METER

WP4C MEASUREMENT USING LABROS SOILVIEW SOFTWARE

This application note describes how a WP4C measurement is processed using LABROS SoilView Software. For more details about the WP4C, please refer to the WP4C User Manual. For more information about taking a WP4C sample after HYPROP measurement, please refer to the How to Create a Full Moisture Release Curve Using the WP4C and HYPROP application note.

WP4C MEASUREMENT USING LABROS SOILVIEW SOFTWARE

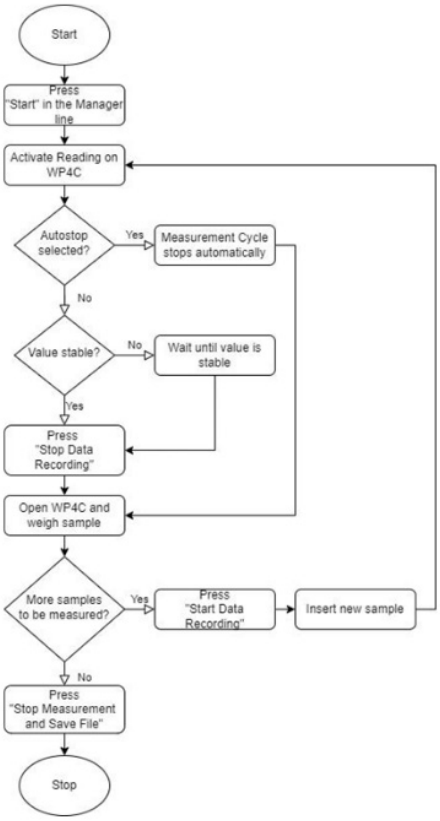

Figure 1 Workflow Overview

WP4C MEASUREMENT PROCESS

1. Connect the WP4C via USB and turn it on.
2. Open LABROS SoilView Software and press the `Show Devices` button.
3. The connected device appears in the device tree on the left of the software screen and a measurement line in the manager is created.

There are two possible ways to create a WP4C measurement file. The procedures for these options are described in the Adding WP4C Data Points to a *.bhdx File and Adding WP4C Data Points to an Excel File sections.

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SETTING MENU

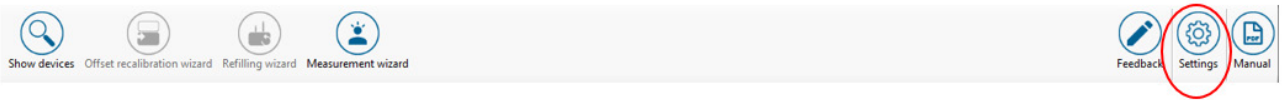

Figure 2 Settings Window Button

Use the drop-down menu where a default profile for each measurement mode may be selected. Load this as a default WP4C measurement profile by selecting the checkbox at the bottom of the `Settings` window.

To create an owner profile use the four buttons described in Figure 3. As a measurement parameter, the `Measurement` mode is set using the drop-down menu. Using `Continuous` mode, the count of WP4C data points may be selected as well as the tolerance. If the count of measurement cycle is e.g. set to three and the tolerance is set to 0.2 pF, the software verifies if the last three recorded data points are within the tolerance of +/- 0.2 pF. Select the `Autostop` checkbox to stop the measurements automatically.

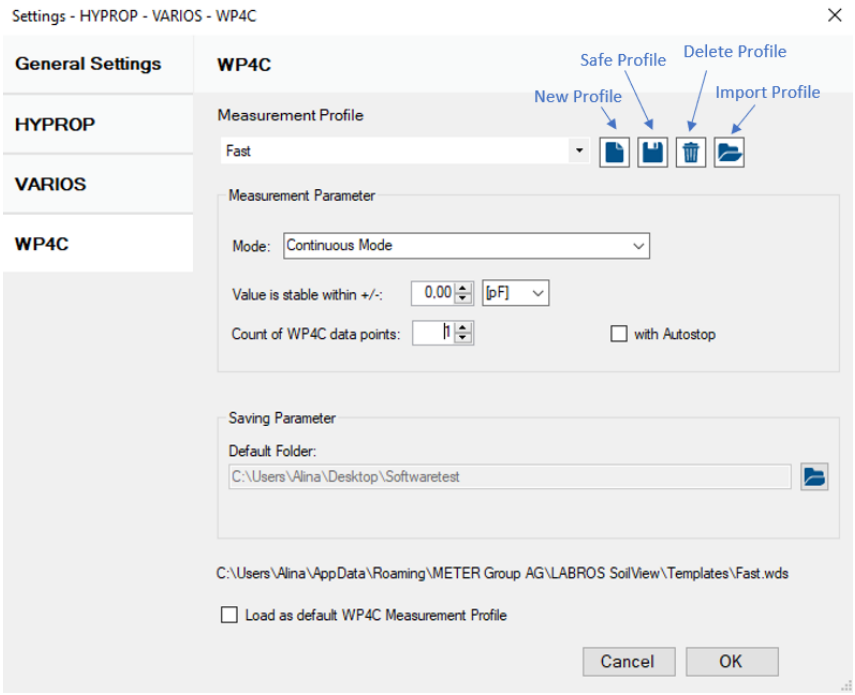

Figure 3 Create Template

ADDING WP4C DATA POINTS TO A *.BHDX FILE

1. Select the button with the ellipsis as depicted in Figure 4.

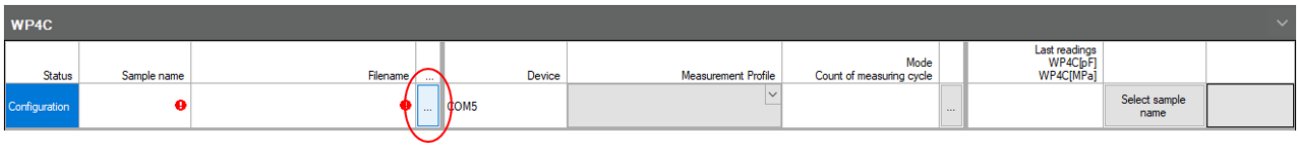

Figure 4 Open *.bhdx File

2. Select the `*.bhdx` file for the WP4C data points that need to be added.
3. Select one of the default profiles depending on the required measurement mode, or create an owner profile in the Settings menu (Figure 3). For more information about measurement modes, refer to the WP4C User Manual.
4. Select `Start`.
5. A new measurement tab opens with a message asking to close the WP4C measurement chamber, turn the knob to `Read` mode and press `Done`.
6. The status of the measurement and the next steps to perfom is displayed in the upper right corner of the software screen, see Figure 5.

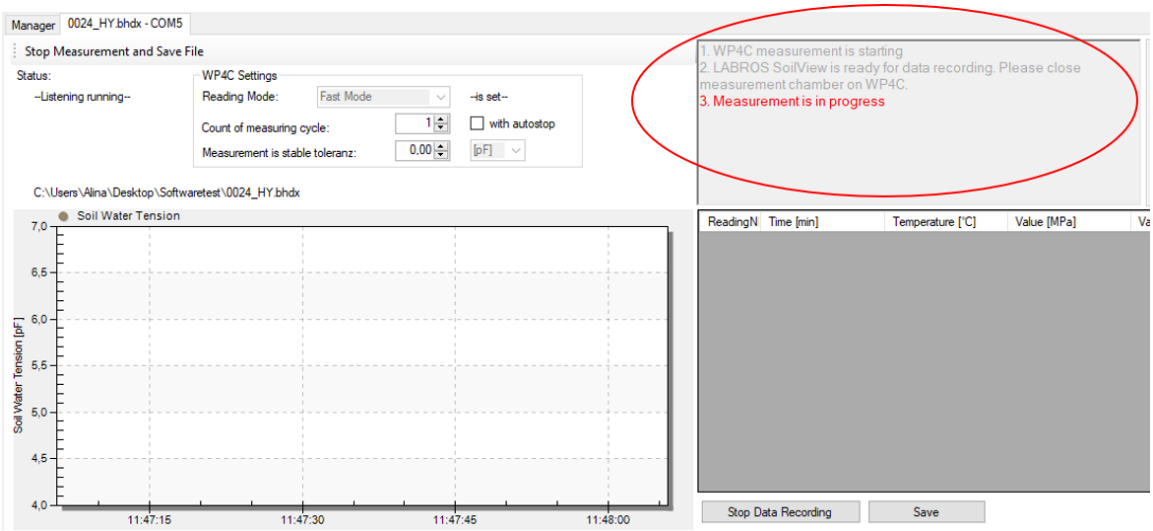

Figure 5 Measurement Status

7. The single point measurements are displayed in the upper right table.
8. When using `Fast` or `Precise` mode only one data point is recorded and the measurement stops automatically.

   When using `Continuous` mode the software records as many data points as defined in the profile `Count of WP4C Data Points`. The software will verify if the datapoints are within the defined tolerance; if so stop the measurement by pressing the button `Stop Data Recording`. The software stops automatically if `Autostop` is selected.

   The average is calculated and displayed in the lower table on the right (Figure 6). If the values are not within the defined tolerance the measurements continue.
9. Once measuring has stopped the soil sample must be removed from the measurement chamber and weighed immediately.

   The wet weight of the sample as well as the tare weight of the cup may be entered directly into the lower table on the right (Figure 6).

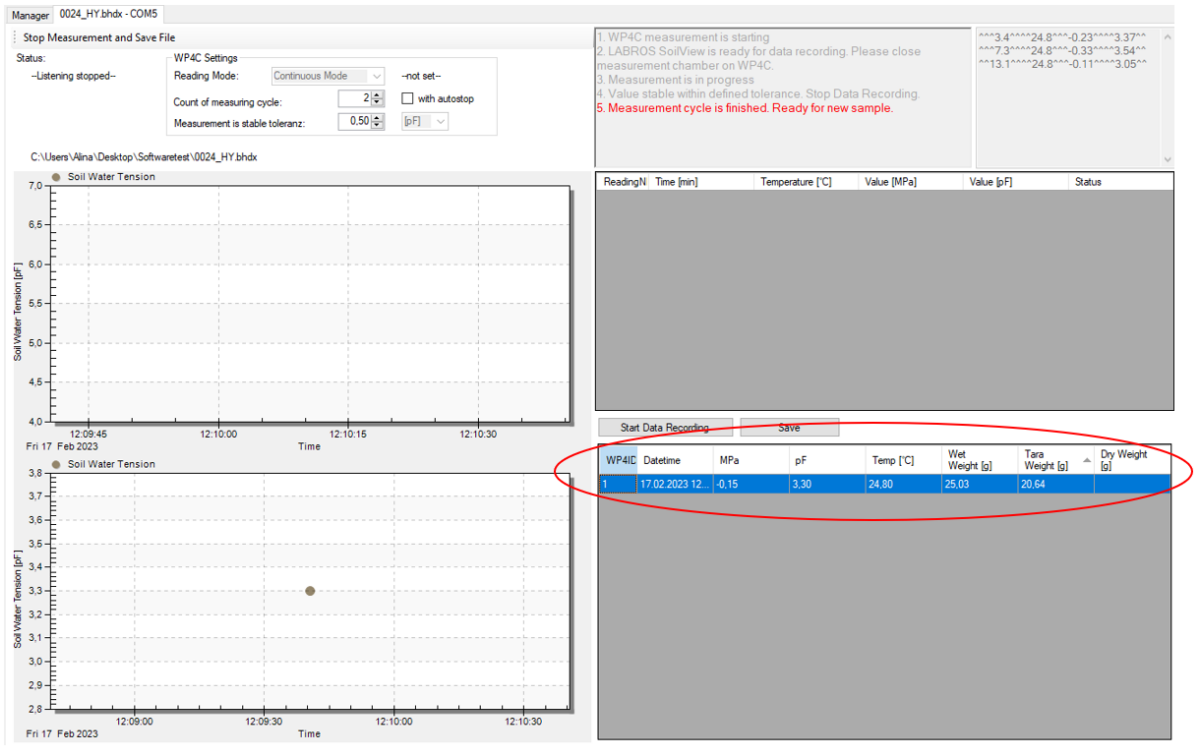

Figure 6 Result Table

10. The next sample may then be measured by inserting a new sample, pressing `Start Data Recording`, and following step 5—9. When all samples referring to the `*.bhdx` file are measured, select the `Stop Measurement and Save File` button, see Figure 7. All values in the lower table are entered into the `*.bhdx file`.

NOTE: The `Stop Measurement and Save File` must be selected in order for the file to be finished and saved correctly.

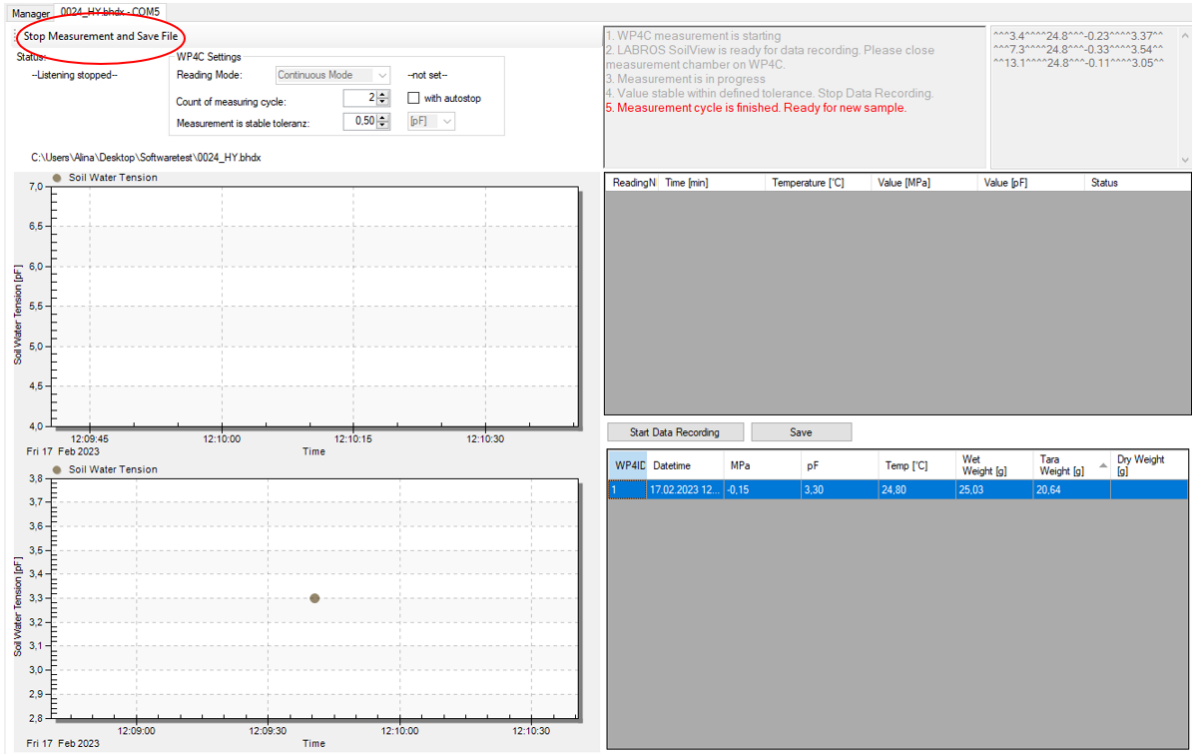

Figure 7 Stop Measurement and Save

11. The measurement can be removed from the manager by selecting `Remove from Manager`.

ADDING WP4C DATA POINTS TO AN EXCEL FILE

1. Enter a sample name in the manager line (Figure 8).

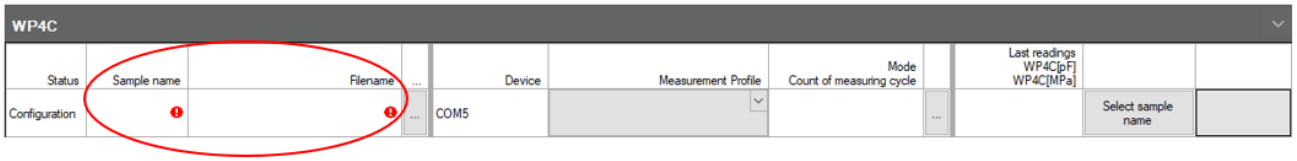

Figure 8 Enter Sample Name and Filename

2. Follow step 3—10 in the Adding WP4C Data Points to a *.bhdx File section.
3. When all samples have been measured select the `Stop Measurement and Save` button. This button must be selected to finish and save the file.

   All values in the lower table are entered into the Excel file.
4. The measurement may be removed from the manager by selecting `Remove from Manager`.

WP4C EVALUATION USING LABROS SOILVIEW-ANALYSIS SOFTWARE

To evaluate both file options, the LABROS SoilView-Analysis Software is used. For more detailed information about the LABROS SoilView-Analysis Software please refer to the LABROS SoilView-Analysis for HYPROP User Manual.

EVALUATING A *.BHDX FILE

The recorded WP4C data points are displayed in the `Evaluation` register located in the `Add WP4 Data Points` table. The gross dry mass of the sample, the gross wet mass, and the tare mass of the sample cup must be entered.

EVALUATING EXCEL FILE

To add the recorded WP4C data points saved in an Excel file to a `*.bhdx` file in LABROS SoilView-Analysis, the respective `*.bhdx` file must be opened. The data points are loaded by selecting `Add Points From File` and clicking the right hand mouse button on the `Add WP4 Data Points` table located in the `Evaluation` register (Figure 9). The gross dry mass of the sample, the gross wet mass, and the tare mass of the sample cup must be entered.

NOTE: Do not change the format of the created Excel file.

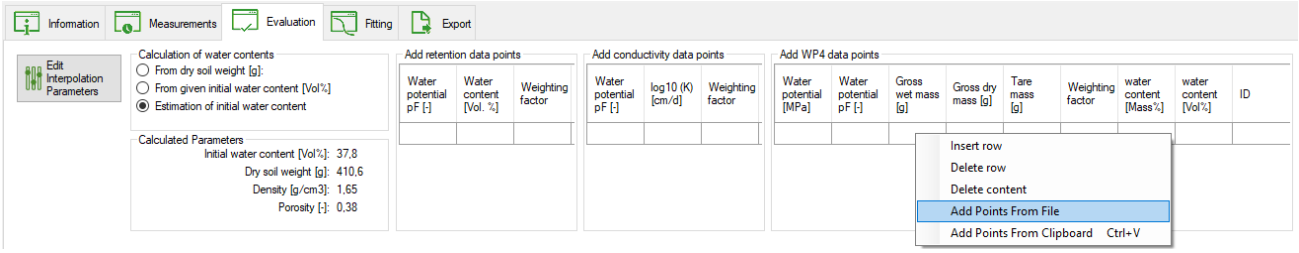

Figure 9 Add Points From File