

1. Download the file in a directory;
2. Locate the file in the directory and execute;
3. Installation program will start
4. Follow the instructions in the screen:
 1. Close all other applications;
 2. Read the license and if you agree and want to continue choose "I agree";
 3. Choose directory where the system will be installed;
 4. After finishing the installation, restart the machine;
5. The COUNTERLEDGE system is ready to run.

1.2. Running COUNTERLEDGE on Windows

How to *start* the system COUNTERLEDGE:

1. double click on the icon COUNTERLEDGE in Desktop, or;
2. select Start > Programs > Installation Place > COUNTERLEDGE, or;
3. from the directory where is installed, execute the file COUNTERLEDGE.

After started, the main interface will be presented and the system can be used. If the system is running for the first time, it can take a longer time to start.

How to *close* the application:

1. Select the menu item Description > Exit.

2. Main

The main interface provides an environment to support the quantitative description of most aspects existing in a thin section, such as: constituents, features, and observations. Besides this environment, operations to manipulate data, like, export, backup, and restore operations are also provided.

2.1. Working with Descriptions

COUNTERLEDGE works with only one description at each time. The name of the current description can be seen in the top bar of the application window. When the current description is not saved yet, the name *New Description* appears in the top bar.



Figure 2.1. Description name at the top

Menus:

- Description
 - New Description: initializes a new description, showing an unfilled composition table, so that a new description of a thin section can be started;
 - Load Description : this option will make available the list of descriptions already described in the system. Besides the loading operation, it is also possible to remove descriptions through this menu option;
 - Save Description: save the current description information contained in the composition table and the trajectory made in the thin section if the stage controller is being used;
 - Save Description as: allows to save a description already saved assigning to it a different name;
 - Export to HTML: shortcut to export descriptions in HTML format;
 - Export to XLS: shortcut to export descriptions in Microsoft Excel file format;
 - Exit: closes the application.
- Edit
 - Undo and redo options, for actions in composition lines.
 - Copy, Cut, Paste and Delete: execute the action in selected line on composition table.
- Insert
 - Insert Empty Row: adds a new blank line in composition table;
 - Insert Defined Row: adds in the composition table a new line having a previous saved constituent name.
- View

- Observations: opens a window to enter observations related to the current description. If the description already has observations, the text can be edited.
- Stage (For more details see Using the stage section)
 - Initiate: starts the stage controller. A window to configure the largest side of the thin section and the step size to be used is shown. After this configuration, a controller to manipulate the electromechanical stage is displayed;
 - Track: allows to change the track to be quantified on the thin section by the microscope;
 - Step Over: it is used when the current point may not be quantified. This operation only moves to the next point without quantifying it;
 - Controller: opens the main window of stage controller. This operation is only enabled after the execution of Initiate operation.
- Tools
 - Configure Selected Row Color: allows to change the color of a selected row of composition table;
 - Clear Points Column: delete all points added to the current description;
 - Backup: creates a security copy of all data described using the system;
 - Restore: restores a copy of data done using the Backup operation. When the Restore operation is used, the current data is replaced by the data existing in the backup file.
 - Configure Reports: allows some configurations for export reports.
- Help
 - Contents: opens the help of the system;
 - Support: contact with ENDEEPER;
 - About: information on the project COUNTERLEDGE.

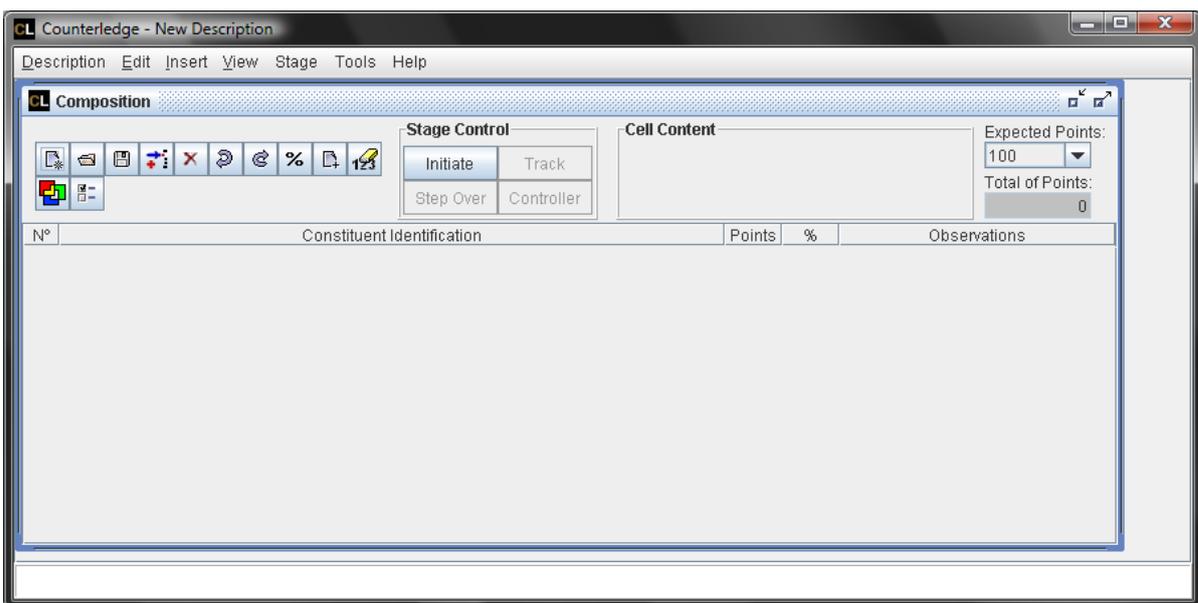


Figure 2.2. Main Interface

2.2. Main Buttons



Creates a new and blank description;



Opens the Load Description interface to choose the description to be loaded from the database;



Saves all the modifications of the current description;



Adds a new Constituent;



Removes selected constituents;



Undo the last action;



Redo the last action;



Changes to percent mode, where constituents percentages can be edited manually;



Changes to manual points insertion mode, where point values can be typed;



Clears values of points and percentages for the current description;



Opens the interface to choose a color for selected lines on composition table;



Opens the interface to choose between one or two clicks to increase points.

3. Tutorial COUNTERLEDGE

COUNTERLEDGE is a complete database application supporting the description of any kind of thin section. It makes possible a detailed description and quantification of composition, allowing the standardization of description terminology.

This tutorial contains instructions with links to common uses of the COUNTERLEDGE System.

3.1. How to Describe a New Description

- Start COUNTERLEDGE;
- By default, a new description will be created;
- You can also choose Description > New Description or click the  button. If there is a not saved description opened, a dialog asking if you want to save it before create the new one will appear;
- With the new description created, you are allowed to start the quantification by filling the composition table (see more details in Composition section);
- Save the description after finish editing: choose Description > Save or use the  button;
- The Save Description dialog will open.

3.2. How to Load a Description

- Start COUNTERLEDGE;
- Choose Description > Load Description in the Main interface, or use the  button;
- The Load Description dialog will open.

3.3. How to Export Data

- If you want to export description data in HTML, choose Description > Export to HTML in the Main interface;
- If you want to export description data in Microsoft Excel format, choose Description > Export to XLS in the Main interface;

Some configurations for export data can be done by accessing Configure Reports... in the Tools menu.

4. Help on Help

The COUNTERLEDGE Help uses standard JavaHelp™ technology. The JavaHelp viewer is like a web browser with search and index facilities. It has 3 panels:

4.1. Toolbar

It is composed by the buttons:

| Button | Action |
|---|---------------------------|
|  | Go back visited pages. |
|  | Go forward visited pages. |
|  | Print page. |
|  | Print setup. |

4.2. Navigation Panel

It is composed by 3 tabs.

| Tab | Description |
|---|---|
|  | Display the help table of contents. You can expand or collapse items clicking on the icon in the left side of a folder item. |
|  | The index shows topics in alphabetical order and search within these topics. |
| | The full text search looks for pages with the given words (enter complete words, if you enter "macro", it will not find "macroscopic"). |

4.3. Contents Panel

A panel on the right that displays HTML pages as help information. You can change the exhibited contents selecting a item in the left panel, or using internal links.

5. Composition

The Composition table supports the quantitative description of most aspects existing in a thin section, such as: constituents, features, and observations. The user determine the constituent cell content, which will be used as a nomenclature for next descriptions, and register the number of points quantified during modal analysis. Other features are entered by the user. Further information, such as percentages, is available to the user.

It is also possible using the electromechanical stage integrated to the system to control the quantification in an automatic way. For each point described in the Composition table, the stage is moved in the microscope to view the next point. .

5.1. Basic Tasks within the Composition Interface

5.1.1. Filling the Composition Table

Steps to fill the table:

1. Use the  Insertion button;
2. You can edit the Constituent Identification cell adding any information related to the constituent, such as Location, Habit, etc, through a double click on the cell;
3. In the Points column: you can increase points to one constituent by a double or single click with the left button of mouse (the configuration of the number of clicks is set using the  Configure preferences button). When you desire to decrease one point from the total, you must use <ALT+Click with left button of mouse> (When the stage is being used, you can only decrease the last constituent quantified);
4. In the Percentage column: this column will automatically update the input of points or you can still choose to manually enter the percentages. This can happens when it already exists a description done on a report. For this situation it is enough to click in the  Percentage button to indicate this preference for

this description (This option is not available when the stage is being used or the description has already been quantified);

5. In the Observation column: double click with the left button of mouse, the system change the cell state to edit mode.

When you finish the description, click in the  **Save** button. If you try to close it without saving the description, the system will alert you with a message. If you did a description, but you did not save it and you decide to describe a new one, the system will alert you to save the old one.

5.1.2. Using the Stage

If you have the hardware, an electromechanical stage controller, you can enable the automation of the mechanical stage movements. To use the stage within the **Composition** table it is necessary to do the following steps:

1. Turn on the electromechanical stage. It will automatically goes to the initial physical extremities of each axle;
2. Click the **Initiate** button at the main interface to start the Stage Controller interface;
3. A selection dialog will be shown. Select the operation mode of Stageledge: free or advanced;

5.1.2.1. Free Mode

This mode provides an interface for stage movement, but it does not record the log of movements.

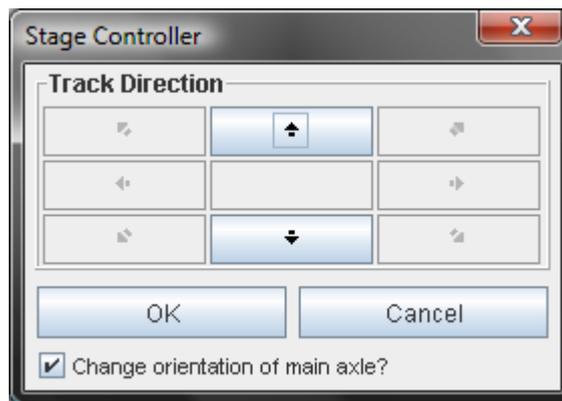
When a point is quantified, stage moves automatically to the next point.

5.1.2.2. Advanced Mode

This mode provides a lot of functions related to the log of the movements during point-counting.

1. In the [Stage Controller](#) interface, configure the axle along which point-counting will take place and the step size.;
2. Using the arrow buttons on Stage Control interface, move the stage to the first point that you want to quantify. This is the first point you will add to the composition. The path from the origin to this point will appear in yellow color on the map.
3. Start the constituent description at the composition interface;
4. After each inserted point in column **Points**, the electromechanical stage moves automatically to the next point. The step size can be changed any time during the point quantification process;

5. The automatic movement is done only within a track. To change the track you can use one of the following options:
- Move the stage to another track using the arrow buttons and press the **Orientation** button, so the arrow in the button points towards the direction you want the stage to move to;
 - Press the **Track** button at the composition interface and choose the orientation you desire to move the axis orthogonal to the automatic point-counting movement. If you want you can change the direction of movements by marking the option **Change direction of main axle?**;



6. The stage goes to the next track and the analysis can continue until finishing the point-counting.

While in the course, a log of the movements of the stage is created to resume or analyze the previous work if necessary.

If you are using the electromechanical stage in semi-automatic mode, that means, controlled by computer, and then modify the course manually, you will lose the log and the exact position on the plate.

5.1.3. Handling Composition Table Lines

5.1.3.1. Constituent Selection

In the module Composition you can select one or multiple constituents.

- To select one constituent, click with the left button of the mouse in the table line with the constituent;
- To select a sequence of lines, click in the first constituent, press and hold the <SHIFT> key and select the last element;
- To select randomly constituents from the table, just select the lines with the <CTRL> key pressed;
- To remove the line from a selection, just click again with the <CTRL> key pressed.

| # | Constituent Identification | Points | % | Observations |
|----|----------------------------|--------|-------|--------------|
| 1 | Detrital Quartz | 14 | 27.45 | |
| 2 | Detrital Feldspar | 5 | 9.80 | |
| 3 | Diagenetic Feldspar | 4 | 7.84 | |
| 4 | Intergranular Pore | 5 | 9.80 | |
| 5 | Detrital Orthoclase | 3 | 5.88 | |
| 6 | Detrital Plagioclase | 3 | 5.88 | |
| 7 | Tourmaline | 6 | 11.76 | |
| 8 | Albite | 3 | 5.88 | |
| 9 | Dolomite | 4 | 7.84 | |
| 10 | K-feldspar | 3 | 5.88 | |
| 11 | Illite | 1 | 1.96 | |

Selected lines are marked in blue

Figure 5.1. Multiple selection example

5.1.3.2. Copying and Pasting Lines

- To copy one or more constituents, just select them and copy using <CTRL+C>;
- To paste, just use <CTRL+V>. Pasted elements are inserted in the table before the selected line.

5.1.3.3. Deleting Lines

- Select the lines and then press key or click the  button;

5.1.3.4. Moving Lines

- You can move only one line at a time.
- To move a line, click in the line and move the mouse with left button pressed (the line will follow the mouse until you release the button or it reaches the table limit).

5.1.3.5. Undo/Redo Actions

In the composition table you can undo or redo an action.

- To undo an action:
 1. click on the  button or
 2. use the combination <CTRL+Z>.

- To redo an action:
 1. click on the  button or
 2. use the combination <CTRL+Y>.
- Notice that you can just undo/redo an action on table lines. For example, you can undo/redo a deletion of a line.

6. Save Description

This interface allows to save a description into the database. To save a description, type the name of the new description in the field *Description Name* or choose a previous saved description in the list to replace it, and click the button **Save**. The new description name will appear at the top bar of application window.

By selecting a description in the list and choosing the option **Delete** the selected description will be removed from database;



Figure 6.1. Save description dialog

7. Load Description

This interface lists all descriptions that can be queried and/or modified according to the database. To load a description, choose one in the description list and click the button **Load**. The Composition table for the selected description will be presented.

By selecting a description in the list and choosing the option **Delete** the selected description will be removed from the database;

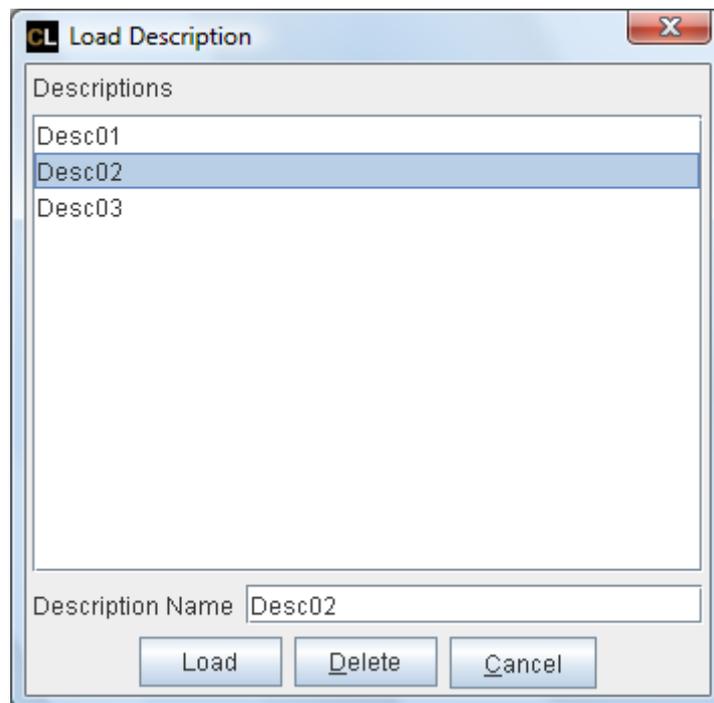


Figure 7.1. Load description dialog

8. Stageledge

The system provides two operation modes for the electromechanical stage (offered separately).

8.1. Free Mode

This mode provides an interface for stage movement, but it does not record the log of movements.

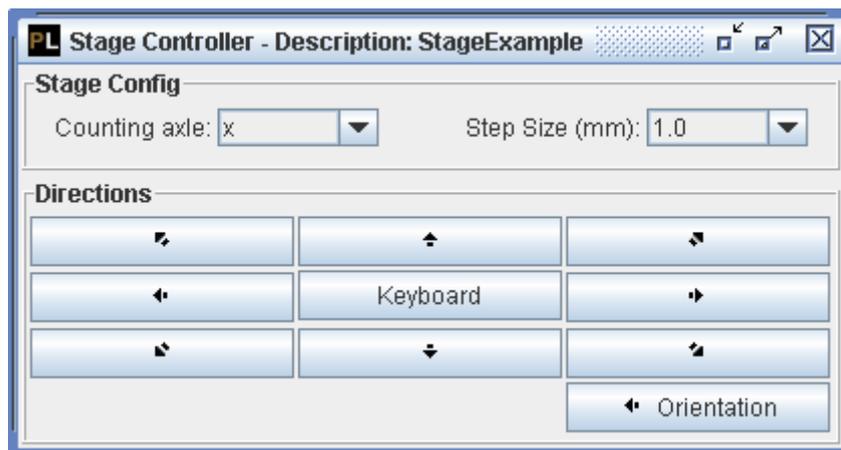


Figure 8.1. Stage Controller – Free Mode

This interface presents the following elements:

- a multiple choice field, called **Counting axle**, to configure the axle along which point-counting will take place and a multiple choice field to enter the working **step size** ;
- **movement buttons** for eight directions (N, S, E, W, NE, NW, SE, SW) indicated by arrows;
- button to enable moving the stage using the keyboard, represented by **Keyboard**;
- button to define the stage's movement orientation, represented by **Orientation**. The arrow shown in the button represents the orientation in which the stage is moving.

Besides controlling the stage movement using the buttons in the interface, you can use the numerical keyboard. In the keyboard, movements to N, S, E, W, NE, NW, SE, SW are done respectively using the 8, 2, 6, 4, 9, 7, 3, 1 keys. Press the **Keyboard** button to control the stage using the keyboard.

8.2. Advanced Mode

This mode provides a lot of functionalities related to the log movements during point-counting, like the navigation through the points already analysed, point exhibition configuration, inclusion of additional information, free movement over the stage and return to the analysis point with precision.

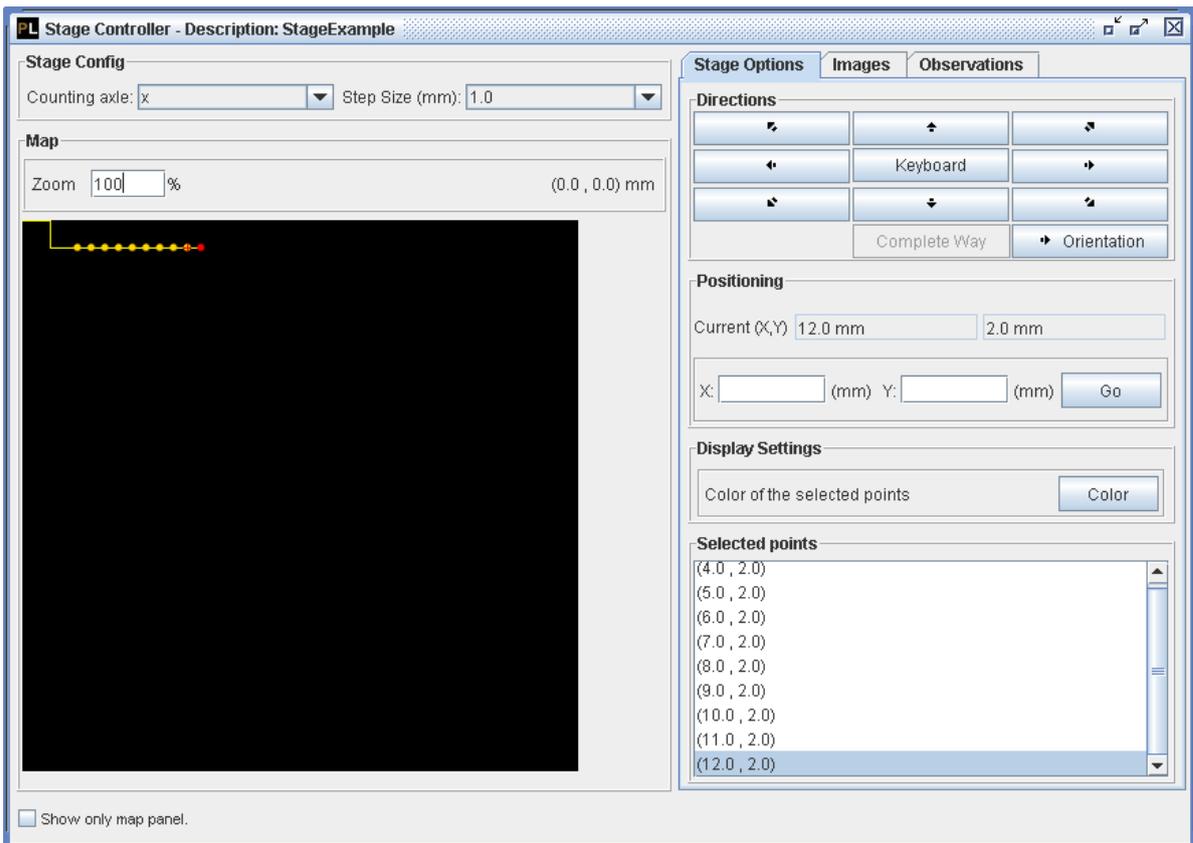


Figure 8.2. Stage Controller – Advanced Mode

This interface presents the following elements:

- a multiple choice field, called **Counting axle**, to configure the axle along which point-counting will take place and a multiple choice field to enter the working **step size** ;
- **movement buttons** for eight directions (N, S, E, W, NE, NW, SE, SW) indicated by arrows;
- point map's zoom level configuration;
- button to move the stage using the keyboard, indicated by **Keyboard**;
- button to position to the last point analyzed to resume work, the electromechanical moves along the path directly to the last point or step-by-step, by pressing the **Complete Way** button;
- current point location, shown at the **Positioning** panel;
- specification of the exact point to where the stage have to move when the button **Go** is pressed;
- color configuration for the points of the constituent selected on the composition list. Available on the panel **Display Settings**;
- list of the coordinates of the points quantified for the constituent selected in the composition. It is possible to select the points using this list;
- possibility to add images and observations to a specific point. These features are available at **Image Options** and **Observations** tabs.

Besides controlling the stage movement using the buttons in the interface, you can use the numerical keyboard. In the keyboard, movements to N, S, E, W, NE, NW, SE, SW are done respectively using the 8, 2, 6, 4, 9, 7, 3, 1 keys. Press the **Keyboard** button to control the stage using the keyboard.

To help the map visualization during the composition descriptions, it is suggested to check the option **Show only map panel**. This way, you can arrange your screen to show the composition interface and the map interface.

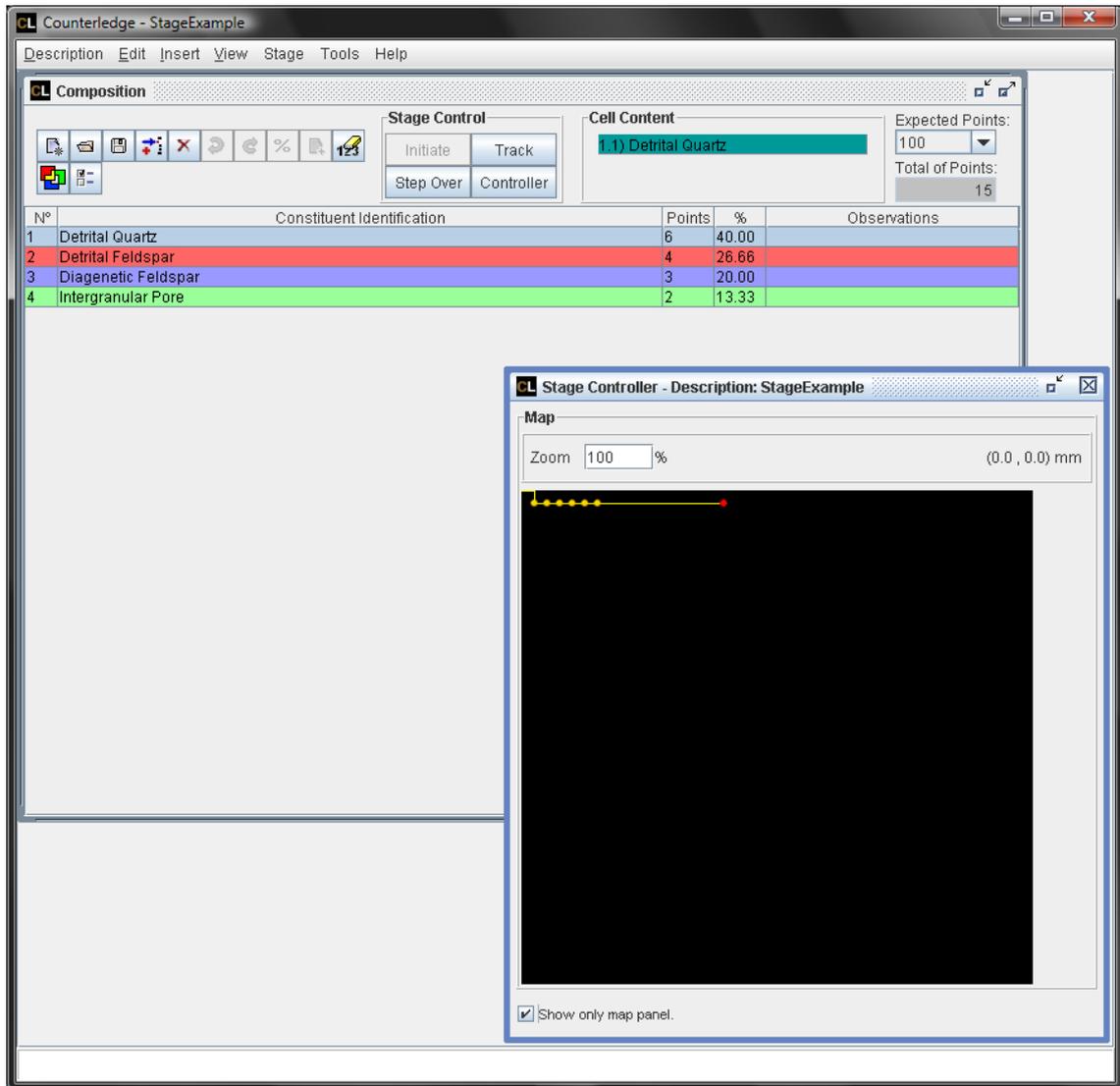


Figure 8.3. Stage Controller – Only map panel

9. User's Guide

The User's Guide is available on COUNTERLEDGE system.

COUNTERLEDGE User's Guide – ENDEEPER – Brazil

Document version: 3.0.0

Authors:

Mara Abel – mara.abel@endeeper.com

Eduardo Estima S. Castro – eduardo.castro@endeeper.com

Carlos Santin – carlos.santin@endeeper.com

Sabrina Queiroz – sabrina.queiroz@endeeper.com

Reviewer:

Oscar Paesi – oscar.paesi@endeeper.com

All Rights Reserved to ENDEEPER.



www.endeeper.com