Export and Import Field Tests / Templates

Program: Stratigraphy
File: Demo02.gsg

This engineering manual describes how to import and export data from field tests. Data can be exported in table (MS Excel, Open Office, Google Sheets) or XML formats. For import, there are many more options, especially local formats used all around the world.

Spreadsheet programs are very popular and effective, and it can make more sense to edit and store the data in their formats. Very often the users already have the data in these formats and they need to import them into GEO5 programs.

The XML format is used for communication with other programs and databases. Its use only applies to a small range of customers – therefore we will not cover it in this manual.
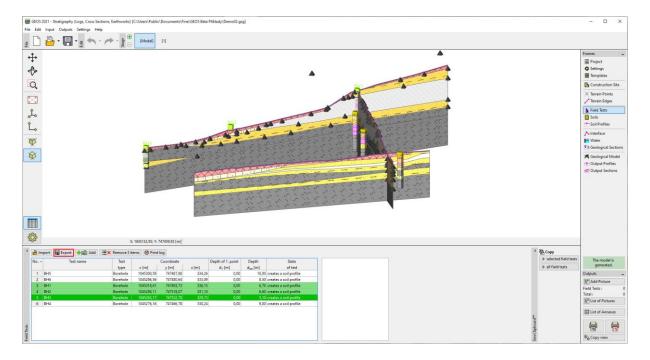
We will describe three scenarios in this manual:
1. Export of field tests, modification of the data in MS Excel, and subsequent reimport
2. Naming individual exported and imported data (mapping)
3. Export / Import data from spreadsheets

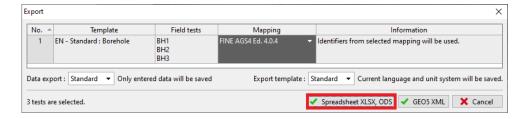**Export of field tests, modification of the data in MS Excel, and subsequent reimport**
Open the "Demo02.gsg" file, which is installed together with GEO5 programs into the "FINE" folder in public documents.
In the frame "Field Tests", select the data for export (BH 1-3), and press the "Export" button on the toolbar.
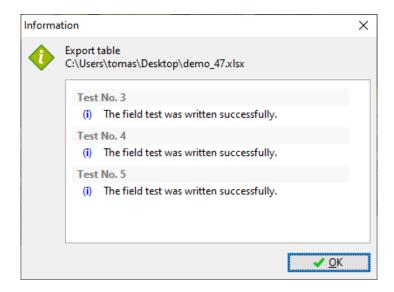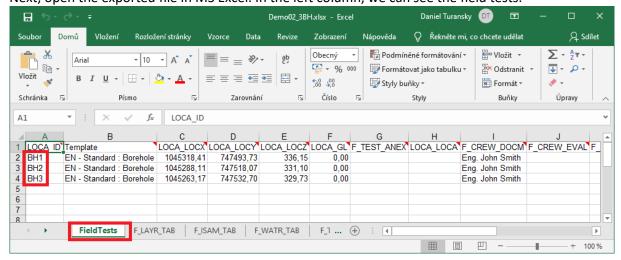
Press the button "Spreadsheet XLSX, ODS" to save them. We will leave the mapping as "FINE AGS4 Ed. 4.0.4" (according to the international standard AGS - Association of Geotechnical and Geoenvironmental Specialists), which is default for all templates.

We will name the exported file (Demo02_3BH) and save it. The program will confirm the export in a dialog window.
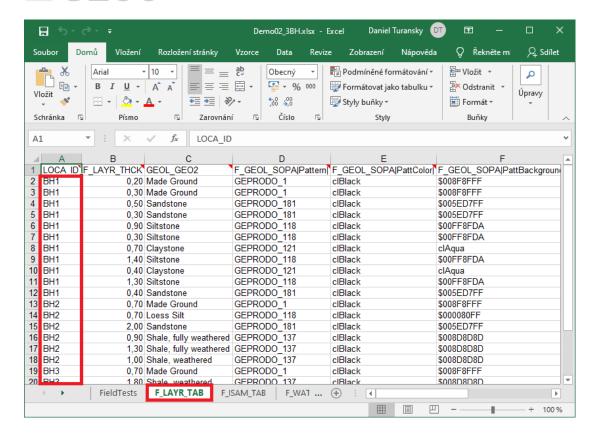

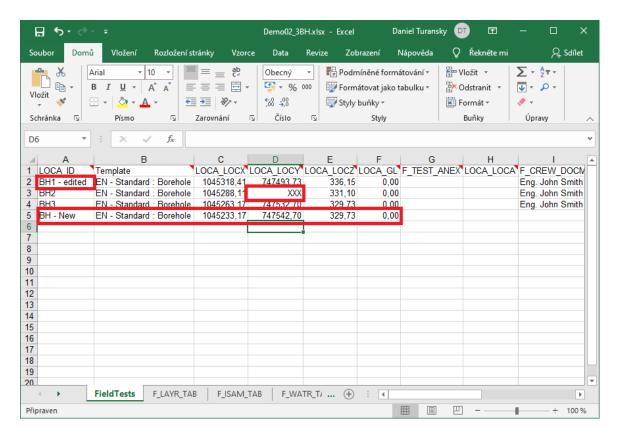Next, open the exported file in MS Excel. In the left column, we can see the field tests.

Other data can be found in the individual tabs. The name of the test must always be in the first column, to make the relevance of the data clear. The number of tabs (layers, water, samples..) depends on the template used in GEO5. All data from the template is exported into the spreadsheet.
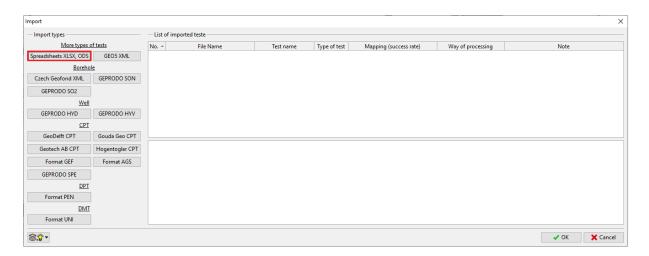
We can now edit, delete, or add data in the table. We will make these changes:
- Rename borehole "BH1" to "BH1 - edited"
- Change the Y coordinate of borehole BH2 to "XXX" – to demonstrate how the program deals with incorrect input
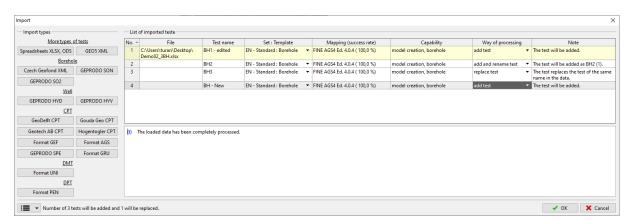- Add a new borehole "BH - New"

Now, we will return into the Stratigraphy program and import the edited file. In the frame "Field Tests", press the "Import" button. We will select the import type as "Spreadsheets XLS, ODS", and load the file.
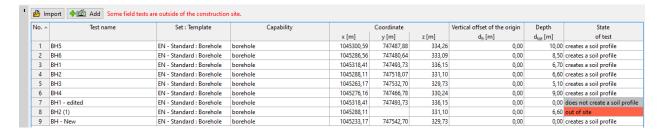

The program will analyze the data and will offer options how to further process the boreholes.
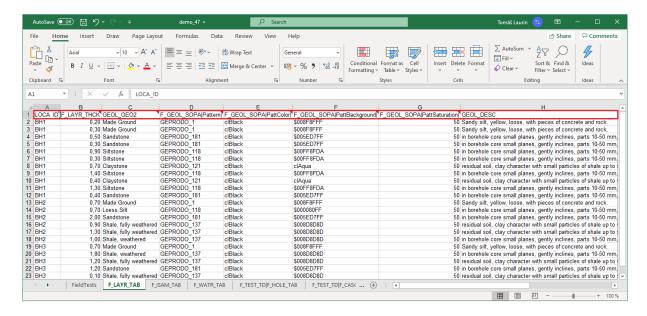

After the import, we can see:
- The edited "BH3" borehole has replaced the original "BH3" borehole
- The borehole BH2 with the incorrect Y coordinate has been imported, and is displayed as "out of site"
- The boreholes "BH1 - edited" and "BH - new" have been loaded, but BH1 - edited" do not create a profile, as its coordinates are equal to the ones of already existing boreholes.
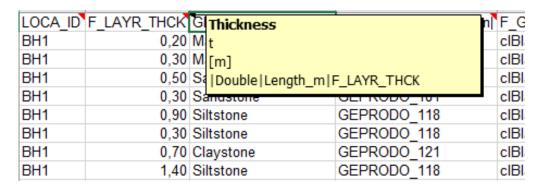
Naming individual exported and imported data (mapping)

In the previous example, we exported tests using AGS mapping. This means that the individual columns and tabs in the file were named according to the AGS 4.0.4. standard. However, for work with the spreadsheet, this naming could be inconvenient.
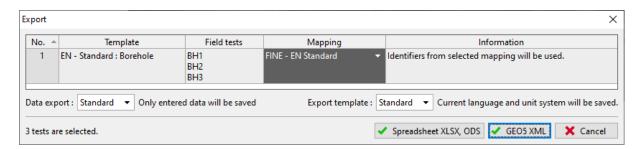

The program exports the name, symbol, unit, and the variable type into the comments in each cell.
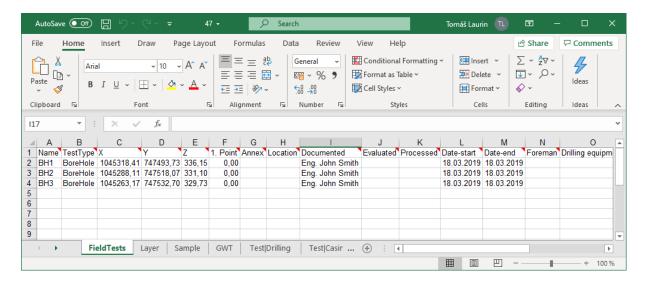

This however might not suit everybody. Therefore it is possible to use other local mapping, or create a new one according to our needs.

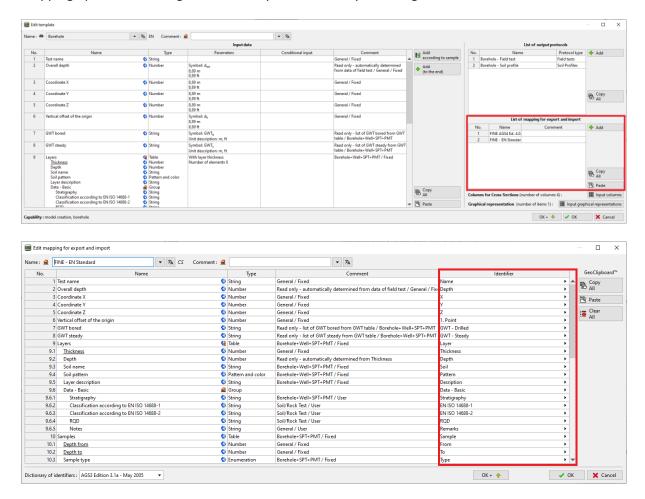We will export the same file with the "FINE-EN Standard" mapping.

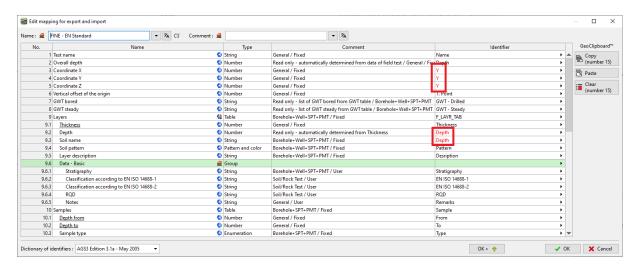The identifiers in the spreadsheet are now replaced with standard names.

The mapping is defined in the template. One template can have several mapping options. All templates contain the AGS mapping set as default, while some templates also contain different mapping options according to the country for which they are designed.

It is also possible to create user-defined mappings. When creating a mapping, it is necessary to keep in mind that each identifier has to be unique and clear. The program warns us if the same identifier is already used by displaying it in red. Having multiple values with the same identifier can cause problems when importing the data.
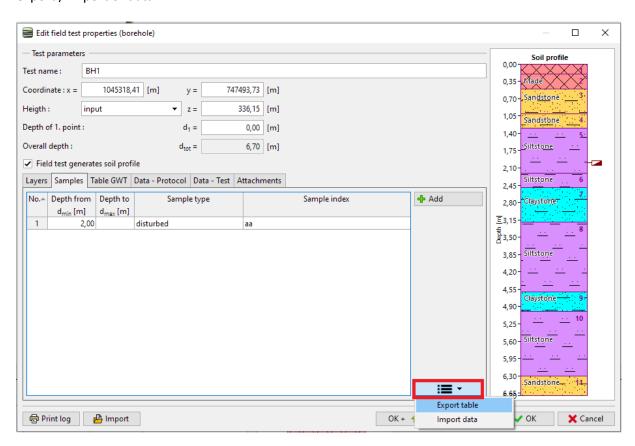
Export / Import data from spreadsheets

In many cases, we don't need to work with the whole field test, but only edit / import external data from the spreadsheet. Function Export/Import is available in most GEO5 programs

We will describe this function on the table of samples in the BH1 borehole. Press the button for export / import of data.
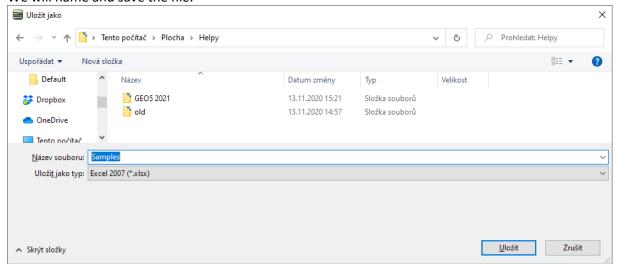

Note : *Button* *is located alongside the tables in all GEO5 programs. It may contain different options for work with the table, such as:*
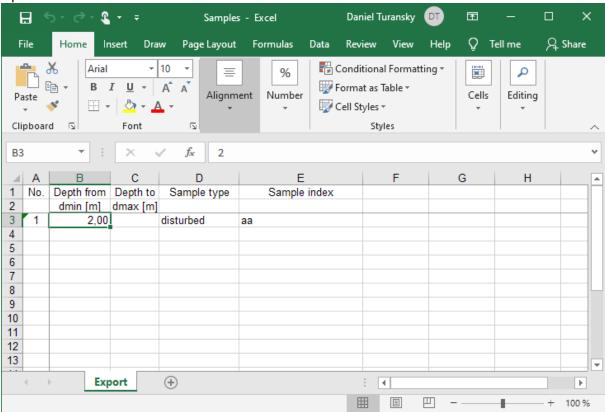- *Export table*
- *Import data into table*
- *Exchange values of columns in the table*
- *Edit values in columns*
- *Remove rows with data outside the range etc.*
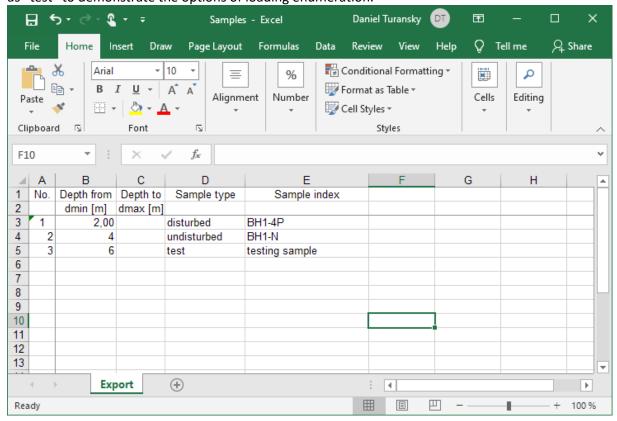
We will name and save the file.
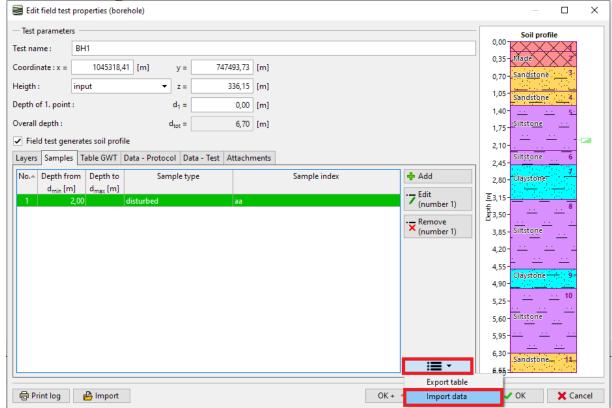

Open the saved file in MS Excel.

We will edit the name of the first sample and add two more. We named the type of the third sample as "test" to demonstrate the options of loading enumeration.
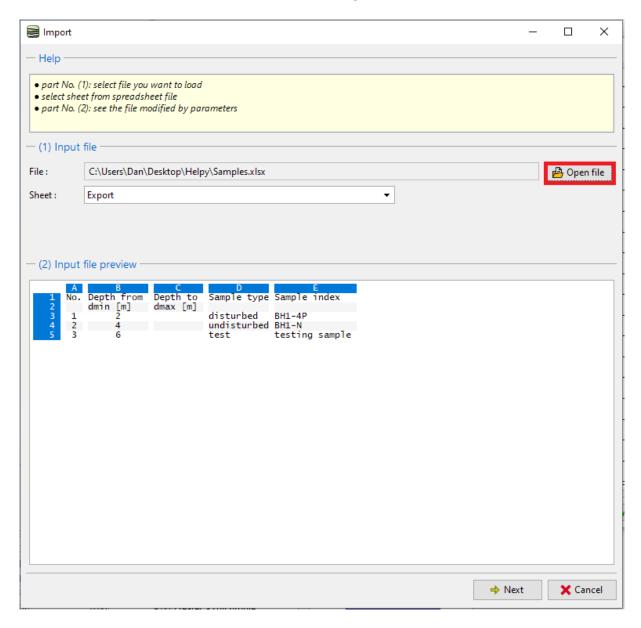

Return to the dialog window in the Stratigraphy program and press import.

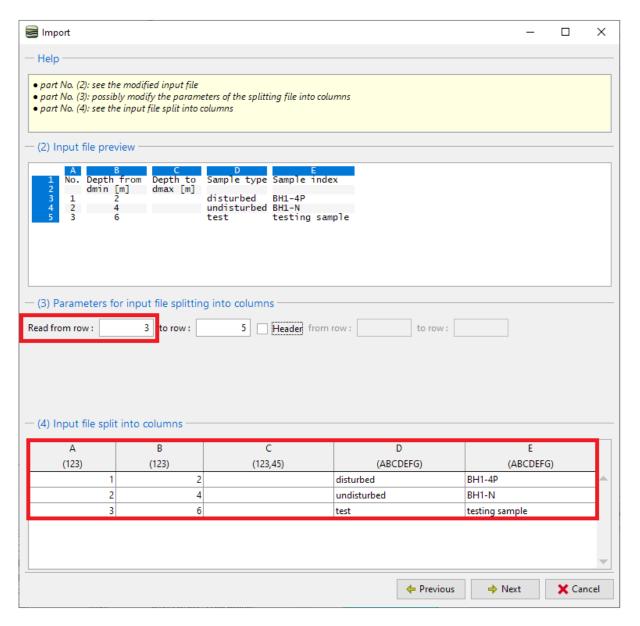We will load the file. The data will be shown in the dialog window.

Note: *In this case, we import data which we exported from the table before. It is however possible to import any table data from different sources in different formats.*

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In the next section (3), we can select which rows we want to import. In our case data start on row 3. The selection of rows is also important when we only need to import part of the data – e.g. samples related to the given borehole.

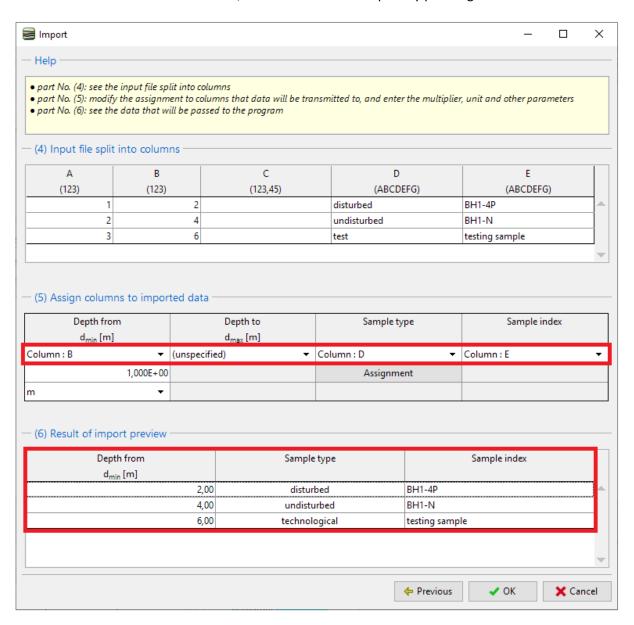In section (4) we can see the input file divided into individual columns.

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Next, we will assign each column of the table a column of the imported data. Individual data of the column can be multiplied using any coefficient. This is important for example when changing units or sign.
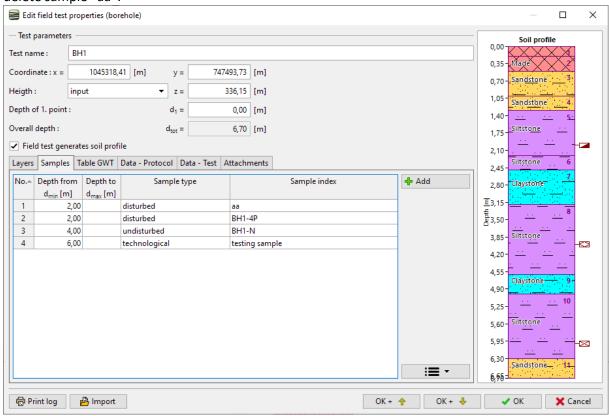
In section (6) we can view the result of the import. Sample type "test" does not exist. The program therefore tried to find the closest option of the enumeration – in this case "technological". The type can always be changed after the import, or even add a new option into the enumeration.

When we are satisfied with the result, we can confirm the import by pressing "OK".

The loaded data is displayed in the table. When importing, the program does not overwrite or delete the original data – the imported rows are loaded after the existing data. In our case we need to delete sample "aa".

The import and edit of samples is now finished.