Creation of User-defined Template

Program: Stratigraphy – Logs
File: Demo_manual_44.gsg

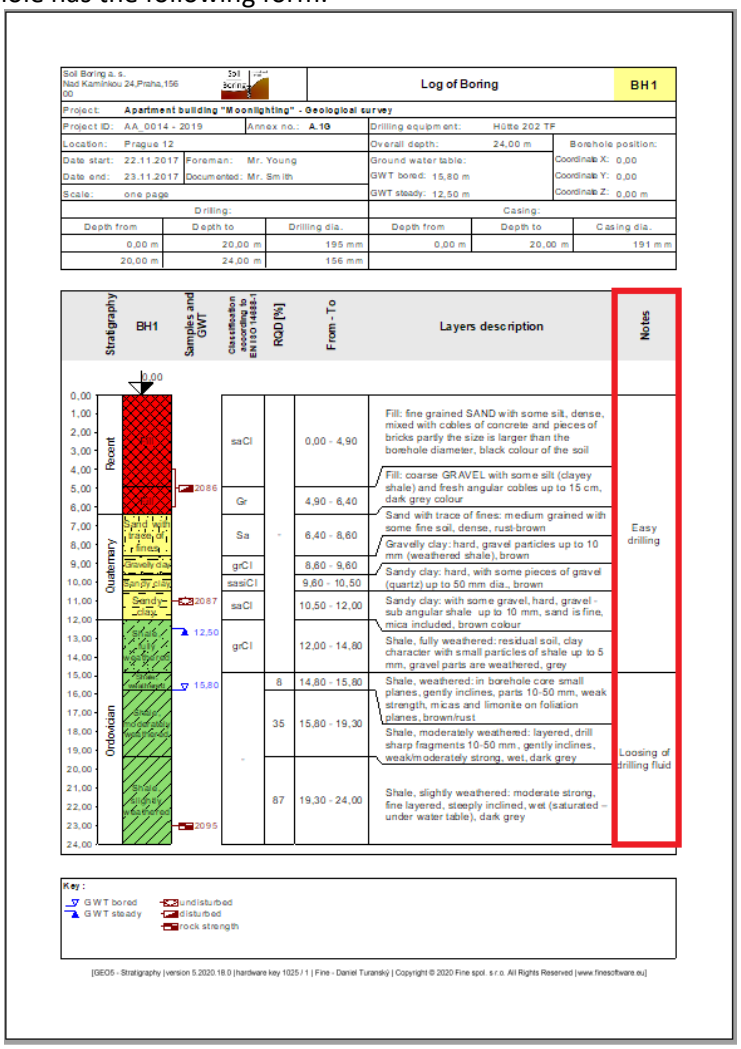
Every country or company has its requirements for the form of the field test report. The stratigraphy program allows you to define any data and protocols within the template set. The goal of this engineering manual is to show how you can create these templates and edit them

Assignment
Modify the **"EN-Standard"** template set for borehole so that:

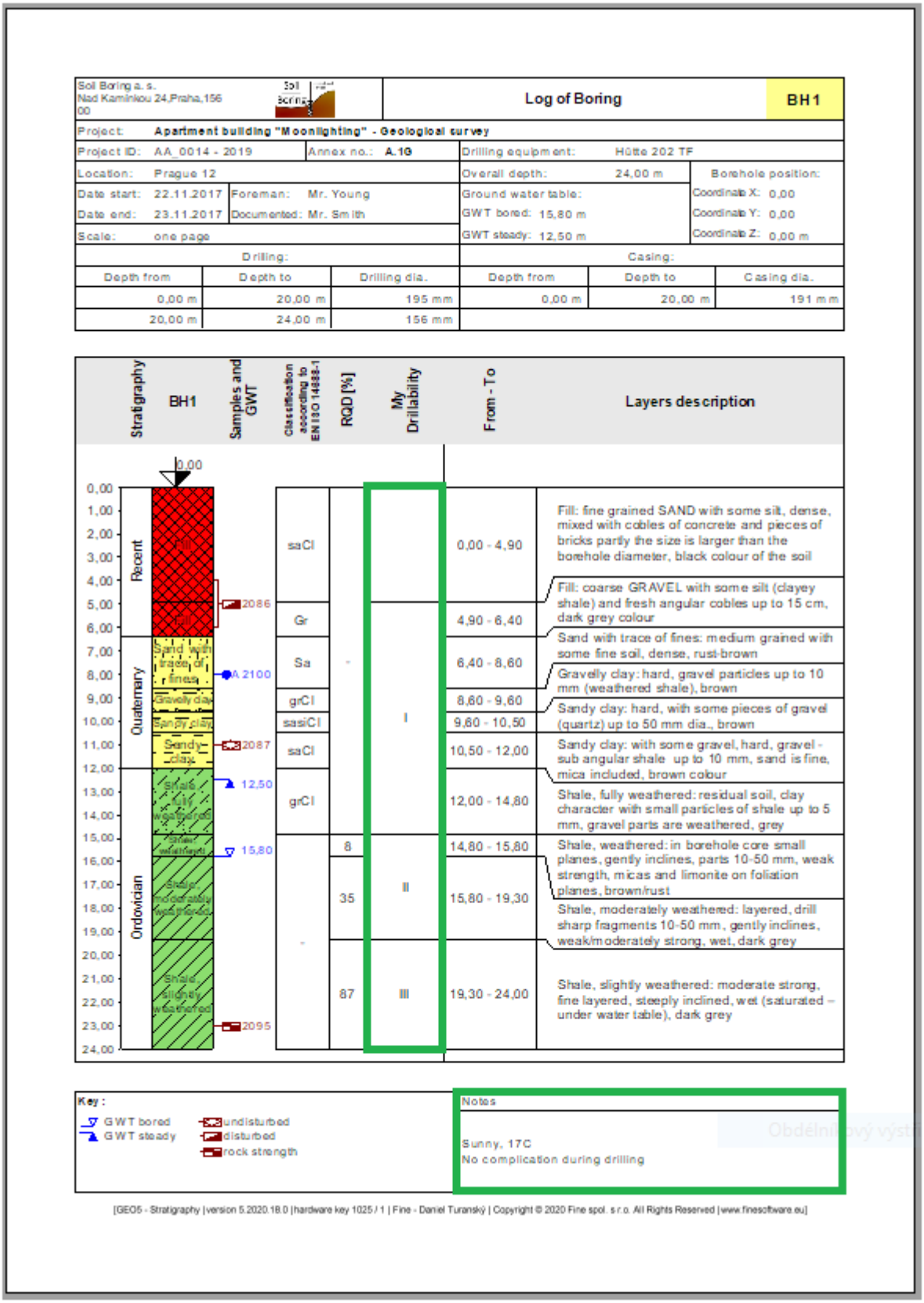
- The layers will include text data "My Drillability"
- The notes were not entered for the individual layer but only for the entire borehole
- Contained new types of samples "*Aggressivity*" and "*Rock strength – Schmidt*"

Use the data from the previous Engineering Manual – Demo_manual_42.gsg. Name the newly created template set EM 44 and save it in the Templates Administrator for future use.

Next, modify the output protocol so that it will match the new data. The output log of the "EN-Standard" template set for borehole has the following form:



The required form of the protocol:



Soil Boring a. s.
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Log of Boring — **BH1**

Project:	Apartment building "Moonlighting" - Geological survey				
Project ID:	AA_0014 - 2019	Annex no.: A.10	Drilling equipment:	Hütte 202 TF	
Location:	Prague 12		Overall depth:	24,00 m	Borehole position:
Date start:	22.11.2017	Foreman: Mr. Young	Ground water table:		Coordinate X: 0,00
Date end:	23.11.2017	Documented: Mr. Smith	GWT bored:	15,80 m	Coordinate Y: 0,00
Scale:	one page		GWT steady:	12,50 m	Coordinate Z: 0,00 m

Drilling:

Depth from	Depth to	Drilling dia.
0,00 m	20,00 m	195 mm
20,00 m	24,00 m	156 mm

Casing:

Depth from	Depth to	Casing dia.
0,00 m	20,00 m	191 mm

Stratigraphy	BH1	Samples and GWT	Classification according to EN ISO 14688-1	RQD [%]	My Drillability	From - To	Layers description
Recent	Fill	2086	saCl			0,00 - 4,90	Fill: fine grained SAND with some silt, dense, mixed with cables of concrete and pieces of bricks partly the size is larger than the borehole diameter, black colour of the soil
	Fill		Gr			4,90 - 6,40	Fill: coarse GRAVEL with some silt (clayey shale) and fresh angular cables up to 15 cm, dark grey colour
Quaternary	Sand with trace of fines	A 2100	Sa	-		6,40 - 8,60	Sand with trace of fines: medium grained with some fine soil, dense, rust-brown
	Gravelly clay		grCl			8,60 - 9,60	Gravelly clay: hard, gravel particles up to 10 mm (weathered shale), brown
	Sandy clay		sasiCl		I	9,60 - 10,50	Sandy clay: hard, with some pieces of gravel (quartz) up to 50 mm dia., brown
	Sandy clay	2087	saCl			10,50 - 12,00	Sandy clay: with some gravel, hard, gravel - sub angular shale up to 10 mm, sand is fine, mica included, brown colour
	Shale, fully weathered	12,50	grCl			12,00 - 14,80	Shale, fully weathered: residual soil, clay character with small particles of shale up to 5 mm, gravel parts are weathered, grey
Ordovician	Shale, weathered	15,80		8		14,80 - 15,80	Shale, weathered: in borehole core small planes, gently inclines, parts 10-50 mm, weak strength, micas and limonite on foliation planes, brown/rust
	Shale, moderately weathered		-	35	II	15,80 - 19,30	Shale, moderately weathered: layered, drill sharp fragments 10-50 mm, gently inclines, weak/moderately strong, wet, dark grey
	Shale, slightly weathered	2095		87	III	19,30 - 24,00	Shale, slightly weathered: moderate strong, fine layered, steeply inclined, wet (saturated – under water table), dark grey

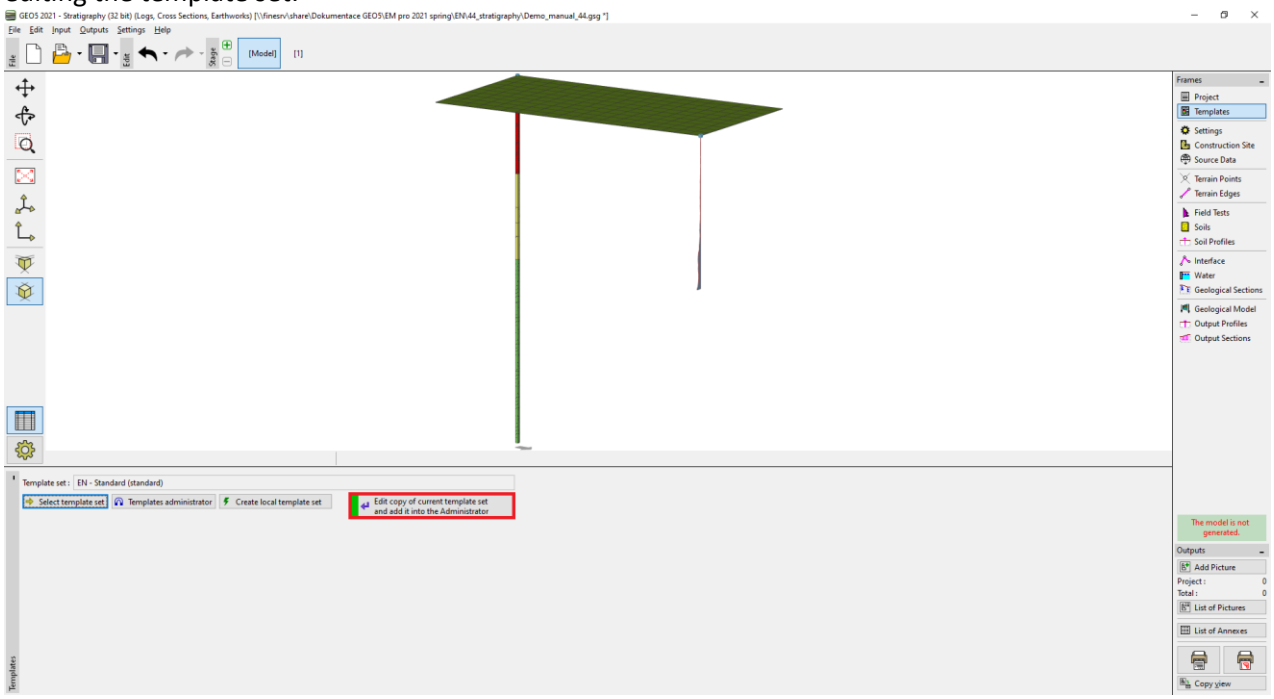
Key:
- GWT bored
- GWT steady
- undisturbed
- disturbed
- rock strength

Notes

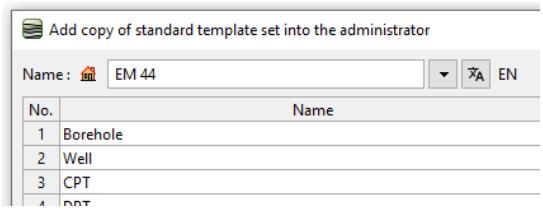
Sunny, 17C
No complication during drilling

Solution:

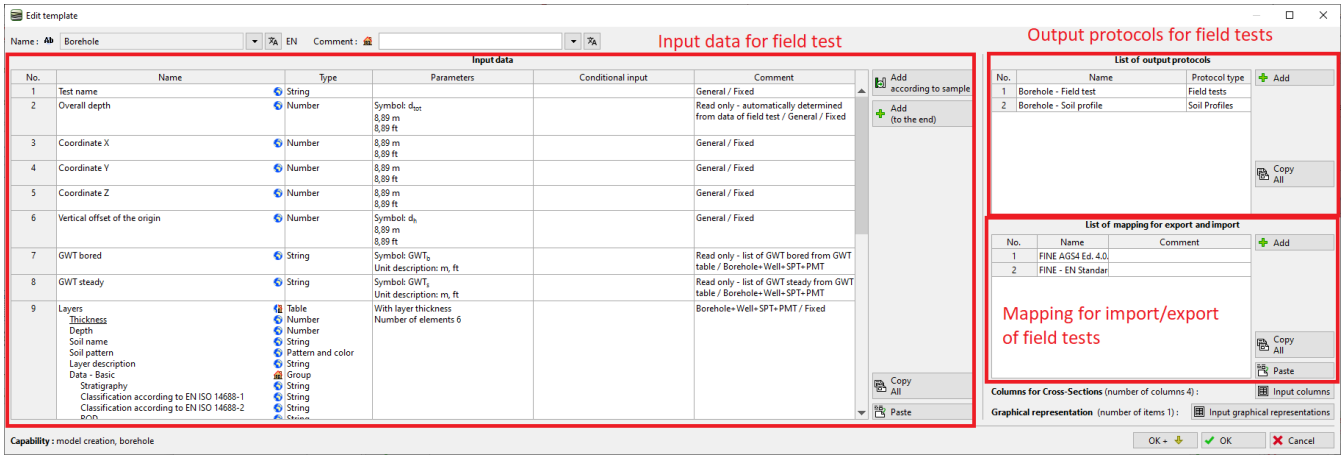
First, open the Demo_manual_42.gsg file, which contains the test data. In the Templates frame, check whether you have set the template set you want to edit – "EN – Standard" (If a different template set is selected, we can change it by clicking the "Select Template" button in the list of templates). Press the "Edit copy of current template set and add it into the Administrator" button to enter the window for editing the template set.



We name the new template set "EM44". After editing, the template is saved into the "Templates administrator".

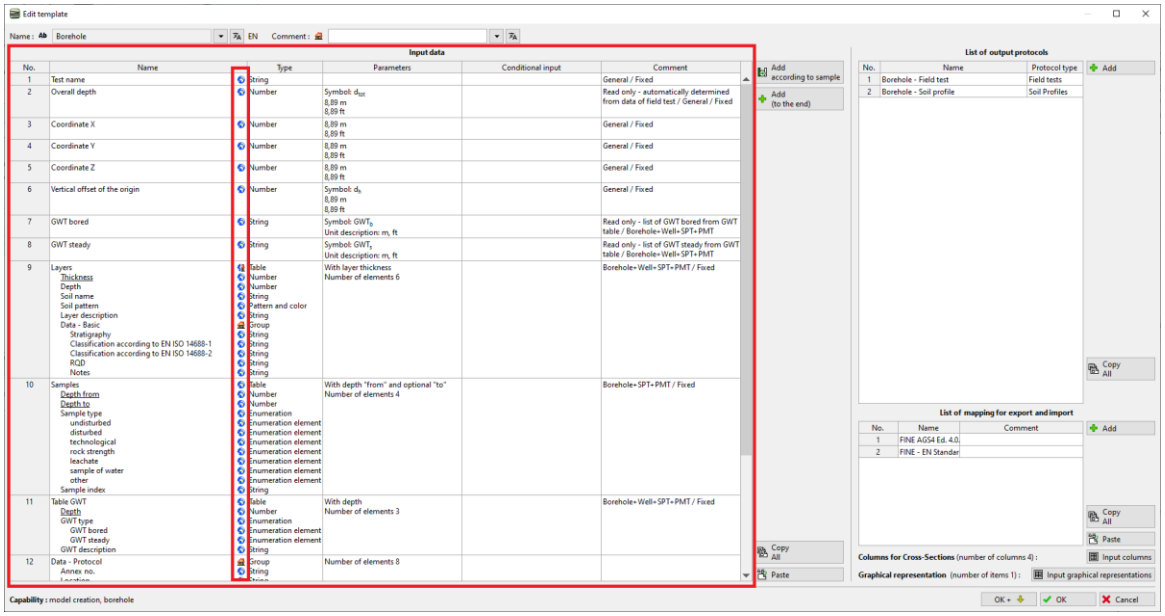


In the table, we select template No. 1 (Borehole). In the "Edit template" window, we can see that the template contains the data of the selected test (left part of the window) and the protocols on how to print the data (right part of the window). Next, the mapping for import/export is in the right corner of the window (more information in EM47 – Export and Import of Field Tests in the Stratigraphy).



Note: Within the one template, we can define the data for all types of tests that the Stratigraphy program supports (Borehole, Well, CPT, DPT, SPT, DMT a PMT) and the form of all output protocols of the entered data.

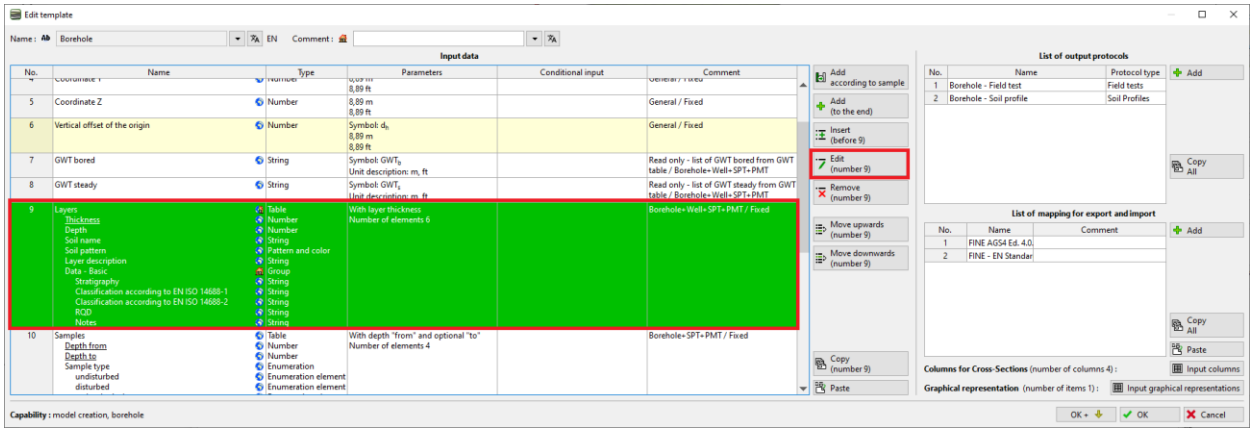
Firstly, we will focus on data editing. In the left part of the window, all data contained in the template are displayed.



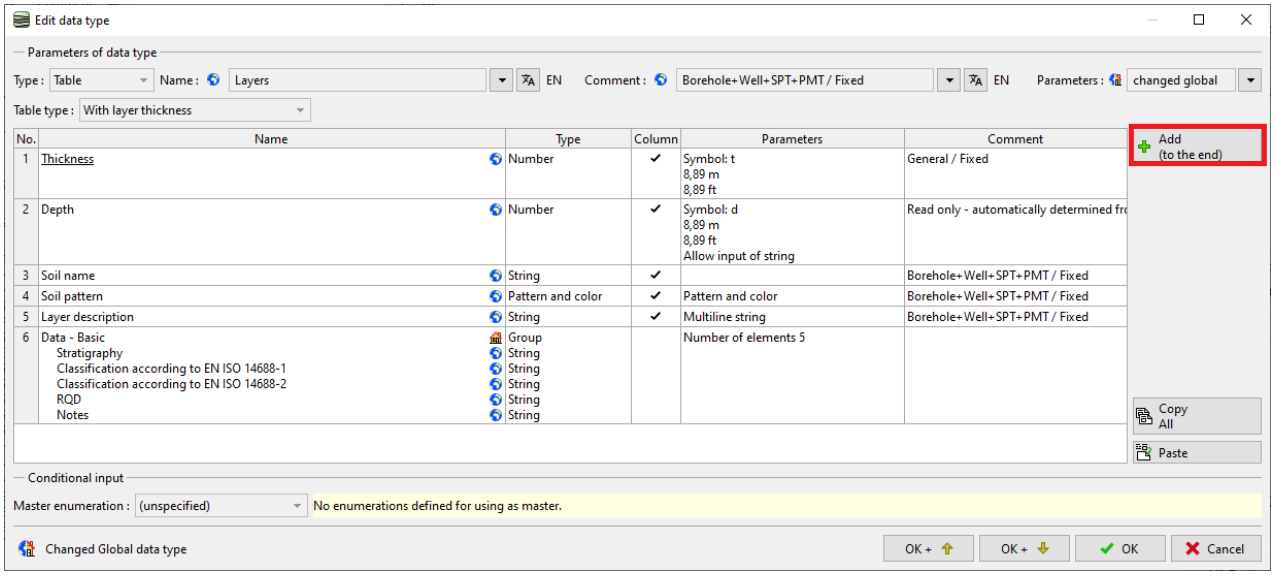
Note: The individual data have auxiliary markings for clarity, that helps the user to orientate.

1. *House ( ) – indicates that the data type was created and named by the user*
2. *Globe ( ) – indicates that the data type was selected from the "Global Library". The global library contains predefined data types that the user can insert into his template.*
3. *Globe with a house ( ) – indicates that the data type was selected from the global library and subsequently modified by the user.*

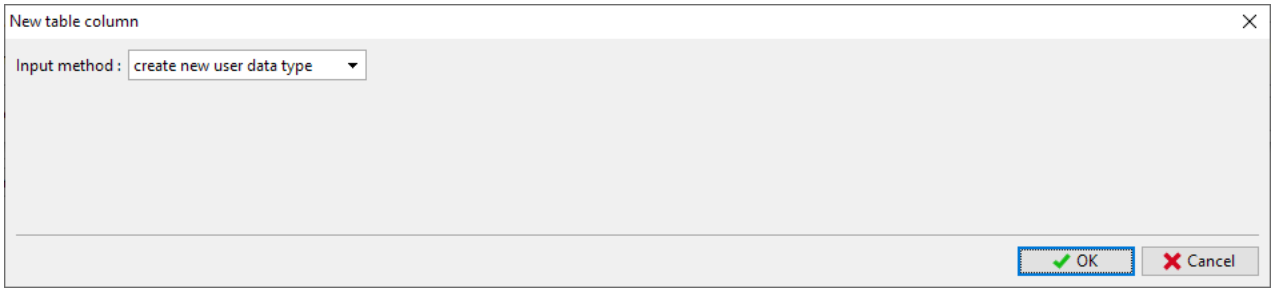
We enter a new layer property – “My Drillability”. On the “Borehole” tab, select the item – no.9 “Layers” and click on the “Edit” button (You can also double click it with a mouse)



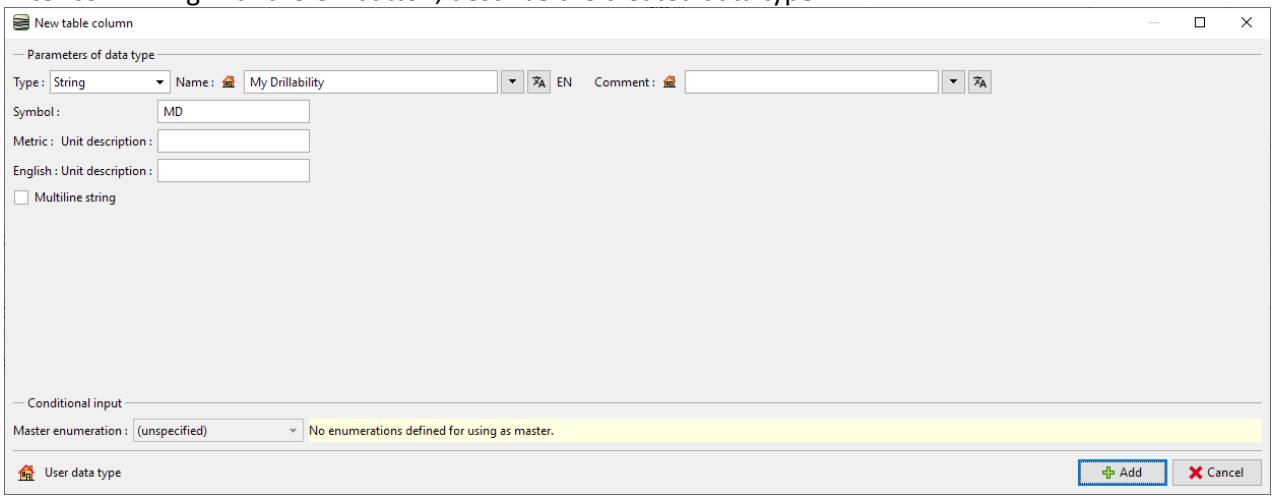
The “Edit data type” dialog window will open. It contains the soil layer data.



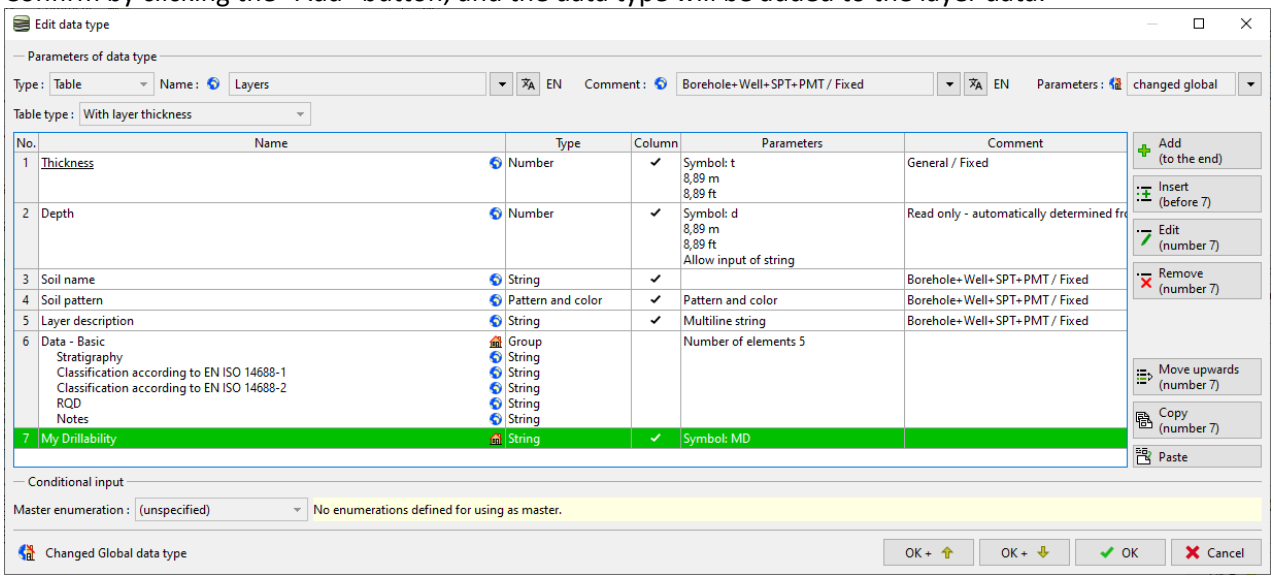
Click the “Add” button to add a new item.



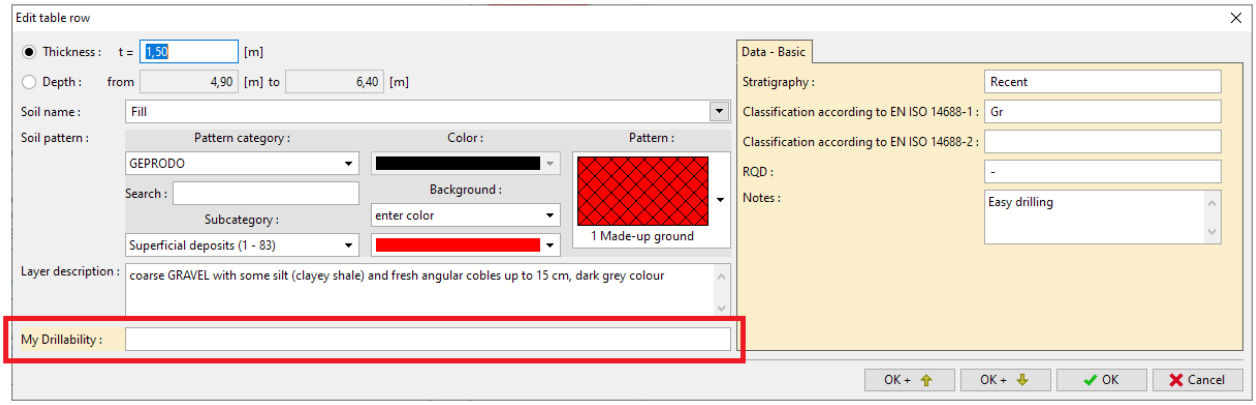
After confirming with the OK button, describe the created data type.



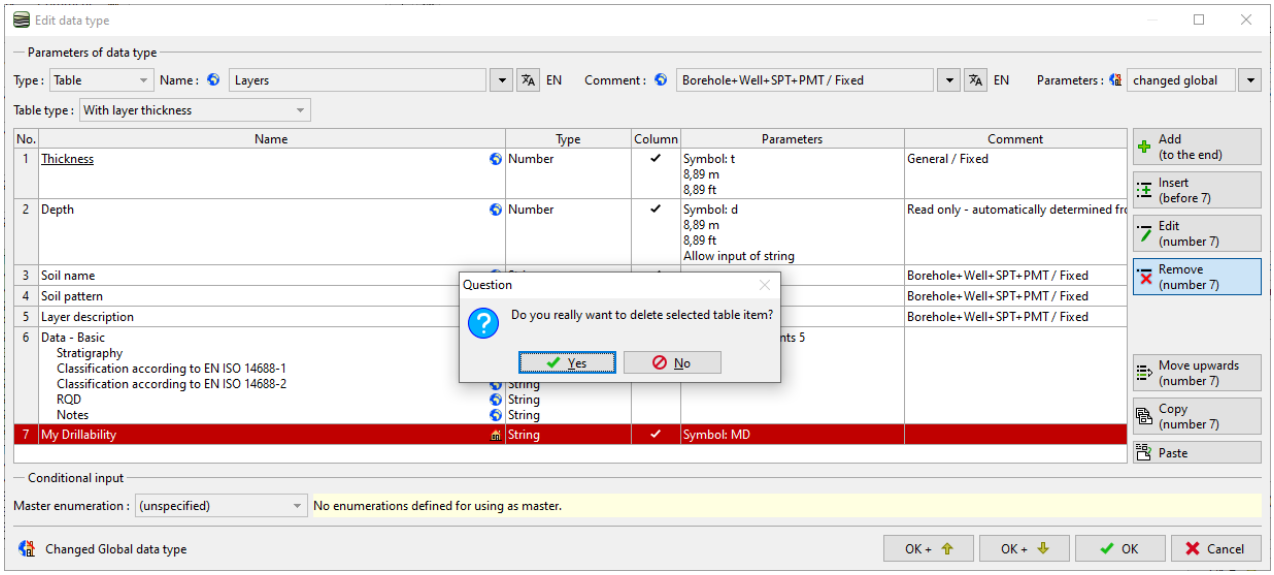
Confirm by clicking the “Add” button, and the data type will be added to the layer data.



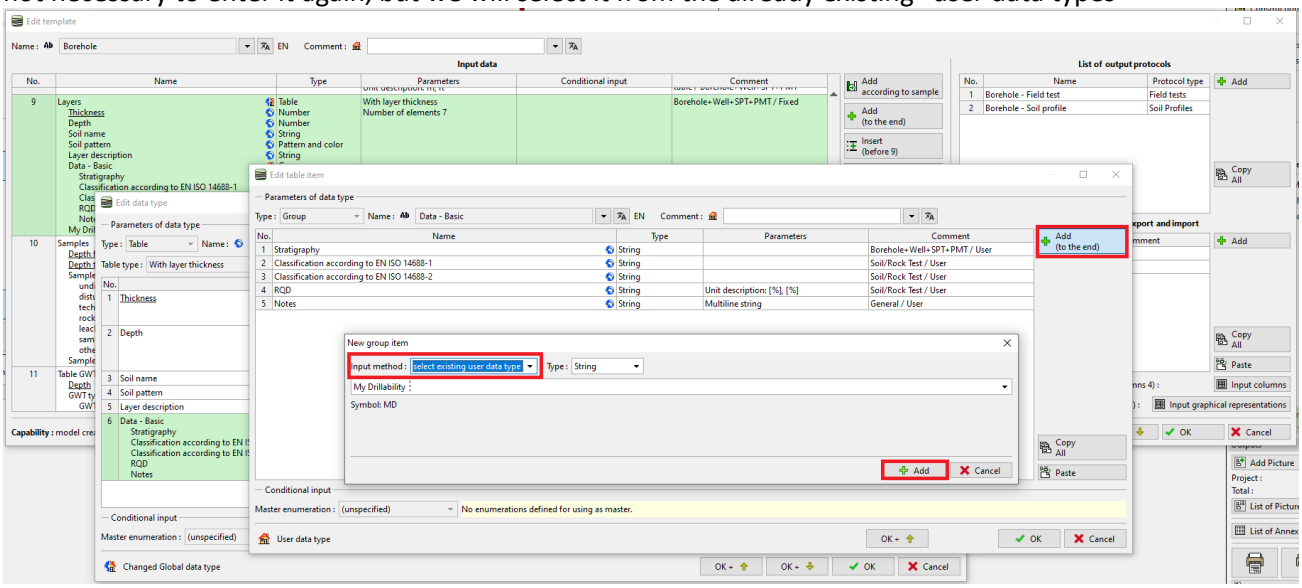
We will stop entering and take a look at how the newly created data is entered. We will go to the borehole editing and borehole layer editing. The new data type “My Drillability” is displayed in the main part of the window.



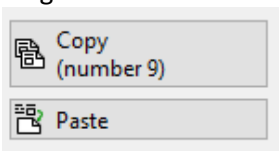
The input is little bit unclear, so we have decided to modify the data. We want “My Drillability” item as part of the “Data – basic” tab on the right side of the dialog window. Therefore, we will go back to template editing and layer data editing. Firstly, we will delete our data type “My Drillability” that we had entered.



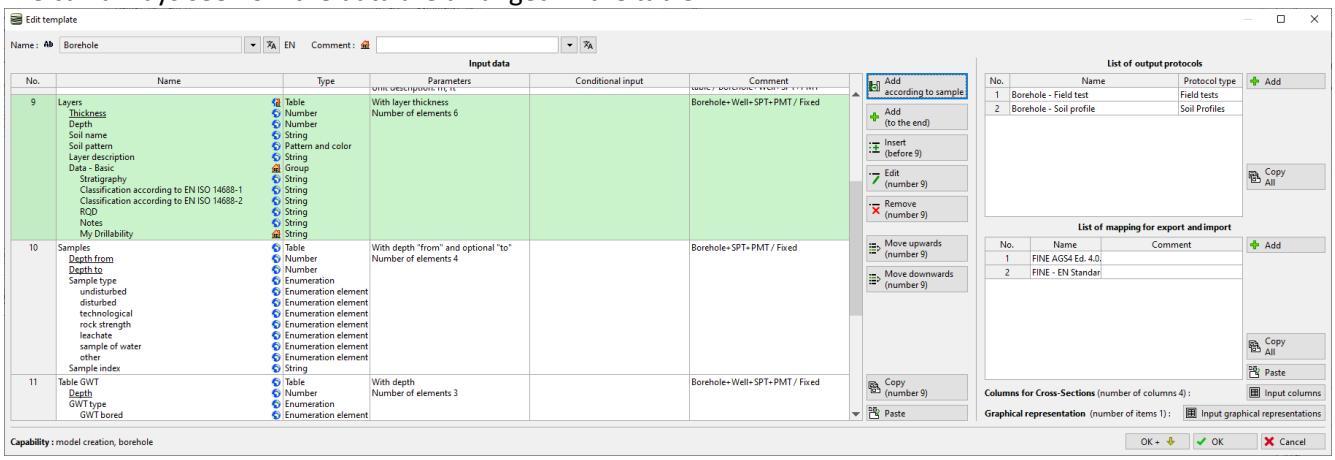
Then select the “Data-Basic” table and add our data type to it. Because we have already defined it, it is not necessary to enter it again, but we will select it from the already existing “user data types”



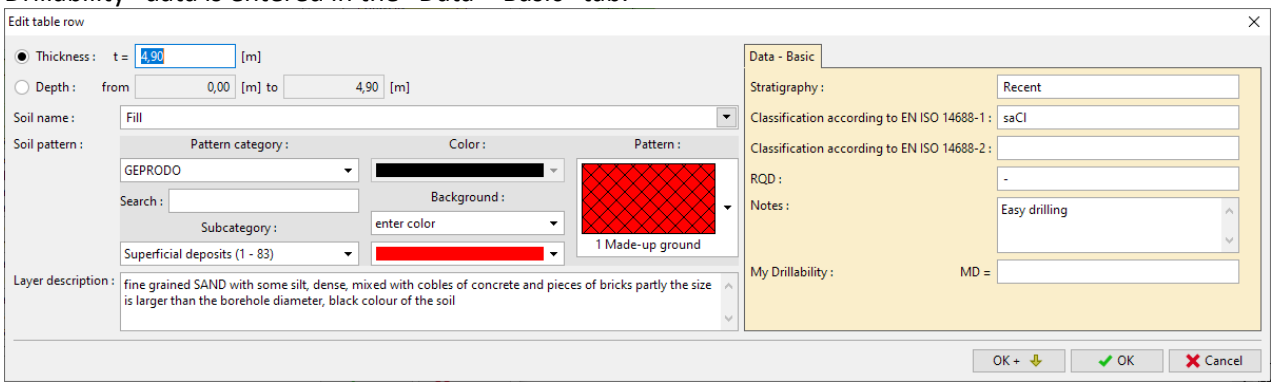
Tip: All data types can be copied/pasted using the buttons in the left bottom part of the table.



We can always see how the data are arranged in the table:



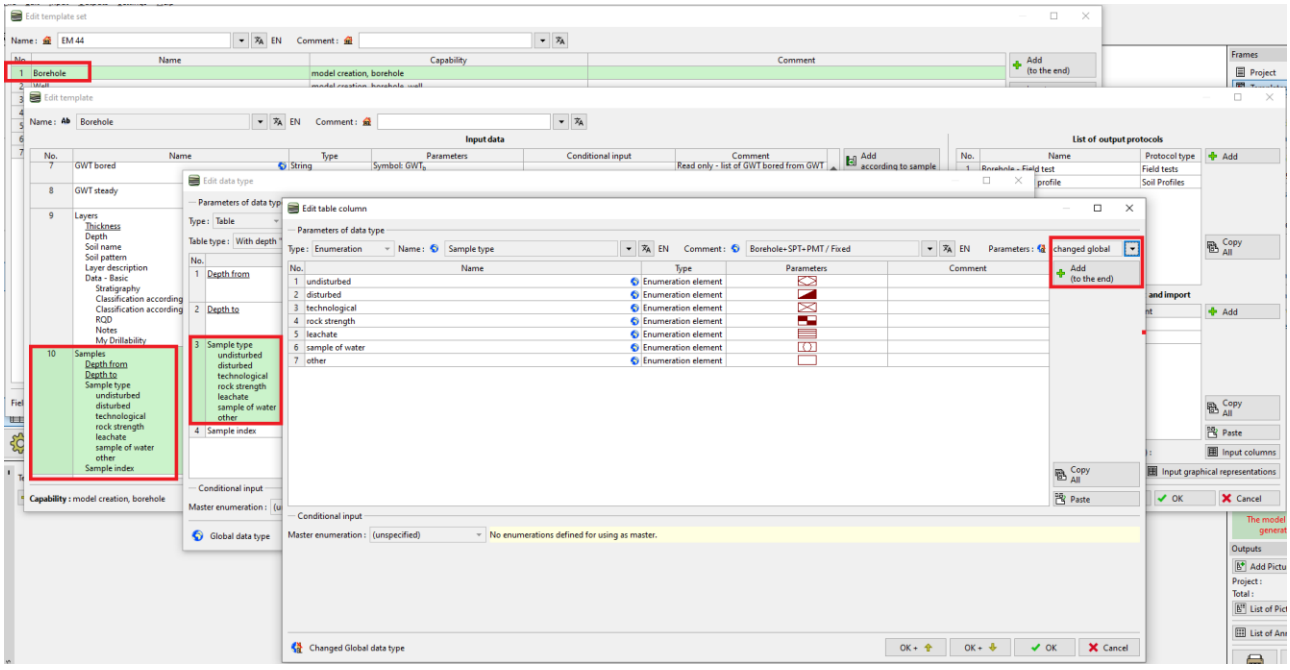
In the “Field Test” frame, we will check whether the assignment corresponds with our idea. Now the “My Drillability” data is entered in the “Data – Basic” tab.



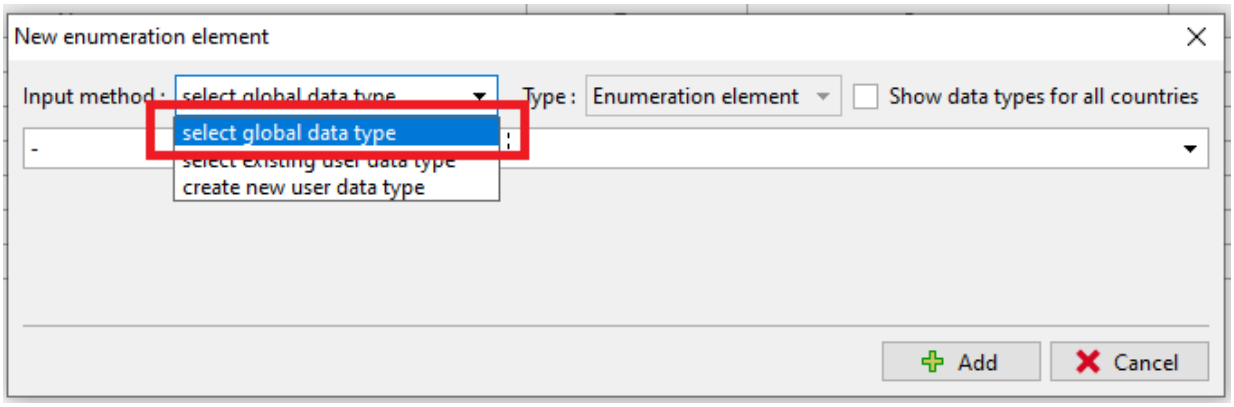
In the next step, we will add new “Samples”. We will return to entering the template and gradually select what we want to edit:

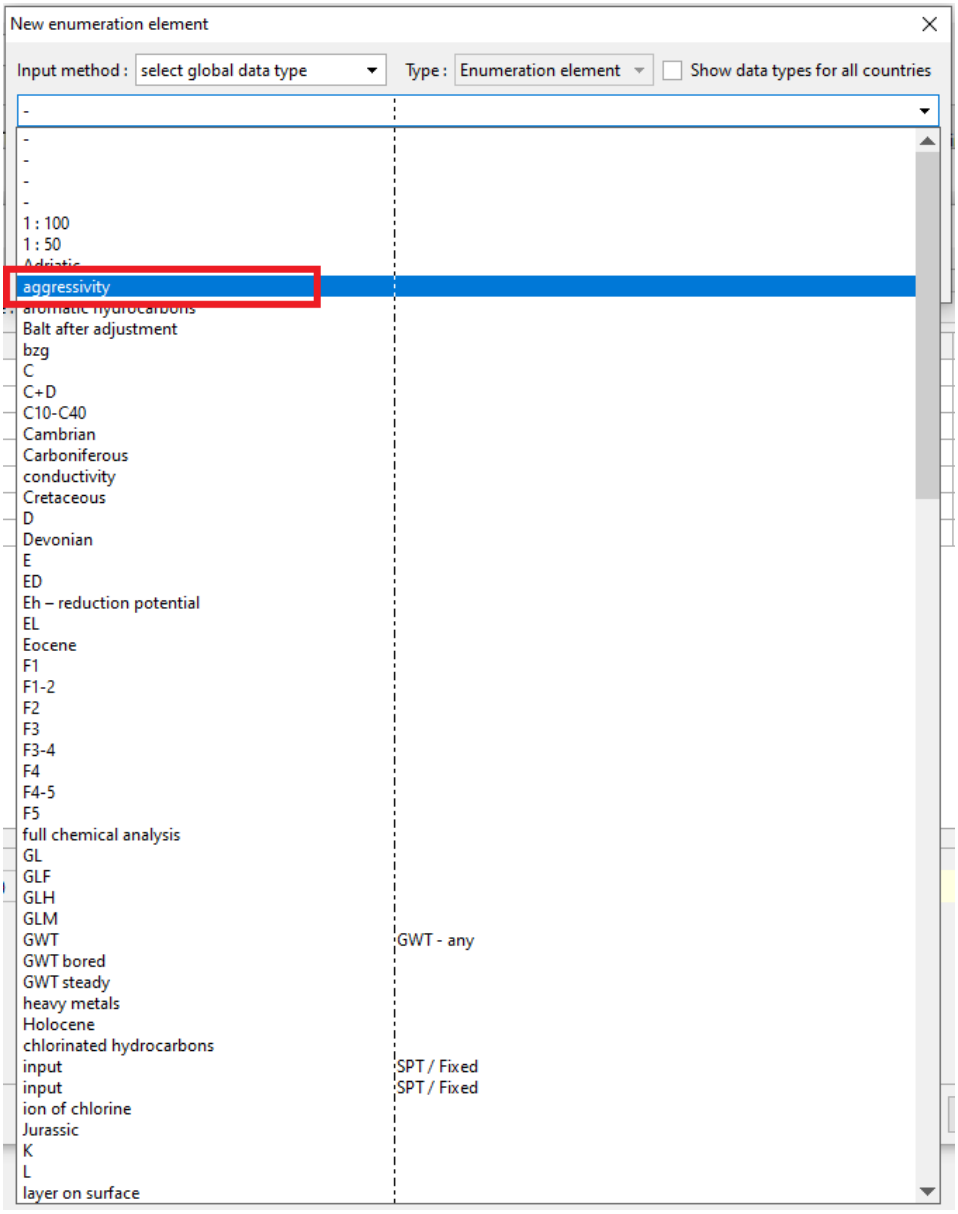
- Samples editing
- Editing sample types

In the upper right corner of the window, next to the “Parameters” item, click on the menu button and enable editing of the selected parameters – change the type to “fixed changed”. The “Add” button will appear, with which we will enter the new samples

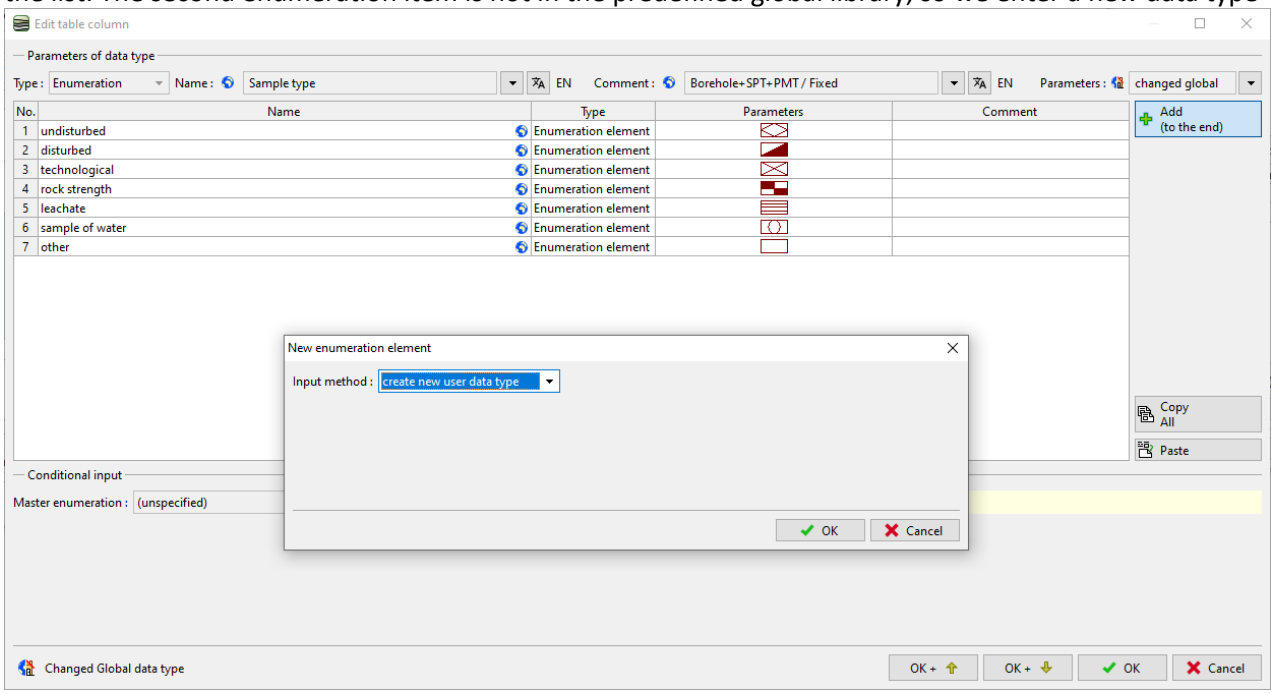


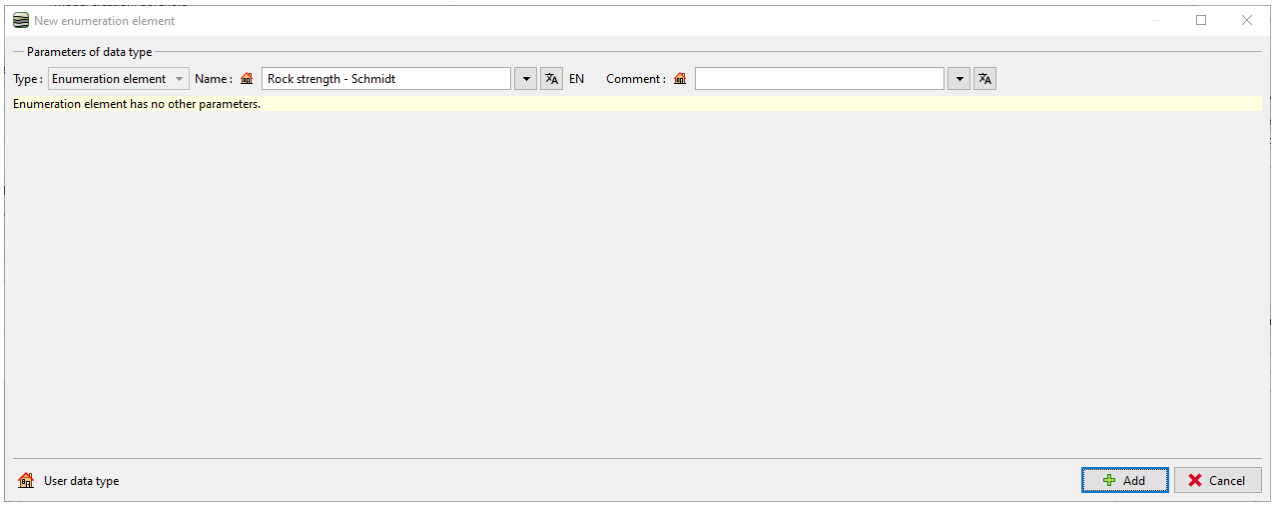
First, we add the “Aggressivity” sample. This data type exists in the “Global data library”. Select the option “Select global data type” and find the item aggressivity in the menu.



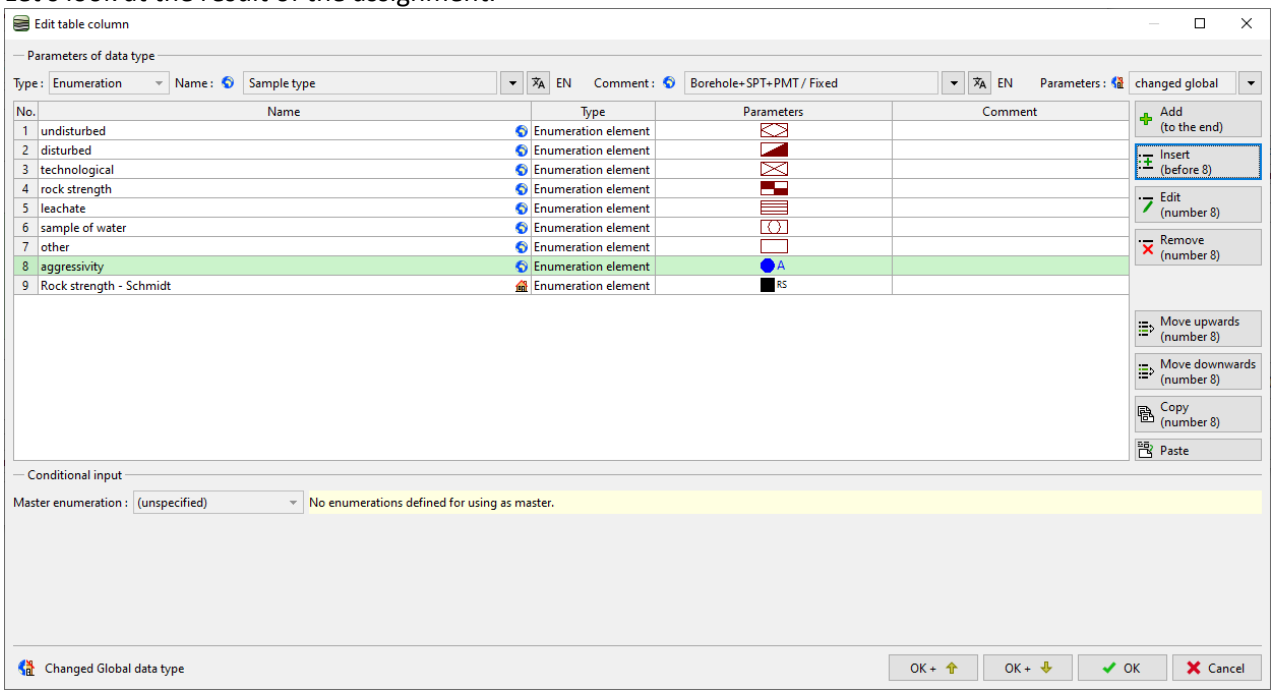


After pressing the “Add” button, we see that the new type of sample “Aggressivity” has been assigned to the list. The second enumeration item is not in the predefined global library, so we enter a new data type

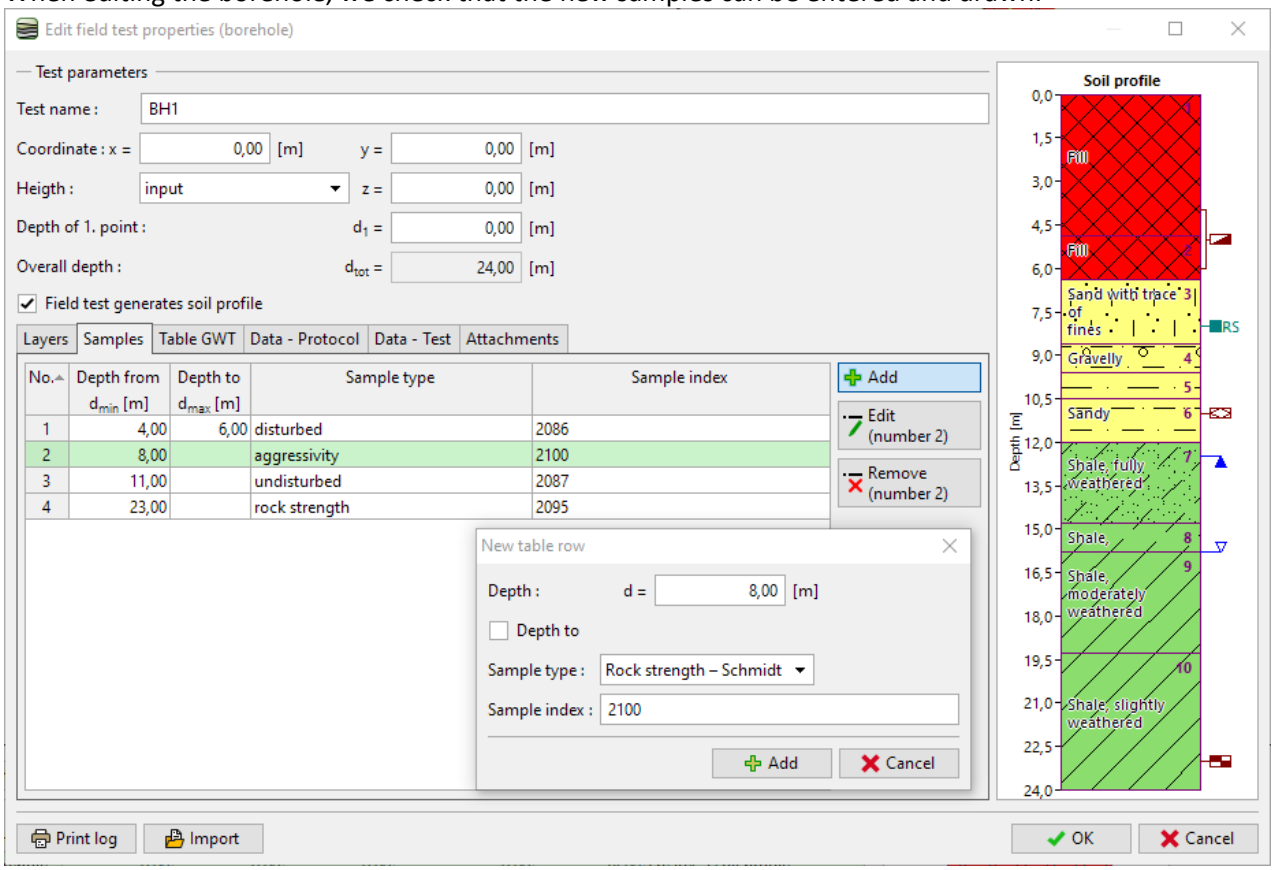




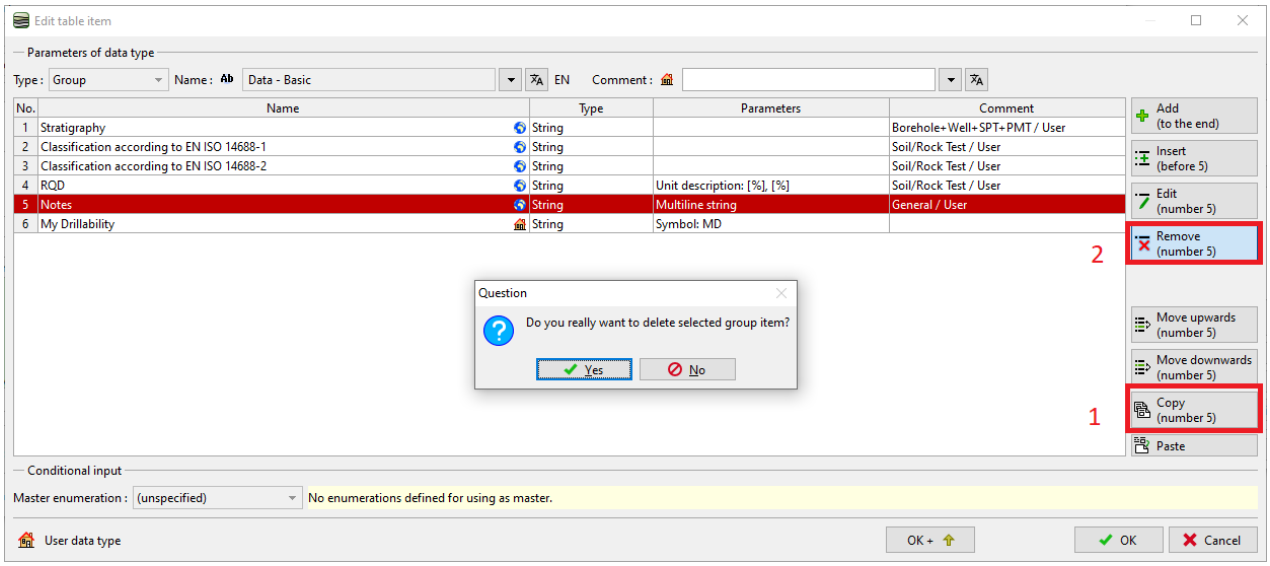
Let's look at the result of the assignment.



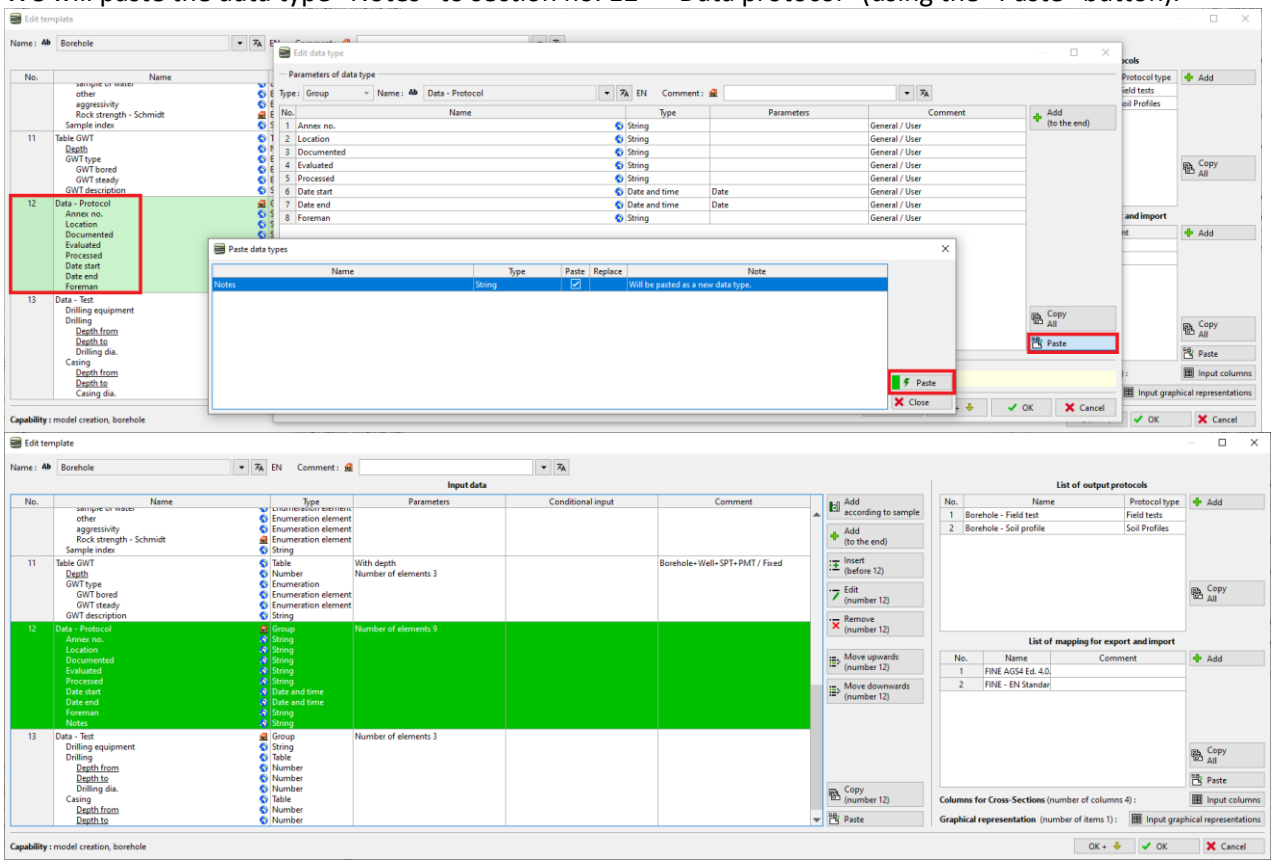
When editing the borehole, we check that the new samples can be entered and drawn.



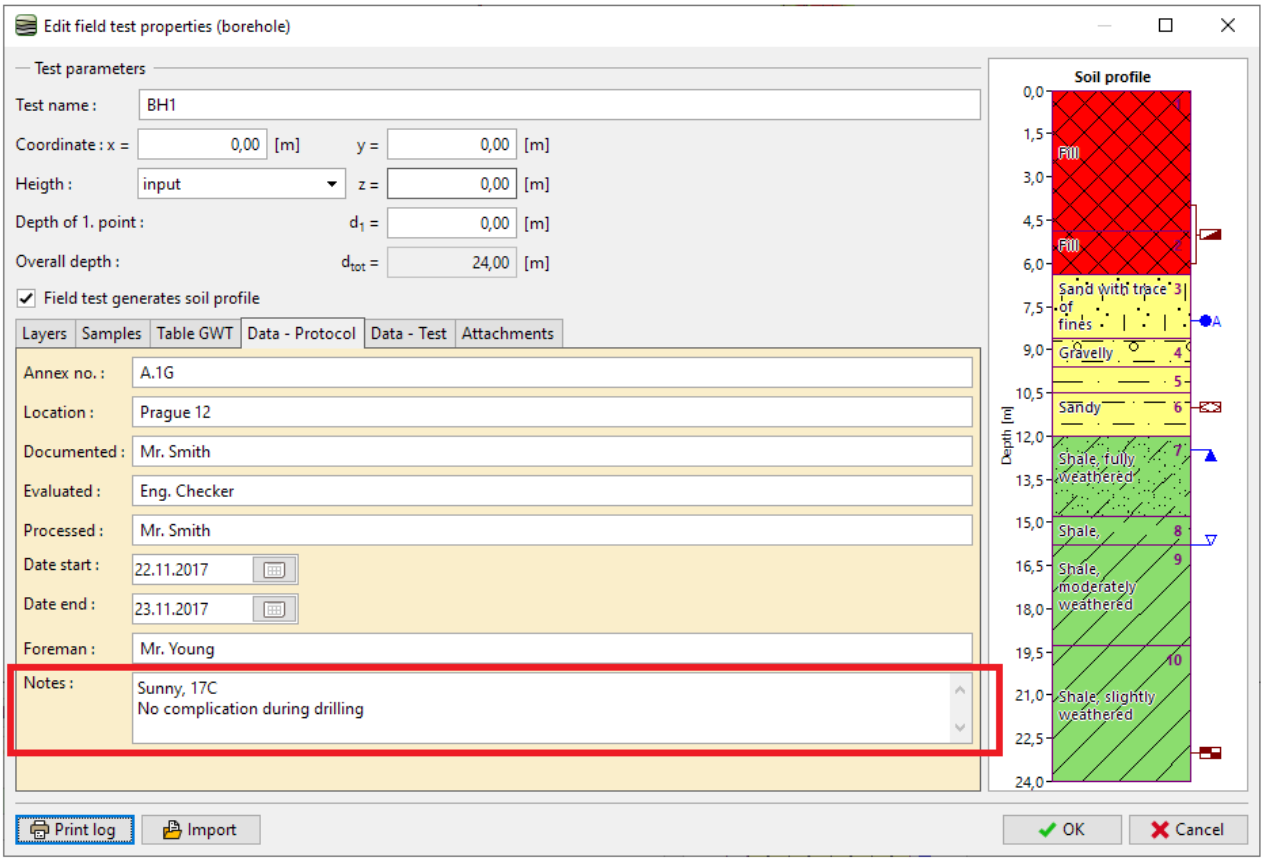
The last required data change is to **move the Notes from "Layers" data to "Borehole" data**.
This modification is simple – from the section no. 9 "Layers", "Basic data" we will **copy** and remove the data type "Notes".



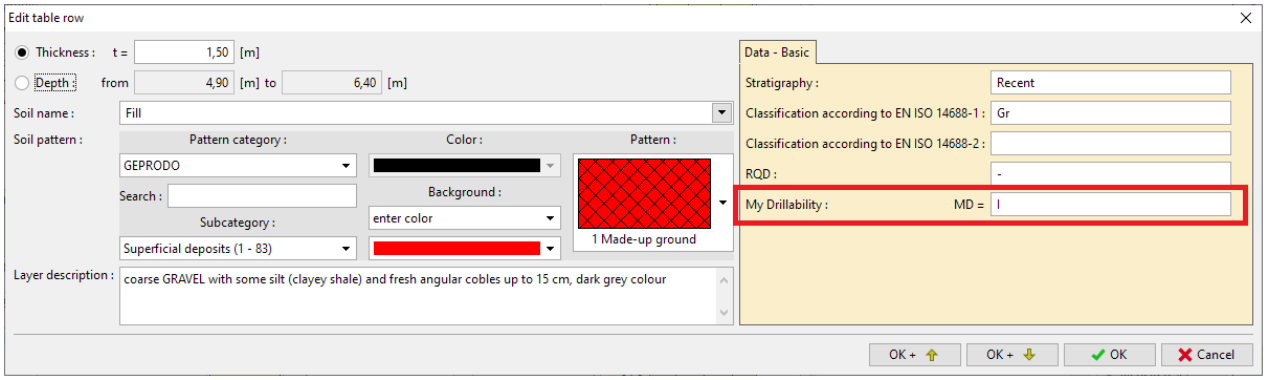
We will paste the data type “Notes” to section no. 12 – “Data protocol” (using the “Paste” button).



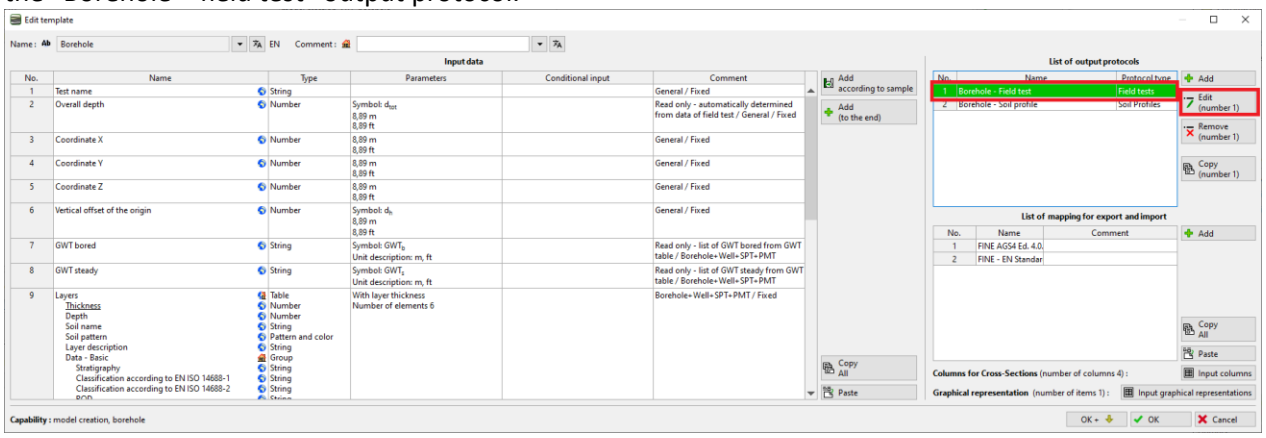
A note for the whole borehole will then be added in the “Data – Protocol” tab.



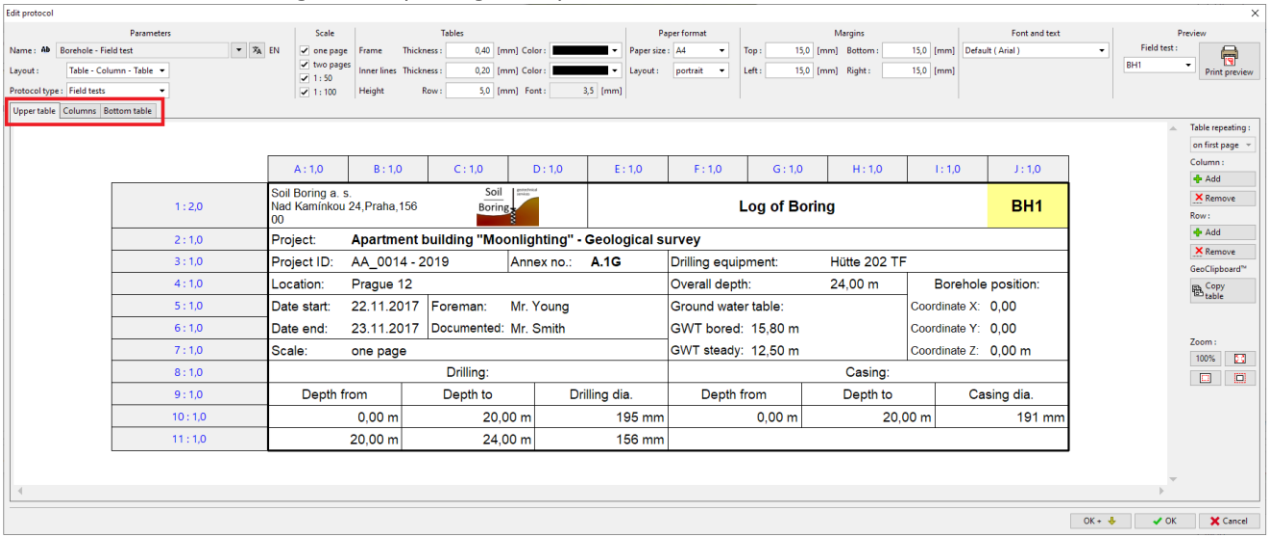
We enter the data “My Drillability” for the individual layers. The fastest way to complete the data is to open the first layer in the borehole, enter the drill value, and use the OK arrow button to move to the next layer.



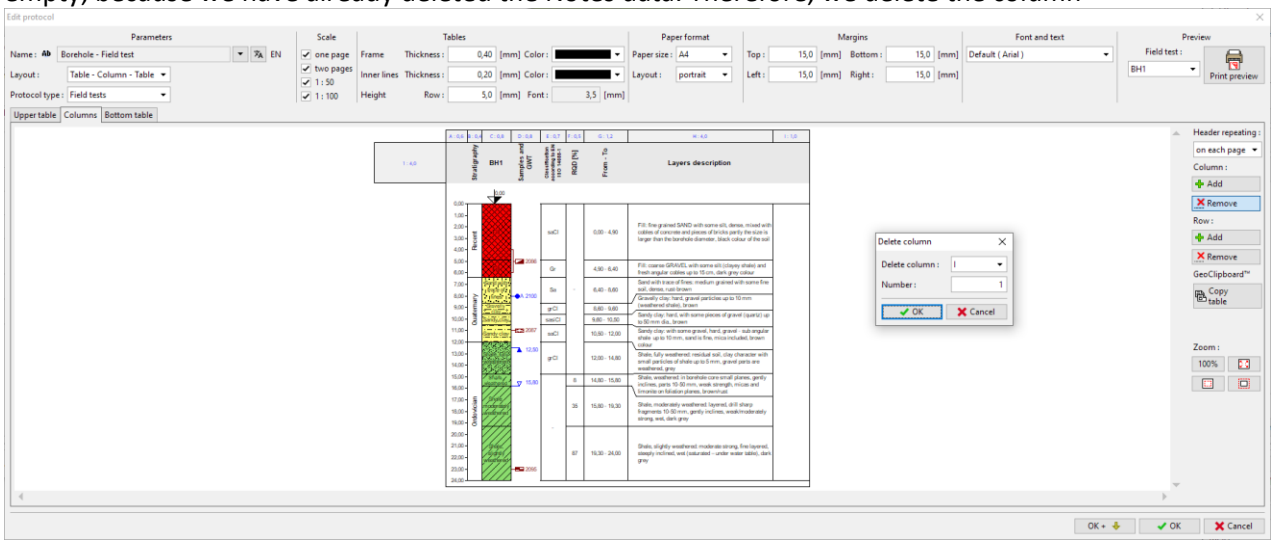
By doing this, we have the template data, and the data for the borehole entered. Now we need to adjust the output protocols to match the newly defined data. We go to the Output protocols section, and edit the “Borehole – field test” output protocol.



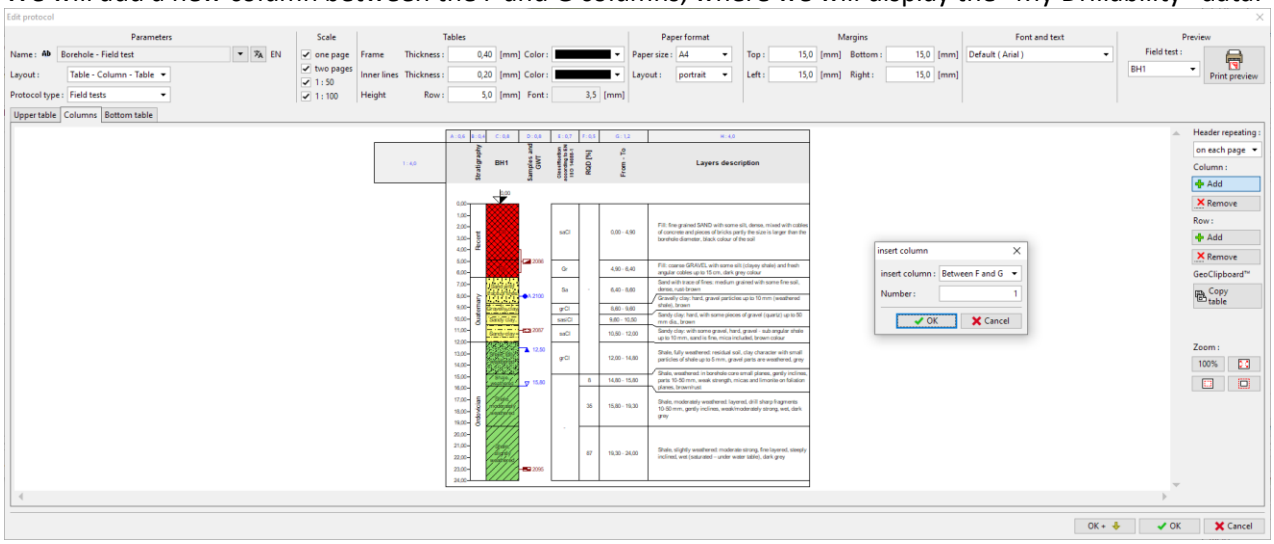
A new window for editing the output log will open. The window contains three tabs.



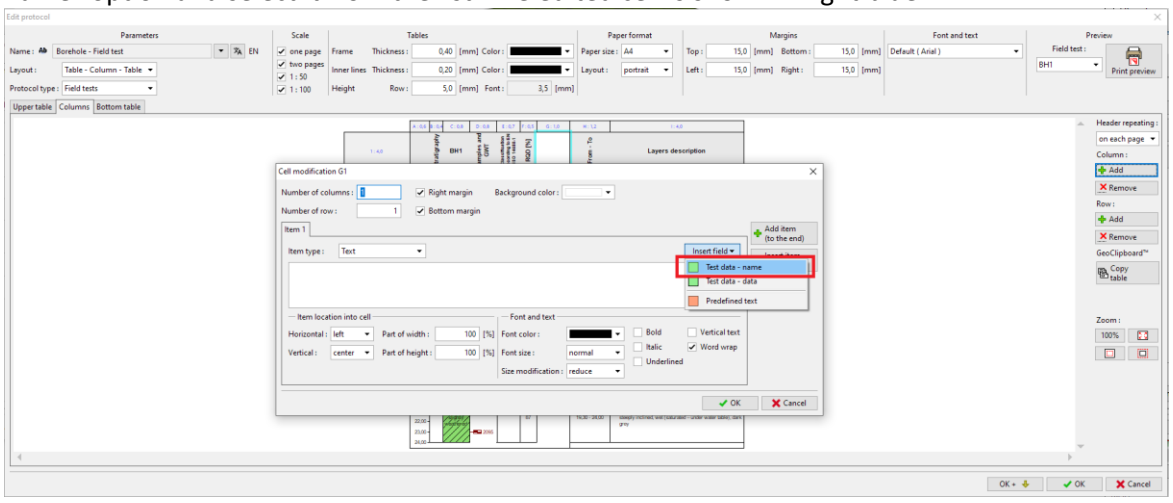
Switch to the Columns tab. On the screen, we see the form of the original protocol. The column “I” is empty, because we have already deleted the Notes data. Therefore, we delete the column



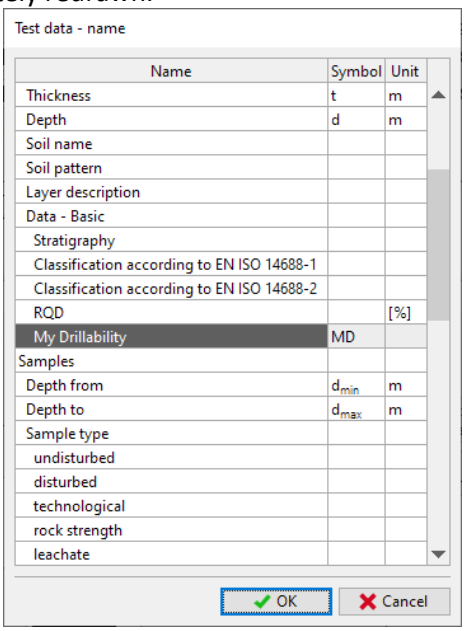
We will add a new column between the F and G columns, where we will display the “My Drillability” data.

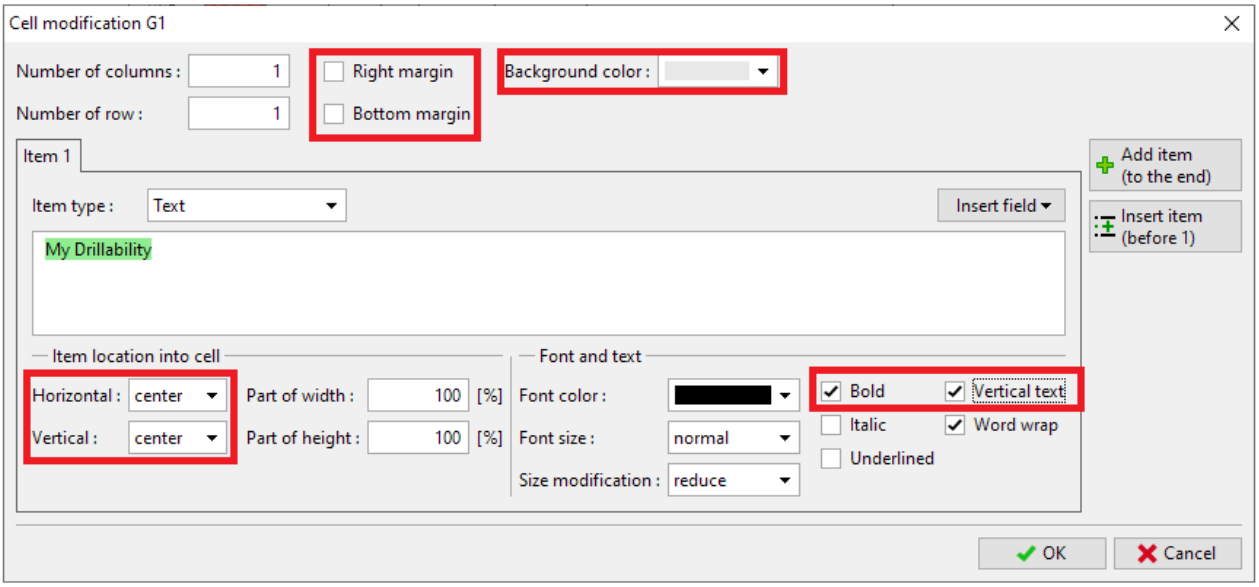


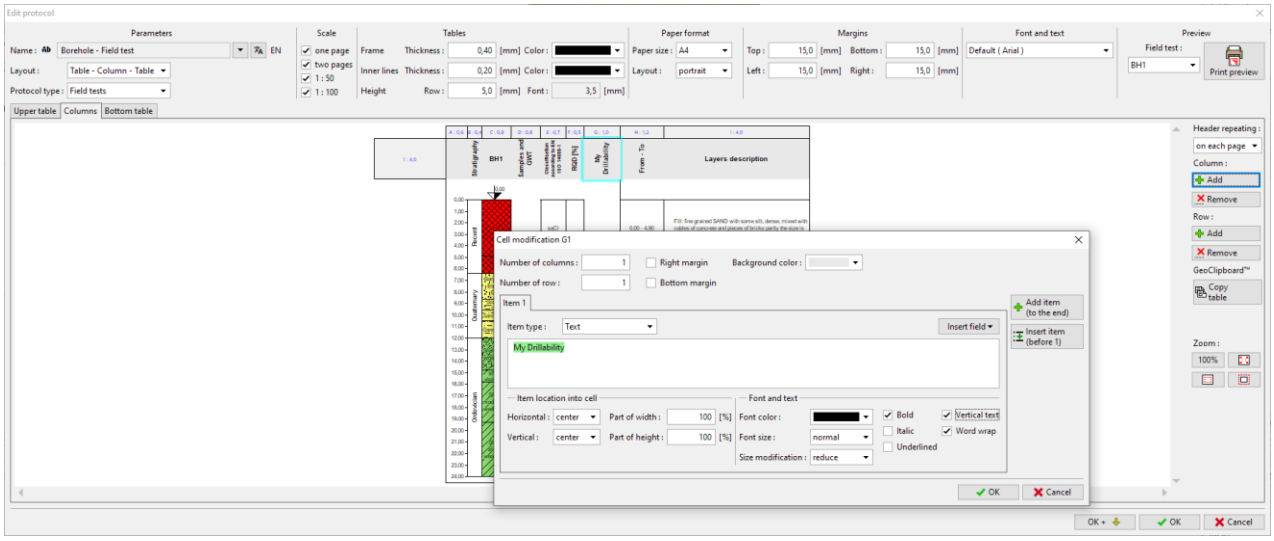
After creating the column, click on it and select what you want to display in the cell. Select the “Test data-name” option and select it from the list. The edited cell is shown in light blue.



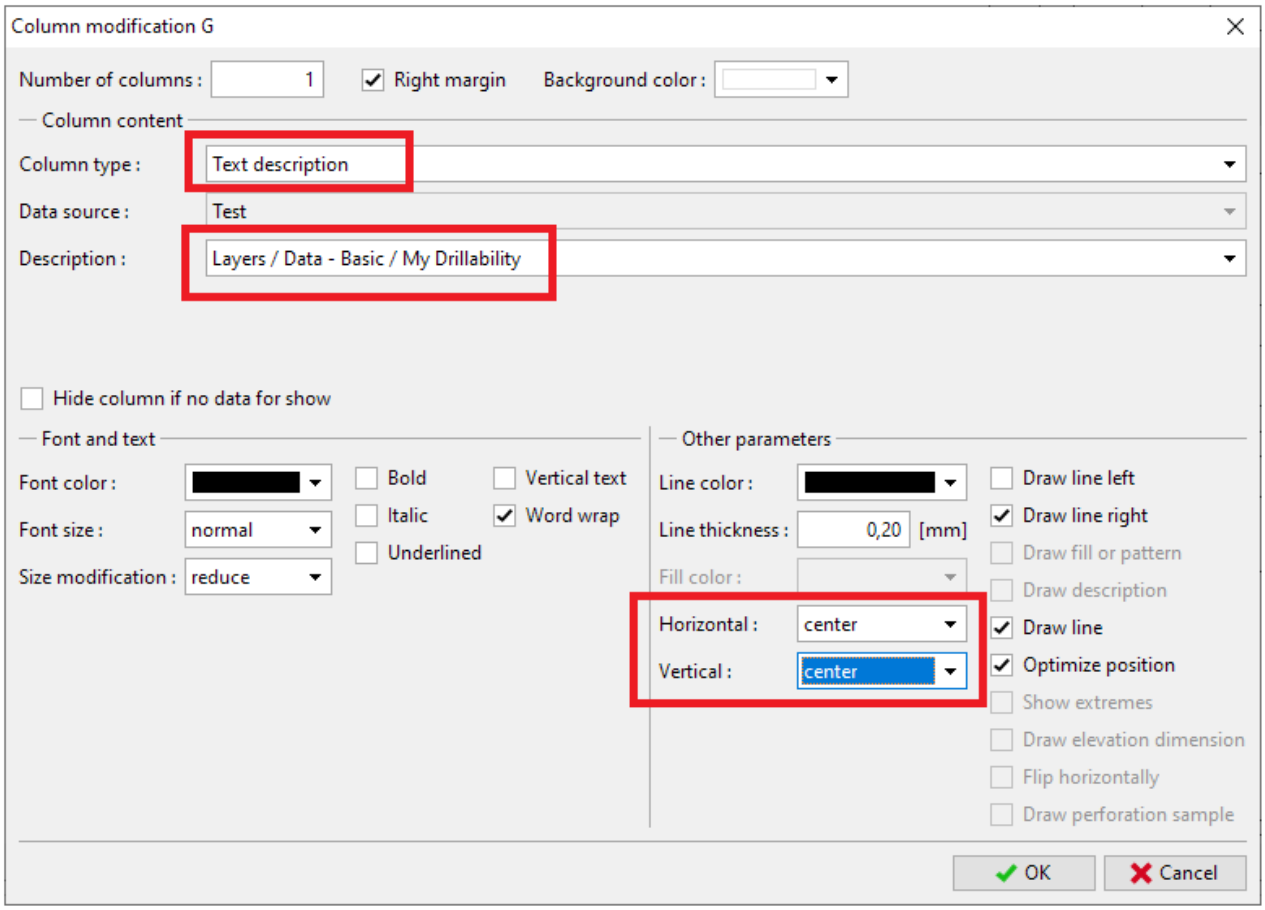
Select the “My Drillability” and then in the window edit how we want the cell displayed. When editing, the borehole drawing is immediately redrawn.

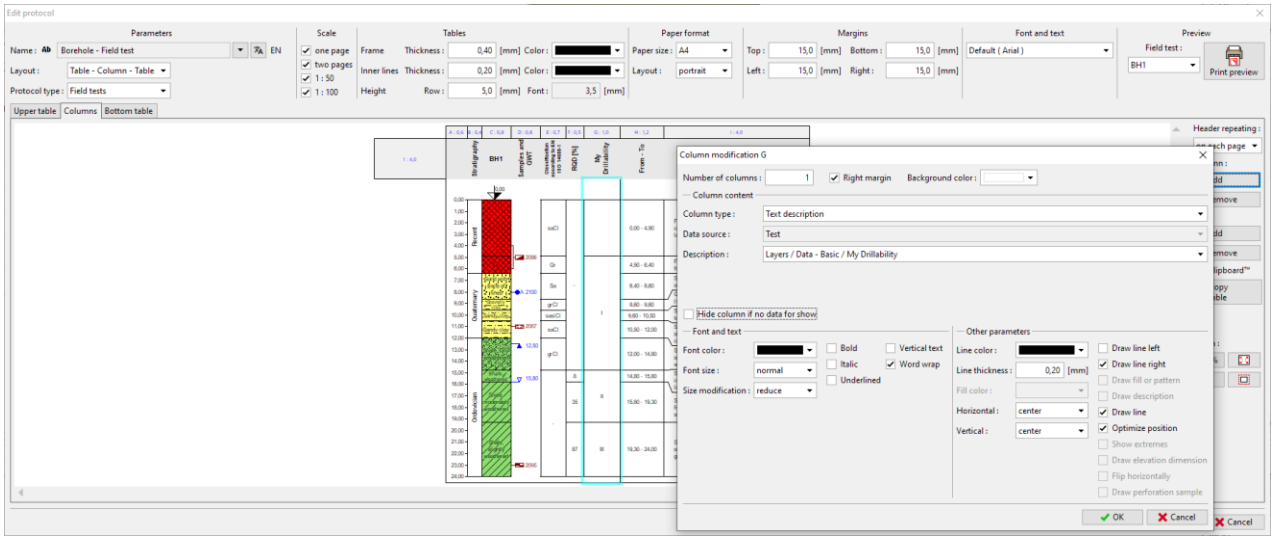




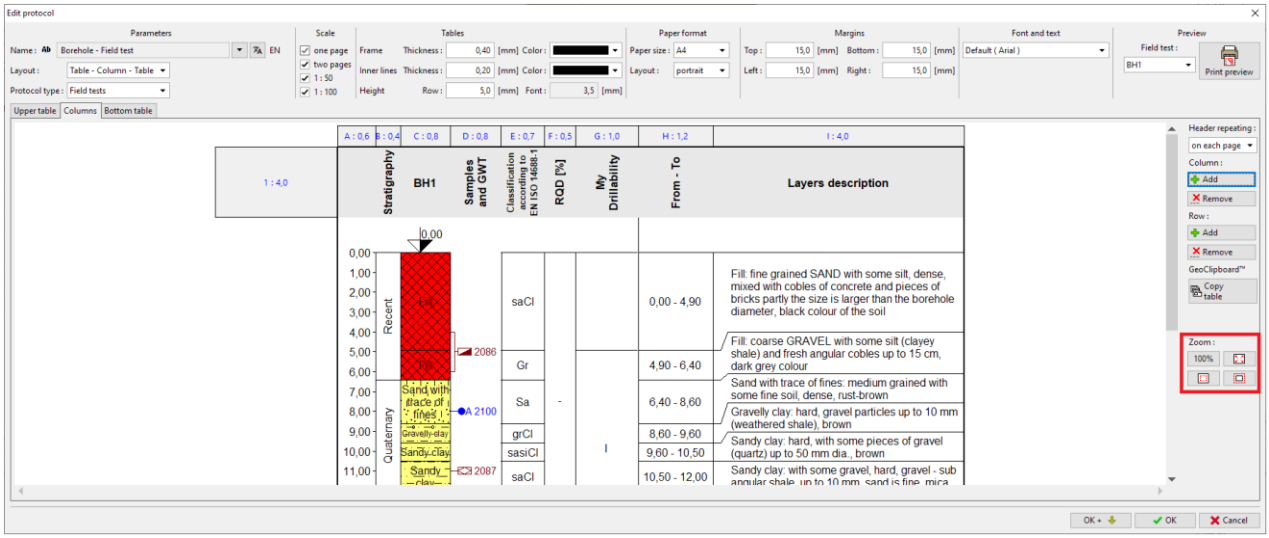


After entering the column heading cell, enter the second cell – the contents of the column. The column type is “Text description” and we enter “My Drillability” as data source. The edited cell is again shown in light blue.

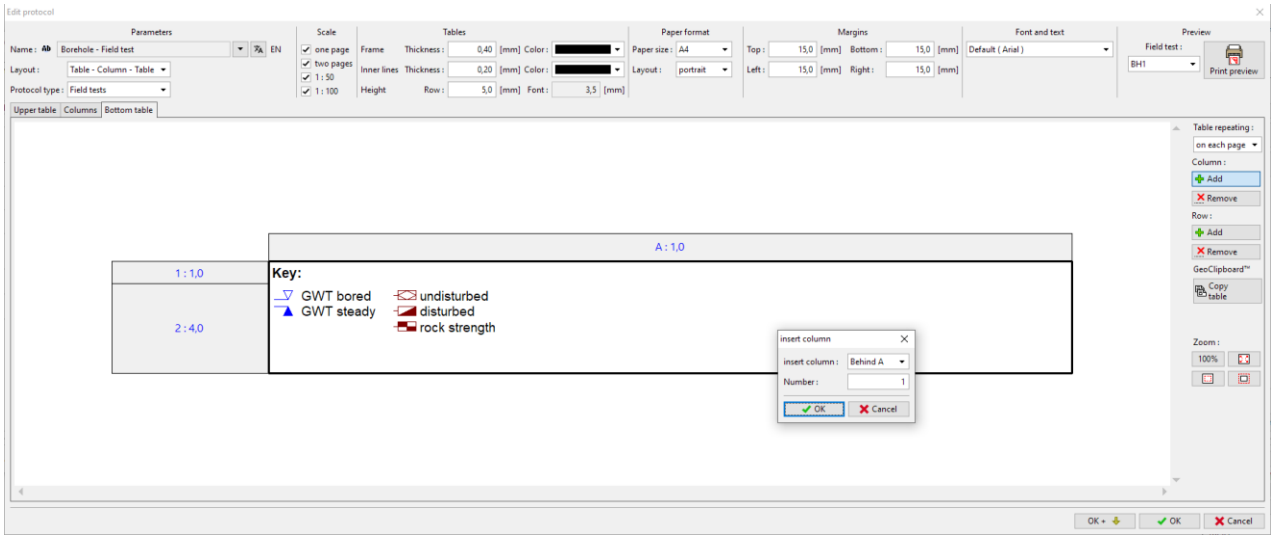




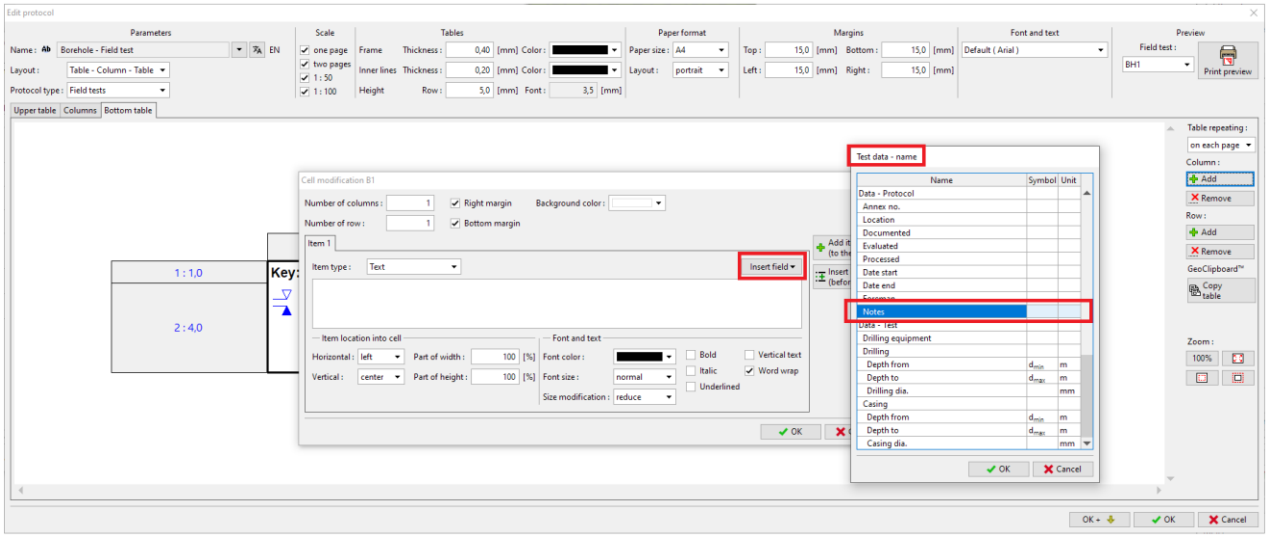
The picture with the drawing can be viewed using the mouse wheel resp. the control buttons. You can zoom in and check that the entries are correct.



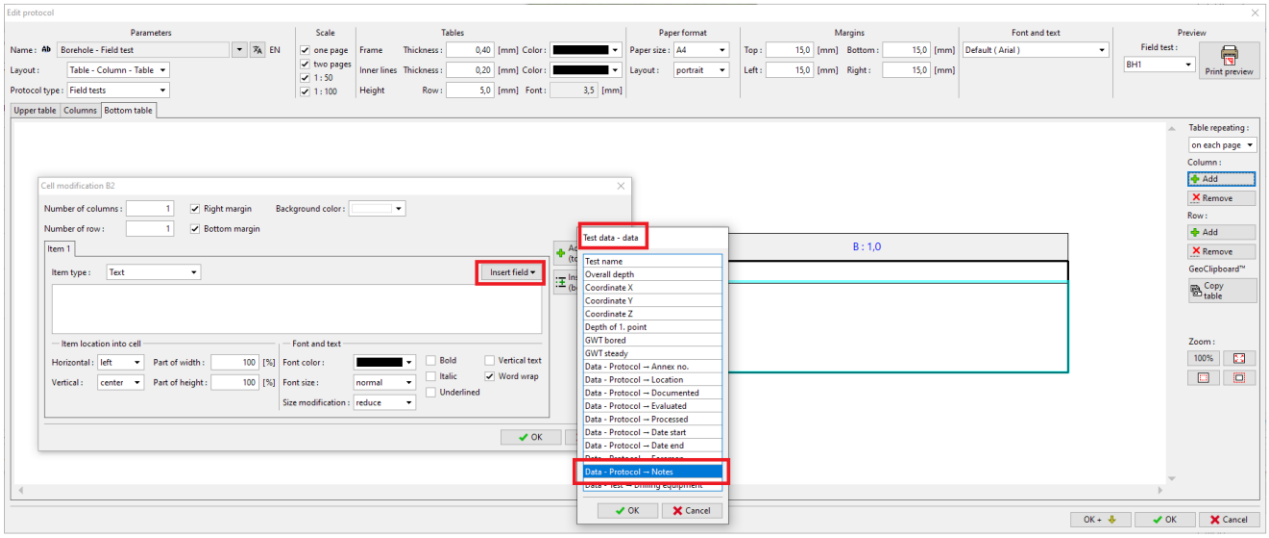
Now switch to the “Bottom table” tab and add a new column



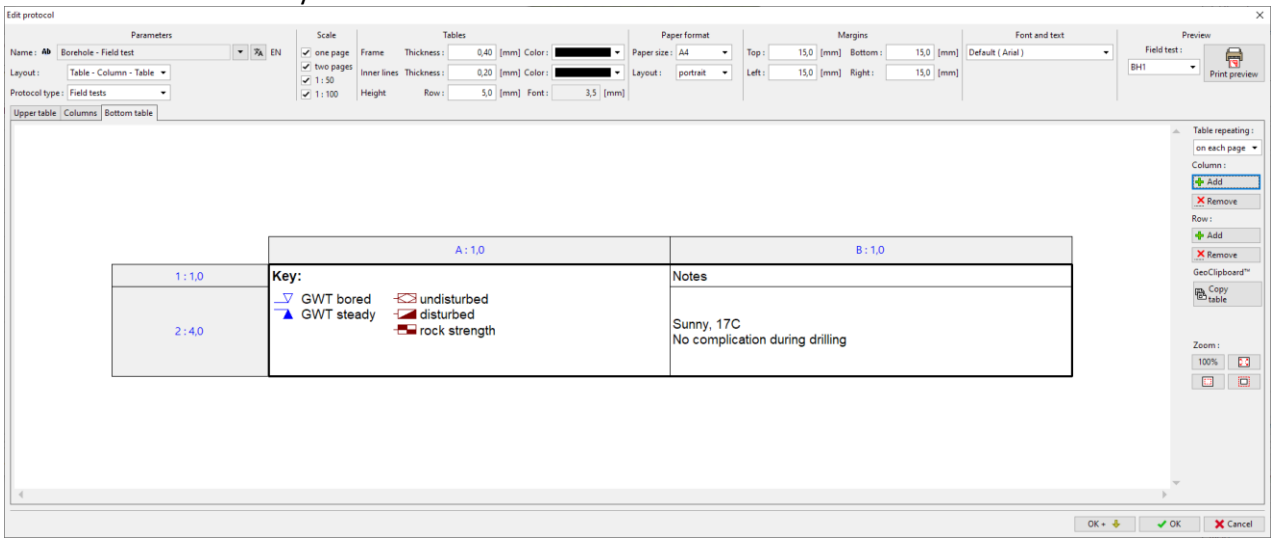
The top cell of the column will contain the “Test data - name” and the item “Notes”



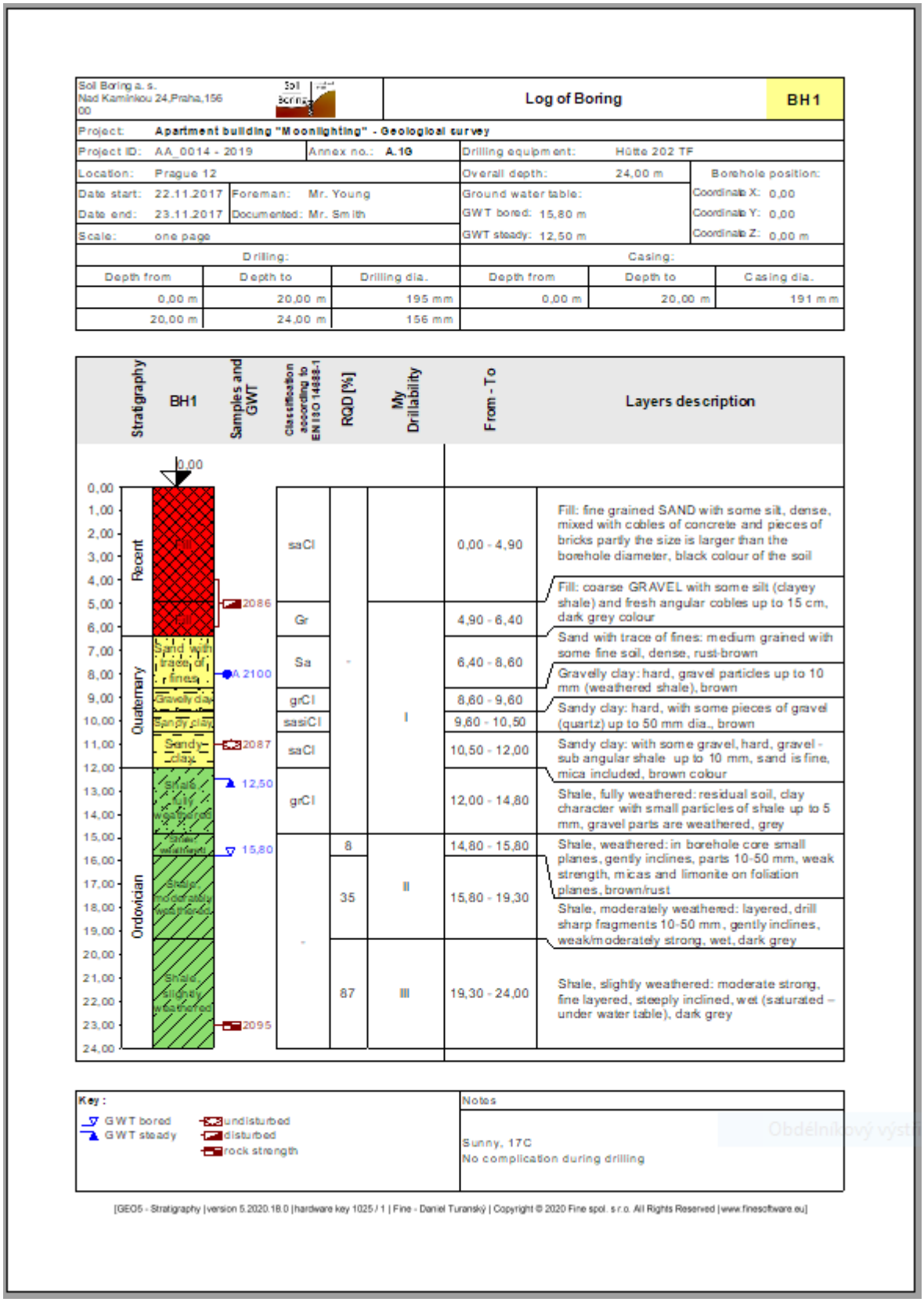
The bottom cell of the column will contain the “Test data – content” and the same item “Notes”



The bottom table is ready.



The new template is done – we can print the result for check.



Soil Boring a. s.
Nad Kamínkou 24,Praha,156 00

Log of Boring — **BH1**

Project:	Apartment building "Moonlighting" - Geological survey				
Project ID:	AA_0014 - 2019	Annex no.:	A.1G	Drilling equipment:	Hütte 202 TF
Location:	Prague 12			Overall depth:	24,00 m
Date start:	22.11.2017	Foreman:	Mr. Young	Ground water table:	
Date end:	23.11.2017	Documented:	Mr. Smith	GWT bored:	15,80 m
Scale:	one page			GWT steady:	12,50 m

Borehole position: Coordinate X: 0,00; Coordinate Y: 0,00; Coordinate Z: 0,00 m

Drilling:

Depth from	Depth to	Drilling dia.
0,00 m	20,00 m	195 mm
20,00 m	24,00 m	156 mm

Casing:

Depth from	Depth to	Casing dia.
0,00 m	20,00 m	191 mm

Stratigraphy	BH1	Samples and GWT	Classification according to EN ISO 14688-1	RQD [%]	My Drillability	From - To	Layers description
Recent	Fill	2086	saCl			0,00 - 4,90	Fill: fine grained SAND with some silt, dense, mixed with cobles of concrete and pieces of bricks partly the size is larger than the borehole diameter, black colour of the soil
	Fill		Gr		I	4,90 - 6,40	Fill: coarse GRAVEL with some silt (clayey shale) and fresh angular cobles up to 15 cm, dark grey colour
Quaternary	Sand with trace of fines	A 2100	Sa	-		6,40 - 8,60	Sand with trace of fines: medium grained with some fine soil, dense, rust-brown
	Gravelly clay		grCl			8,60 - 9,60	Gravelly clay: hard, gravel particles up to 10 mm (weathered shale), brown
	Sandy clay		sasiCl			9,60 - 10,50	Sandy clay: hard, with some pieces of gravel (quartz) up to 50 mm dia., brown
	Sandy clay	2087	saCl			10,50 - 12,00	Sandy clay: with some gravel, hard, gravel - sub angular shale up to 10 mm, sand is fine, mica included, brown colour
Ordovician	Shale, fully weathered	12,50	grCl			12,00 - 14,80	Shale, fully weathered: residual soil, clay character with small particles of shale up to 5 mm, gravel parts are weathered, grey
	Shale, weathered	15,80		8	II	14,80 - 15,80	Shale, weathered: in borehole core small planes, gently inclines, parts 10-50 mm, weak strength, micas and limonite on foliation planes, brown/rust
	Shale, moderately weathered		-	35		15,80 - 19,30	Shale, moderately weathered: layered, drill sharp fragments 10-50 mm, gently inclines, weak/moderately strong, wet, dark grey
	Shale, slightly weathered	2095		87	III	19,30 - 24,00	Shale, slightly weathered: moderate strong, fine layered, steeply inclined, wet (saturated – under water table), dark grey

Key:
- GWT bored
- GWT steady
- undisturbed
- disturbed
- rock strength

Notes:
Sunny, 17C
No complication during drilling

The template set is now created. In the template administrator, we can set the template set as default. It will be set as default in each new task.