

Creation of User Template

Program: Stratigraphy - Logs

File: Demo_manual_40.gsg

The aim of this manual is to show how to create your own template in the Stratigraphy program.

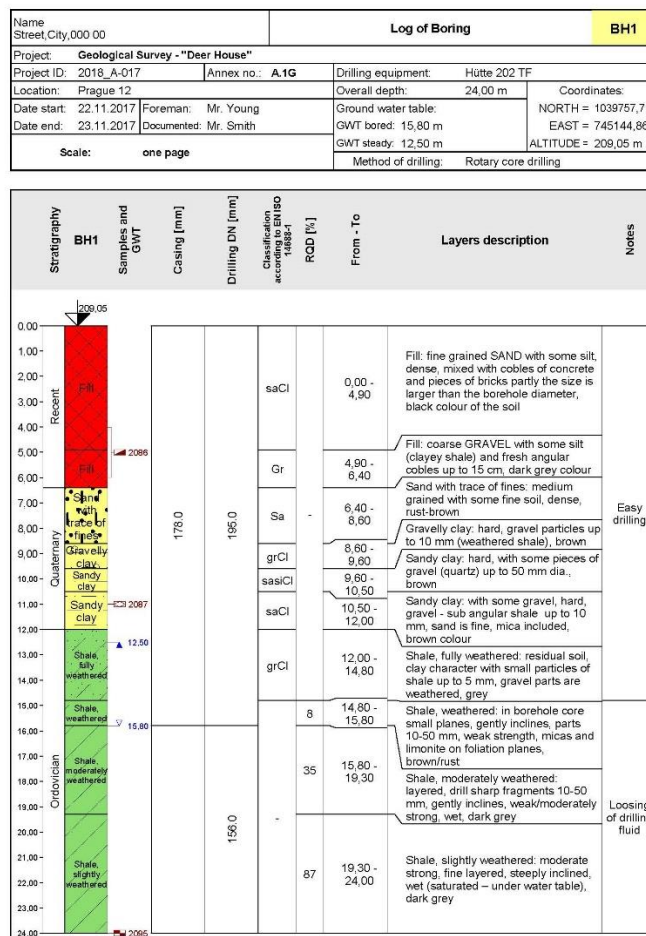
Introduction

Every country has different requirements regarding logs. The program provides a standard log for any type of geological tests, but you will probably need to make your own template with necessary data and visualization.

The protocol can be carried out in several steps.

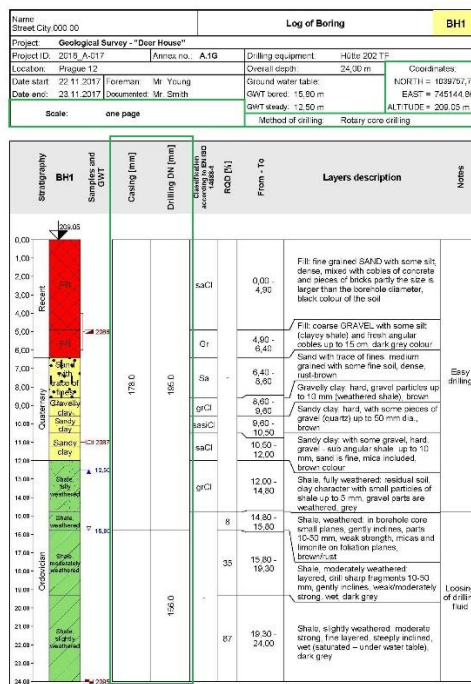
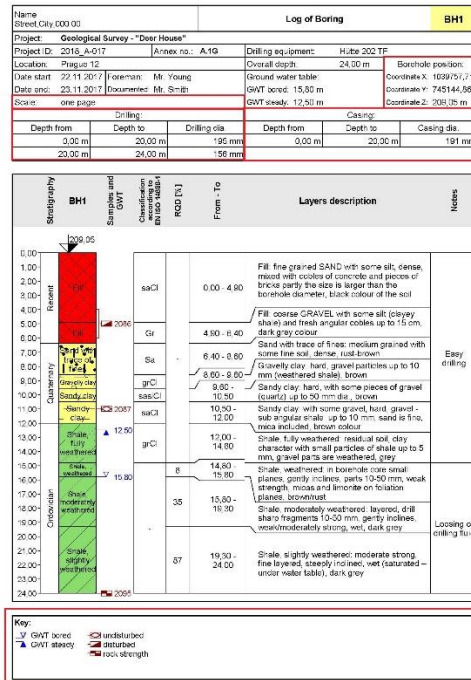
1. Create new template settings.
2. Define users data
3. Create or modify the template.

In this manual, we will show how to carry it out. Our final protocol looks like the following:



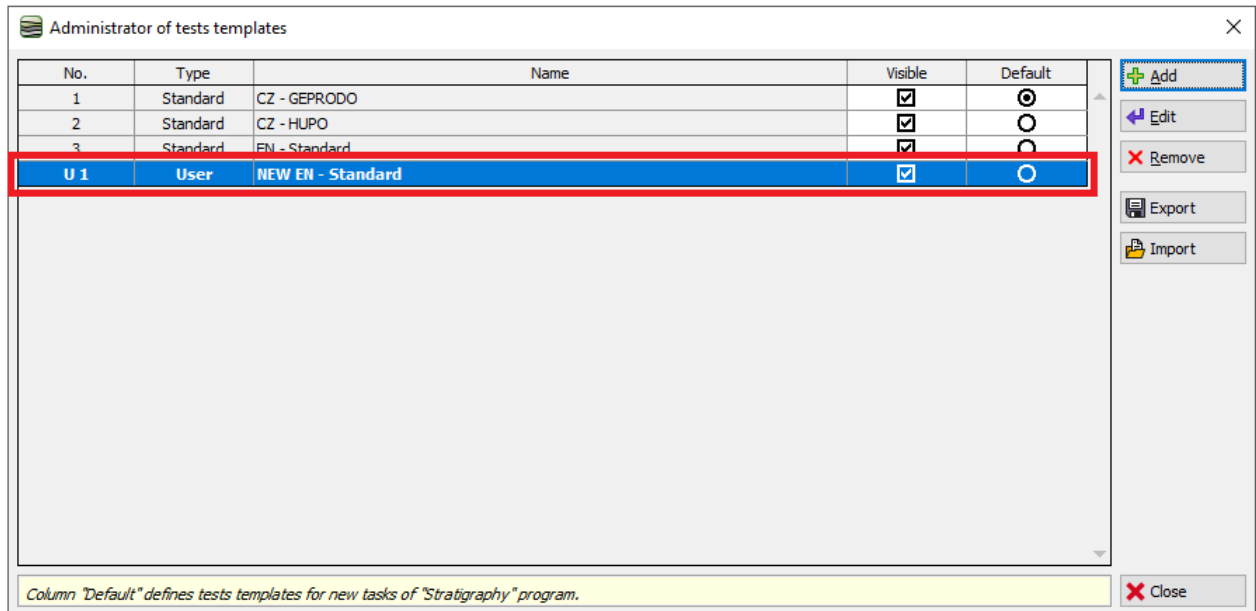
The required protocol of borehole is similar to our *Standard* protocol that is a part of the program, but a few things have been changed. The information about Drilling and Casing was moved from the upper table next to visualisation of a borehole profile. The key is not implemented into the new protocol. There have been changes made in some parts of the upper table.

The best way how to create your own template is to start with predefined template and modify it according to the specific requirements. We will start with the *Standard* protocol – the red parts will be deleted or changed and the green ones will be added.

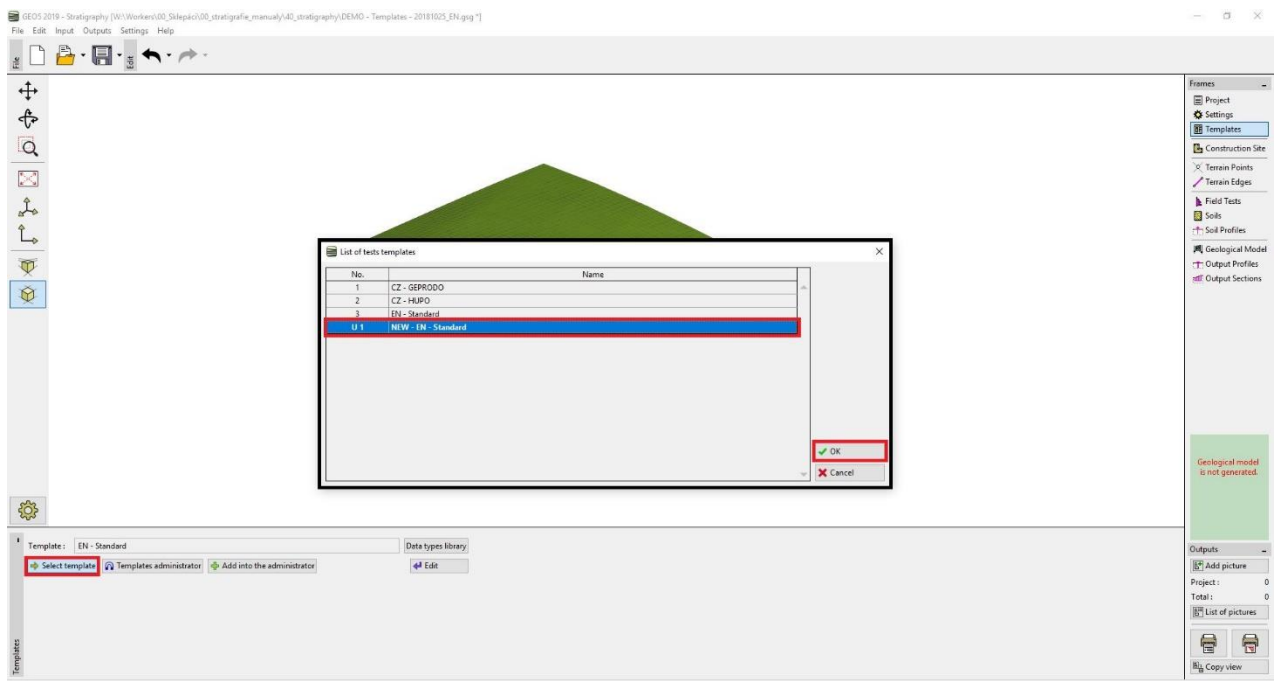


Create a new template

Firstly, open the file **demo_manual_40.gsg**. In the Templates frame go to the “Administrator templates”, choose *EN - Standard* template, click on “Add” button and define a name for the new template, in this case “NEW EN - Standard”.



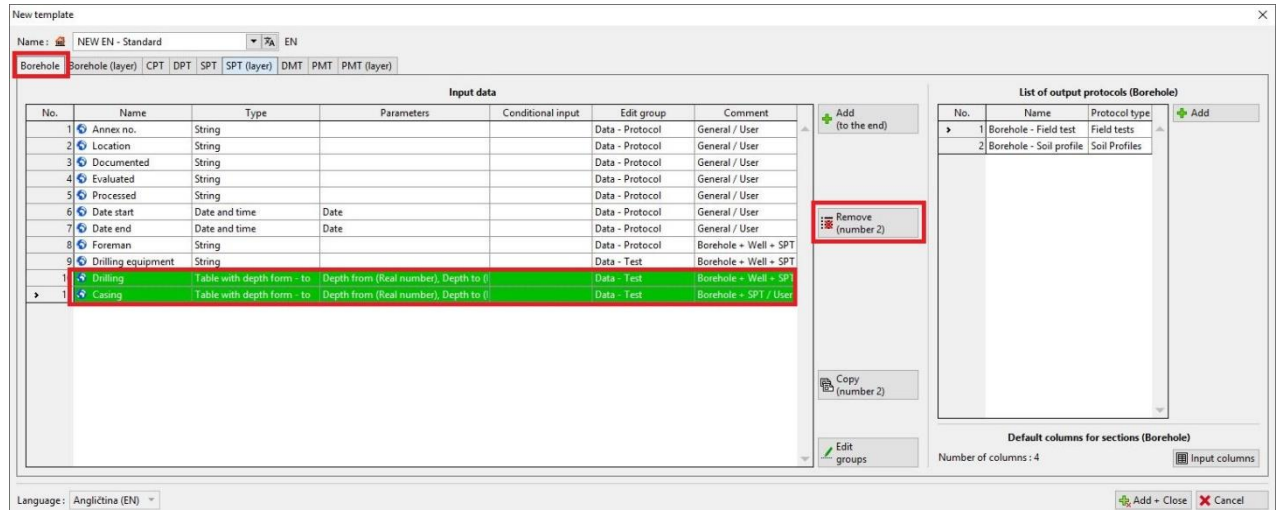
Go to the “Select template”, select your new template for the project and confirm it by “OK” button.



Go back to “Administrator templates” and start to edit this template by clicking on “Edit” button.

Definition of user data

The data we want to enter for a single field test and print in output protocol is defined in the dialog window "Modification of tests template". In the tab "Borehole", we define user data given in the upper table. We will remove the tables about "Drilling" and "Casing".



NEW EN - Standard

Borehole | Borehole (layer) | CPT | DPT | SPT | SPT (layer) | DMT | PMT | PMT (layer)

No.	Name	Type	Parameters	Conditional input	Edit group	Comment
1	Annex no.	String			Data - Protocol	General / User
2	Location	String			Data - Protocol	General / User
3	Documented	String			Data - Protocol	General / User
4	Evaluated	String			Data - Protocol	General / User
5	Processed	String			Data - Protocol	General / User
6	Date start	Date and time	Date		Data - Protocol	General / User
7	Date end	Date and time	Date		Data - Protocol	General / User
8	Foreman	String			Data - Protocol	Borehole + Well + SPT
9	Drilling equipment	String			Data - Test	Borehole + Well + SPT
10	Drilling	Table with depth form - to	Depth from (Real number), Depth to (Real number)		Data - Test	Borehole + Well + SPT
11	Casing	Table with depth form - to	Depth from (Real number), Depth to (Real number)		Data - Test	Borehole + SPT / User

Remove (number 2)

Copy (number 2)

Edit groups

List of output protocols (Borehole)

No.	Name	Protocol type
1	Borehole - Field test	Field tests
2	Borehole - Soil profile	Soil Profiles

Default columns for sections (Borehole)

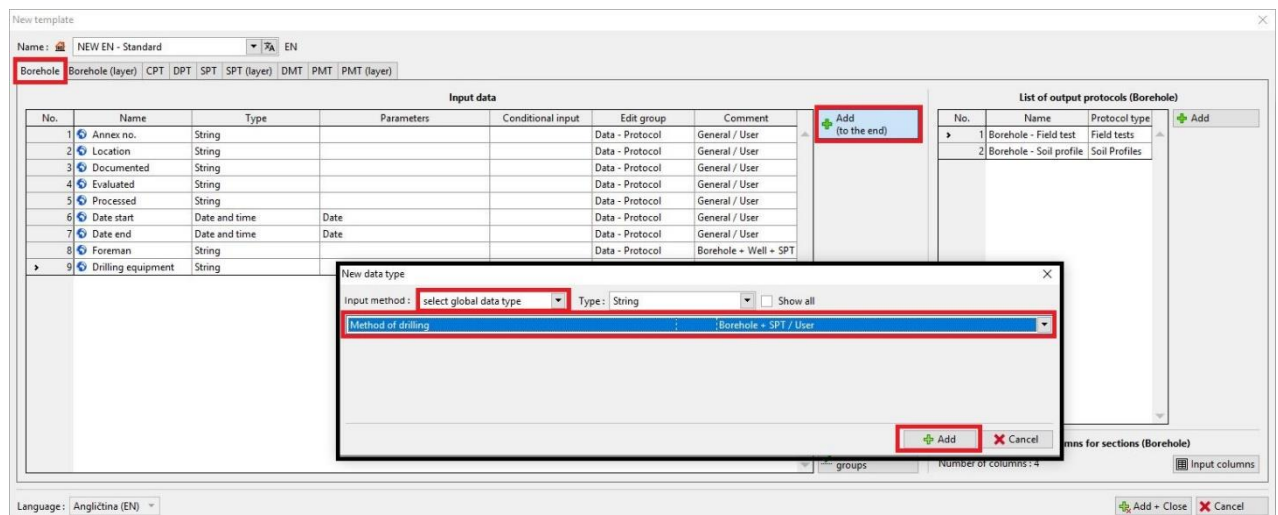
Number of columns : 4

Input columns

Language: Angličtina (EN)

Add + Close Cancel

Next, we will define new data for the upper table. The information about the method of drilling is new in the log. Add it by clicking on the "Add" button, you will find "Method of drilling" in the "global data type" list and confirm it.



NEW EN - Standard

Borehole | Borehole (layer) | CPT | DPT | SPT | SPT (layer) | DMT | PMT | PMT (layer)

No.	Name	Type	Parameters	Conditional input	Edit group	Comment
1	Annex no.	String			Data - Protocol	General / User
2	Location	String			Data - Protocol	General / User
3	Documented	String			Data - Protocol	General / User
4	Evaluated	String			Data - Protocol	General / User
5	Processed	String			Data - Protocol	General / User
6	Date start	Date and time	Date		Data - Protocol	General / User
7	Date end	Date and time	Date		Data - Protocol	General / User
8	Foreman	String			Data - Protocol	Borehole + Well + SPT
9	Drilling equipment	String			Data - Test	Borehole + Well + SPT

Add (to the end)

New data type

Input method: select global data type Type: String Show all

Method of drilling : Borehole + SPT / User

Add Cancel

List of output protocols (Borehole)

No.	Name	Protocol type
1	Borehole - Field test	Field tests
2	Borehole - Soil profile	Soil Profiles

Default columns for sections (Borehole)

Number of columns : 4

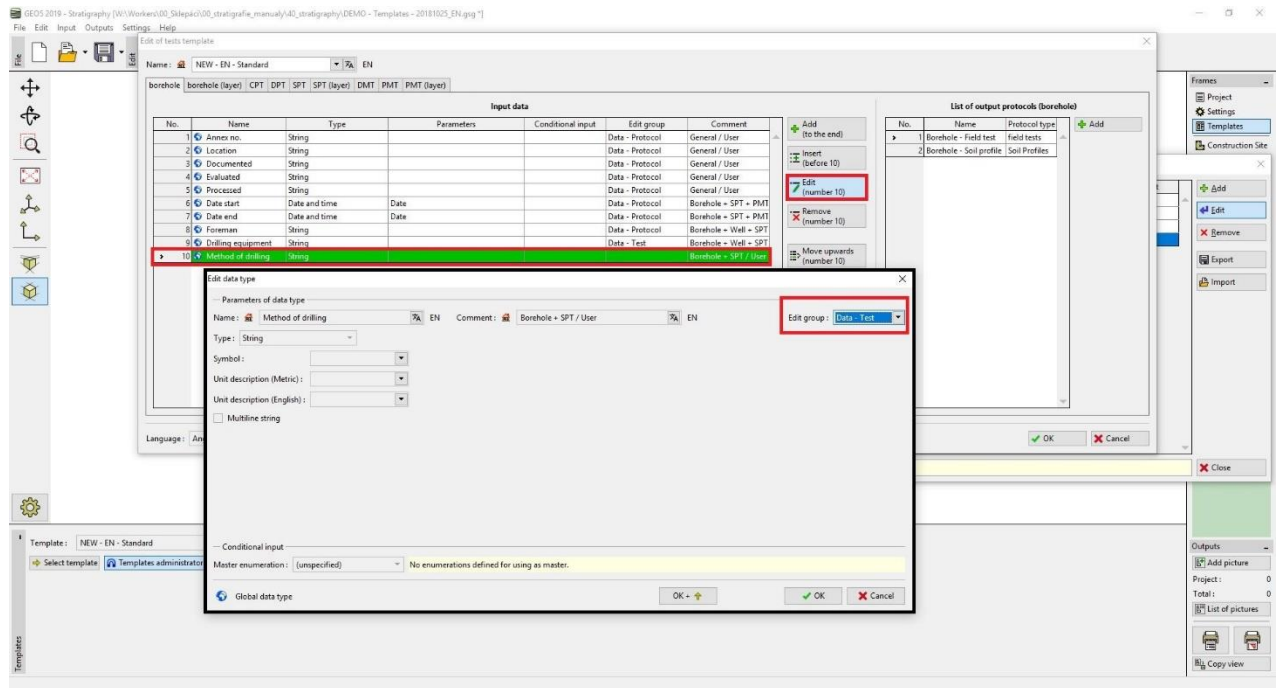
Input columns

Language: Angličtina (EN)

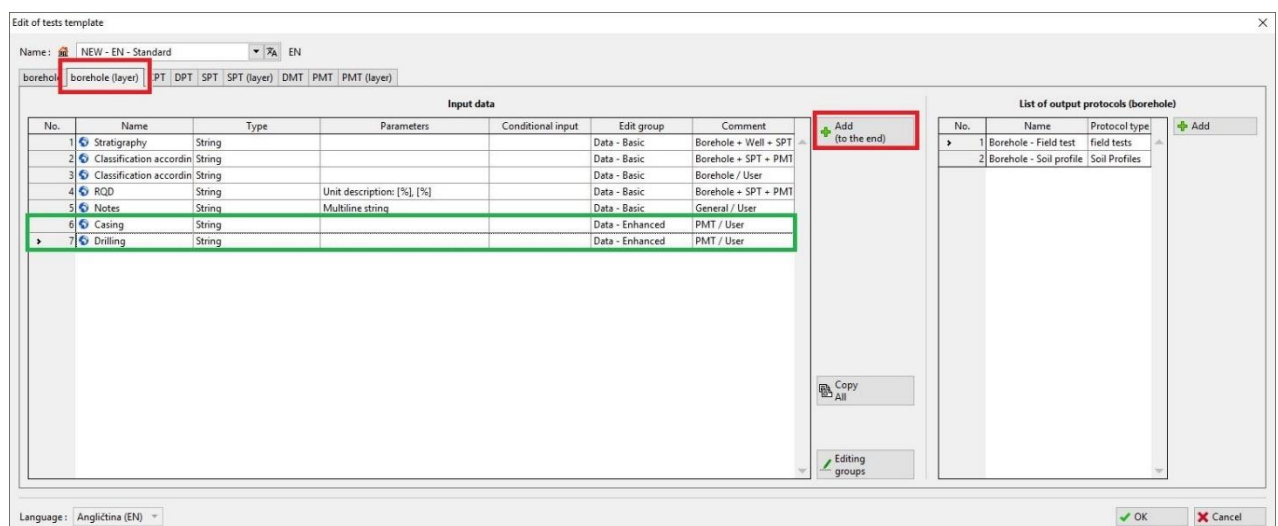
Add + Close Cancel

For better clarity it is possible to sort data types into editing groups which are determined by tabs in field tests entering. Editing groups can be modified by using the "Editing groups" button. Select "Method of drilling", click on the "Edit" button and change the editing group to "Data – test".

More information about data types and editing groups can be found in HELP (F1).



In the TAB "Borehole (Layers)" we will add "Drilling" and "Casing" in the same way as "Method of drilling". Editing group will be "Data – Enhanced". The information from this Tab will be placed next to the visualisation of the borehole profile and it is necessary to define the data for each profile layer.



All needed data is now defined and we can continue to edit the final protocol.

Editing of the template

We will start to edit the template by clicking on the “Edit” button on the right side of the dialog window.

The 'Edit of tests template' dialog window is shown. It has a tabbed interface with 'borehole' selected. The 'Input data' table lists parameters like Annex no., Location, Documented, Evaluated, Processed, Date start, Date end, Foreman, Drilling equipment, and Method of drilling. The 'List of output protocols (borehole)' table on the right shows two protocols: 'Borehole - Field test' and 'Borehole - Soil profile'. The 'Edit (number 1)' button for the first protocol is highlighted with a red box.

In the new window we can see the dialogue box for editing the template. First change the “Type of layout” by selecting “Table + Column”. The bottom tab with the Key will not be a part of the protocol.

The 'Edit protocol' dialog window is shown. It has several tabs: Parameters, Scale, Tables, Paper format, Margins, and Font and text. The 'Layout' dropdown is set to 'Table + Column'. The 'Table' tab is active, showing a table with 11 columns (A: 1,0 to J: 1,0) and 11 rows (1: 2,0 to 11: 1,0). The table content includes fields like Name, Project, Project ID, Location, Date start, Date end, Scale, Foreman, Documented, Drilling equipment, Overall depth, Ground water table, GWT bored, GWT steady, Borehole position, and Coordinate X, Y, Z. The 'Table repeating' section on the right shows 'on first page' selected.

Upper table

Working with a table is very similar to working with Excel or other spread sheet program. You can define rows, columns and their dimensions, you can merge cells and unmerge them, define frames, a background colour etc.

We will start with the following changes that are shown in the upper table.

	A:1,0	B:1,0	C:1,0	D:1,0	E:1,0	F:1,0	G:1,0	H:1,0	I:1,0	J:1,0
1:2,0	Name Street,City,000 00	LOGO		Log of Boring						Lorem ipsum
2:1,0	Project:	Geological Survey - "Deer House"								
3:1,0	Project ID:	2018_A-017	Annex no.:	Lorem ipsum	Drilling equipment:		Lorem ipsum			
4:1,0	Location:	Lorem ipsum			Overall depth:		50,00 m	Borehole position:		
5:1,0	Date start:	9.11.2018	Foreman:	Lorem ipsum	Ground water table:		Coordinate X: 10,00			
6:1,0	Date end:	9.11.2018	Documented:	Lorem ipsum	GWT bored: 6,00 m		Coordinate Y: 5,00			
7:1,0	Scale:	one page			GWT steady: 7,00 m		Coordinate Z: 180,70 m			
8:1,0										
9:1,0										
10:1,0										
11:1,0										

Within the first step we will remove rows 9, 10 and 11.

	A:1,0	B:1,0	C:1,0	D:1,0	E:1,0	F:1,0	G:1,0	H:1,0	I:1,0	J:1,0
1:2,0	Name Street,City,000 00	LOGO		Log of Boring						Lorem ipsum
2:1,0	Project:	Geological Survey - Deer House								
3:1,0	Project ID:	2018_A-017	Annex no.:	Lorem ipsum	Drilling equipment:		Lorem ipsum			
4:1,0	Location:	Lorem ipsum			Overall depth:		50,00 m	Borehole position:		
5:1,0	Date start:	18.10.2018	Foreman:	Lorem ips	Ground water table:		Coordinate X: 10,00			
6:1,0	Date end:	18.10.2018	Documented:	Lorem ips	WT bored: 6,00 m		Coordinate Y: 5,00			
7:1,0	Scale:	one page			GWT steady: 7,00 m		Coordinate Z: 180,70 m			
8:1,0										
9:1,0										
10:1,0										
11:1,0										

The upper table looks as follows now:

Edit protocol

Parameters: Name: Borehole - Field test, EN, Layout: Table - Column, Protocol type: field tests

Scale: one page, two pages, 1:50, 1:100

Tables: Frame Thickness: 0,40 [mm], Color: , Inner lines Thickness: 0,20 [mm], Color: , Row: 5,0 [mm], Font: 3,0 [mm]

Paper format: Paper size: A4, Layout: portrait

Margins: Top: 15,0 [mm], Bottom: 15,0 [mm], Left: 15,0 [mm], Right: 15,0 [mm]

Font and text: Arial

Print preview

	A : 1,0	B : 1,0	C : 1,0	D : 1,0	E : 1,0	F : 1,0	G : 1,0	H : 1,0	I : 1,0	J : 1,0	
1 : 2,0	Name Street,City,000 00	LOGO		Log of Boring						Lorem ipsum	
2 : 1,0	Project: Geological Survey - Deer House										
3 : 1,0	Project ID: 2018_A-017	Annex no.: Lorem ipsum		Drilling equipment:		Lorem ipsum					
4 : 1,0	Location: Lorem ipsum		Overall depth:		50,00 m		Borehole position:				
5 : 1,0	Date start: 18.10.2018	Foreman: Lorem ipsum		Ground water table:		Coordinate X: 10,00					
6 : 1,0	Date end: 18.10.2018	Documented: Lorem ipsum		GWT bored: 6,00 m		Coordinate Y: 5,00					
7 : 1,0	Scale: one page	GWT steady: 7,00 m		Coordinate Z: 180,70 m							
8 : 1,0											

Table repeating: on first page

Column: Add, Remove

Row: Add, Remove

Zoom: 100%

OK Cancel

As a next step, we will edit the cell with information about the **Scale**, which the protocol is printed in. (Click on A7 cell)

Edit protocol

Parameters: Name: Borehole - Field test, EN, Layout: Table - Column, Protocol type: field tests

Scale: one page, two pages, 1:50, 1:100

Tables: Frame Thickness: 0,40 [mm], Color: , Inner lines Thickness: 0,20 [mm], Color: , Row: 5,0 [mm], Font: 3,0 [mm]

Paper format: Paper size: A4, Layout: portrait

Margins: Top: 15,0 [mm], Bottom: 15,0 [mm], Left: 15,0 [mm], Right: 15,0 [mm]

Font and text: Arial

Print preview

	A : 1,0	B : 1,0	C : 1,0	D : 1,0	E : 1,0	F : 1,0	G : 1,0	H : 1,0	I : 1,0	J : 1,0	
1 : 2,0	Name Street,City,000 00	LOGO		Log of Boring						Lorem ipsum	
2 : 1,0	Project: Geological Survey - Deer House										
3 : 1,0	Project ID: 2018_A-017	Annex no.: Lorem ipsum		Drilling equipment:		Lorem ipsum					
4 : 1,0	Location: Lorem ipsum		Overall depth:		50,00 m		Borehole position:				
5 : 1,0	Date start: 18.10.2018	Foreman: Lorem ipsum		Ground water table:		Coordinate X: 10,00					
6 : 1,0	Date end: 18.10.2018	Documented: Lorem ipsum		GWT bored: 6,00 m		Coordinate Y: 5,00					
7 : 1,0	Scale: one page	GWT steady: 7,00 m		Coordinate Z: 180,70 m							
8 : 1,0											

Table repeating: on first page

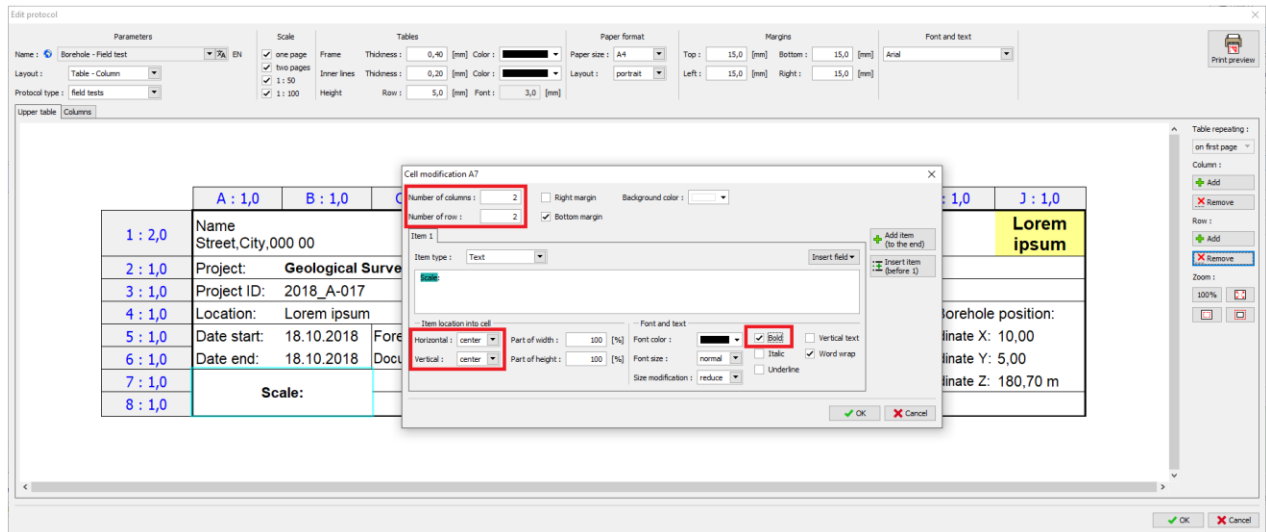
Column: Add, Remove

Row: Add, Remove

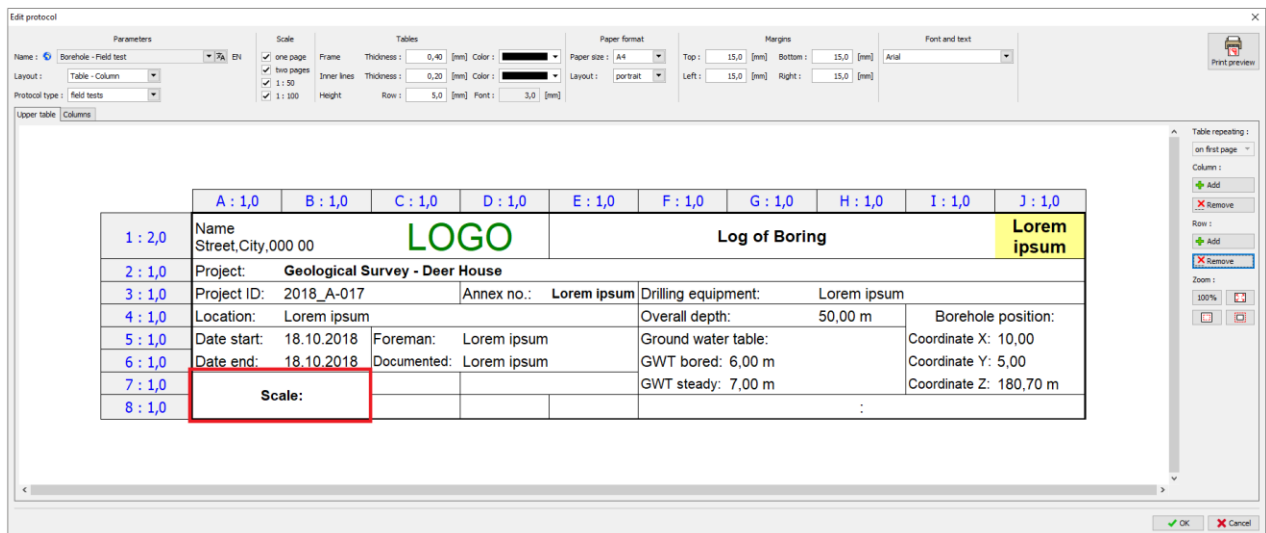
Zoom: 100%

OK Cancel

The “Scale” name is already defined so we can adjust cell width, height and make text bold etc.

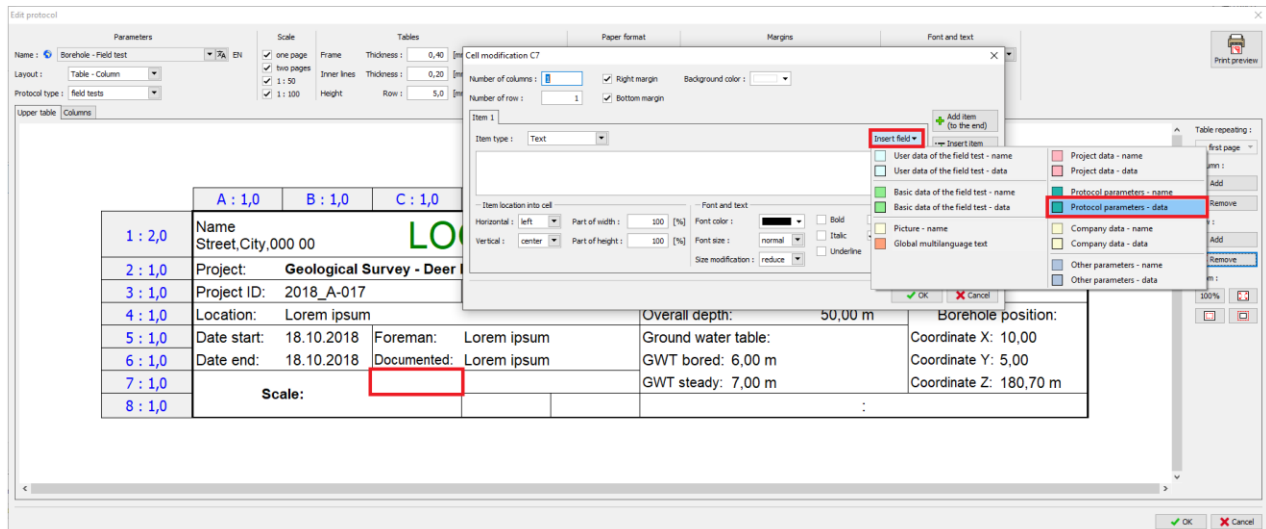


Now the cell looks as follows:

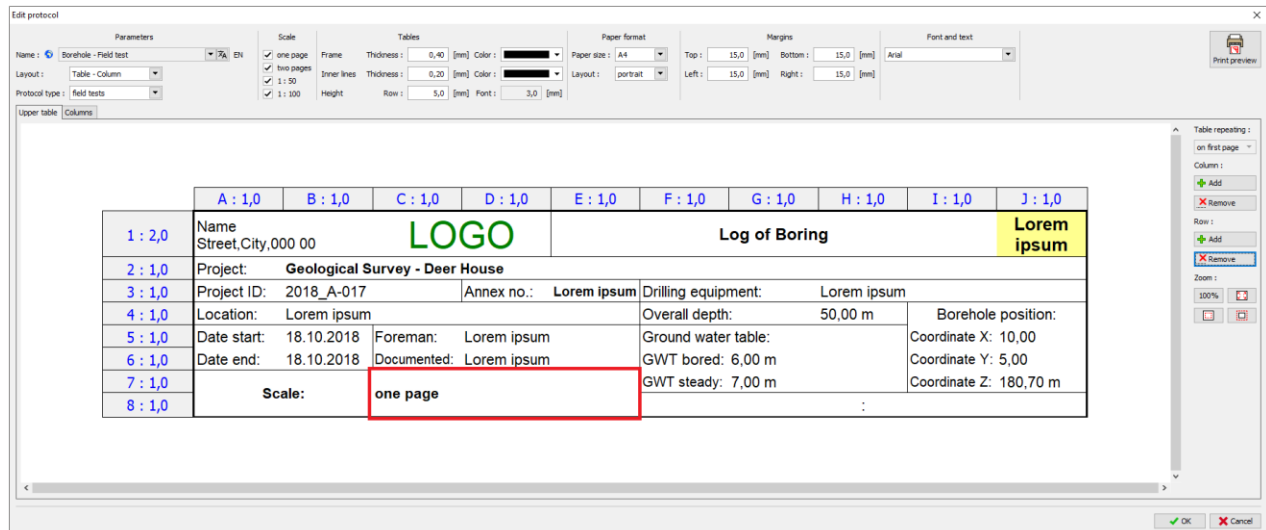


The similar change will be made in the C7 cell. Here, however, we want to show **data**, i.e. the information about a certain Scale. We define it by clicking on the **"Insert field"**, then on the **"Protocols parameter-data"** and afterwards the **"Scale"** will be chosen from the list.

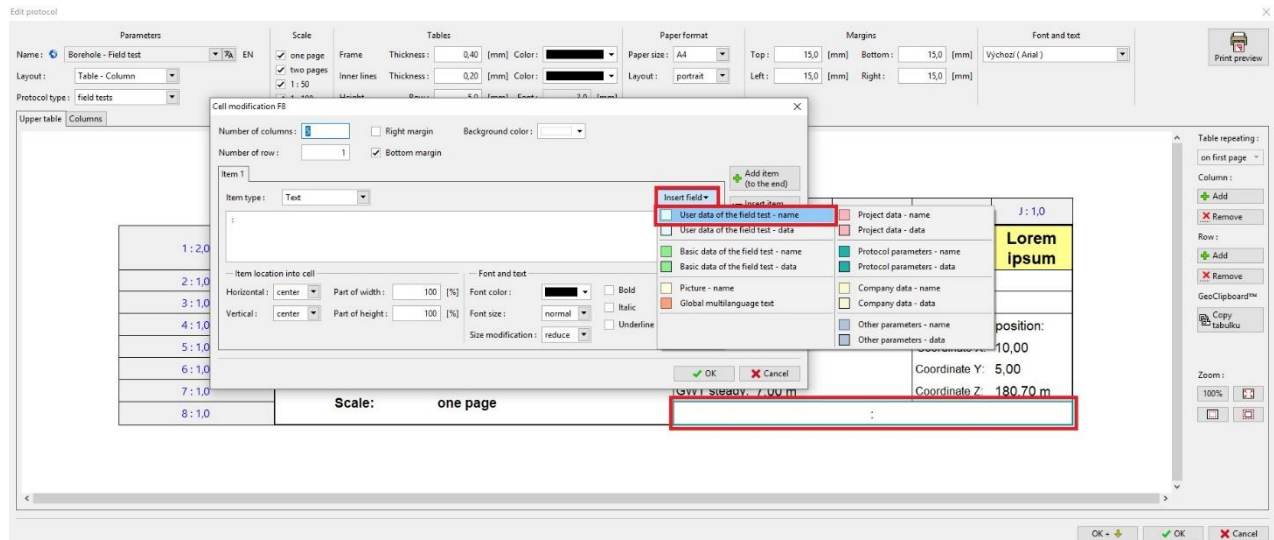
Note: It is important to distinguish between items "Name" and "Data". "Name" inserts name of data type (e.g. drilling foreman), "Data" inserts entered information (e.g. Mr. Smith).



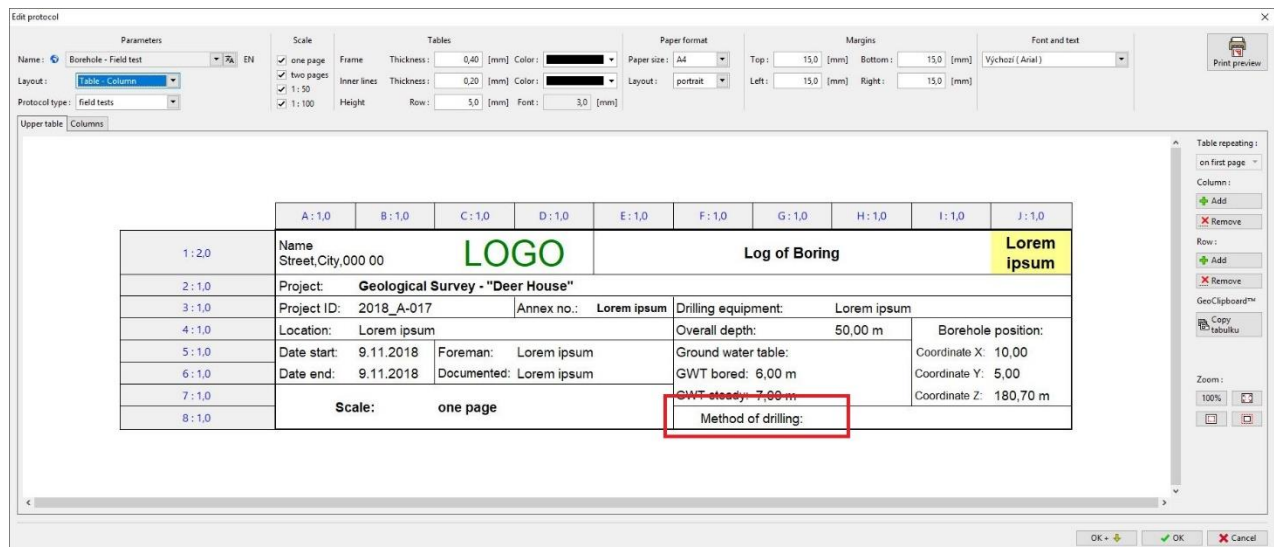
We will also format the whole cell into the required form (3 columns, 2 rows, from the left to the middle).



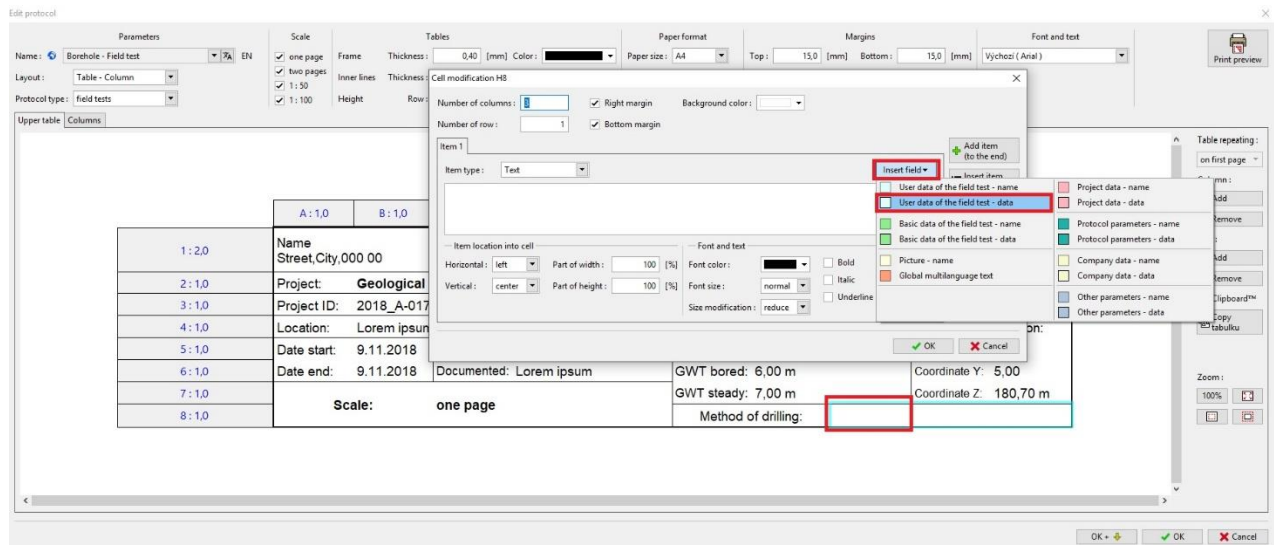
The next step is to add information about the “Method of drilling” (F8 cell). This parameter will be defined as the name in the cell and will remain unchangeable. We will define it through “Insert field” and “User data of the field test – name” and select “Method of drilling”.



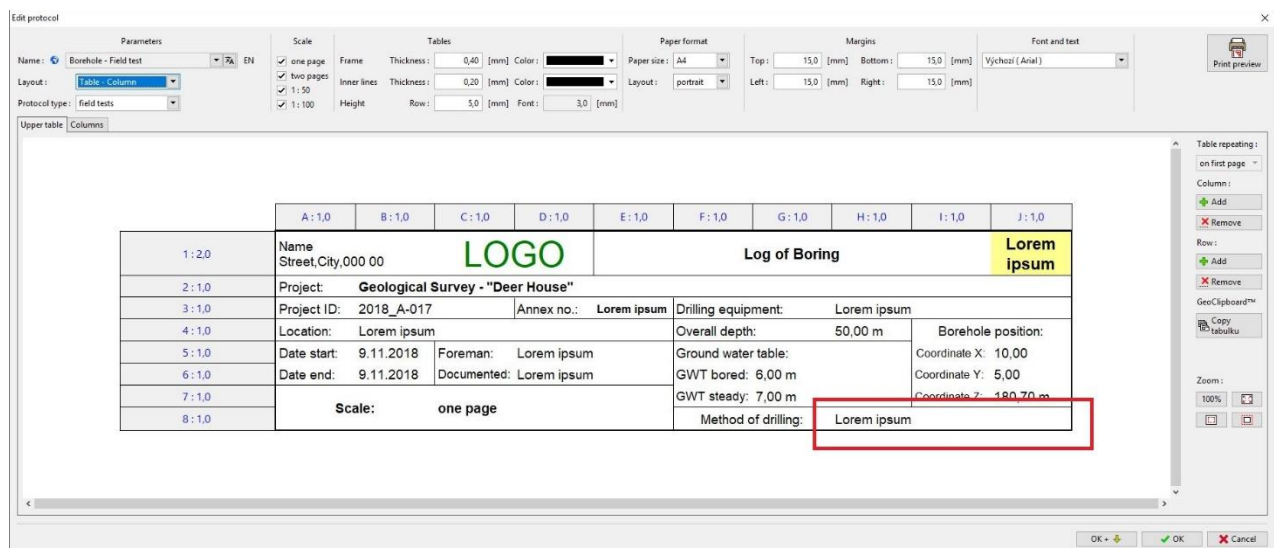
Format the cell and the table will look like this (2 columns).



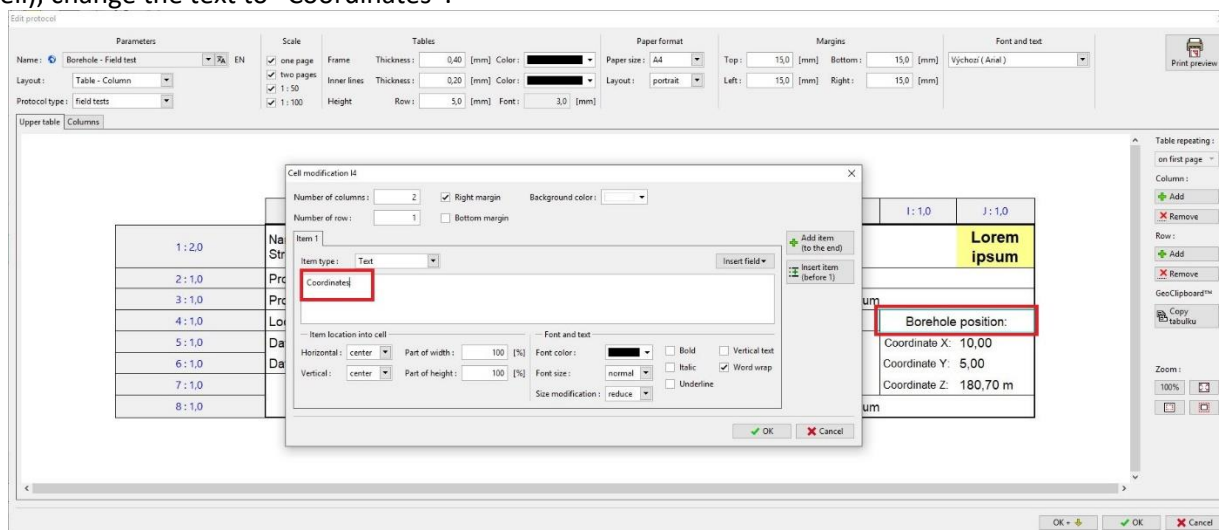
The similar changes will be done in the H8 cell. Here, the data relates to a required Method of drilling of a certain borehole. We will define it through **“Insert field”** and **“User data of the field test - data”** and select **“Method of drilling”**.



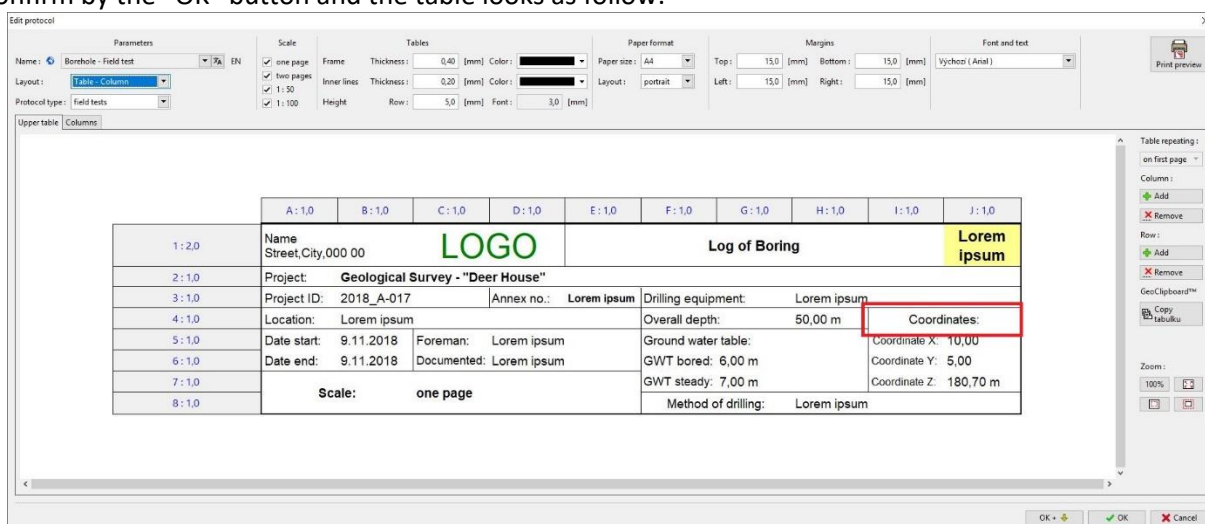
We will edit the cell again (3 columns). The table looks as follows:



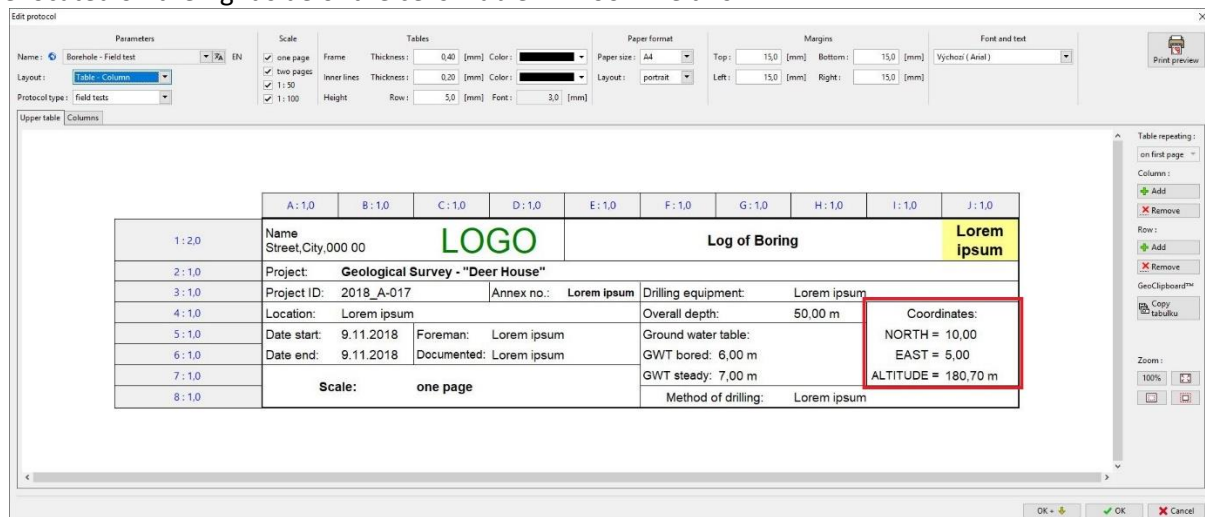
As a next step we will change information about borehole position. Select the “Borehole position” cell (I4 cell), change the text to “Coordinates”:



Confirm by the “OK” button and the table looks as follow:

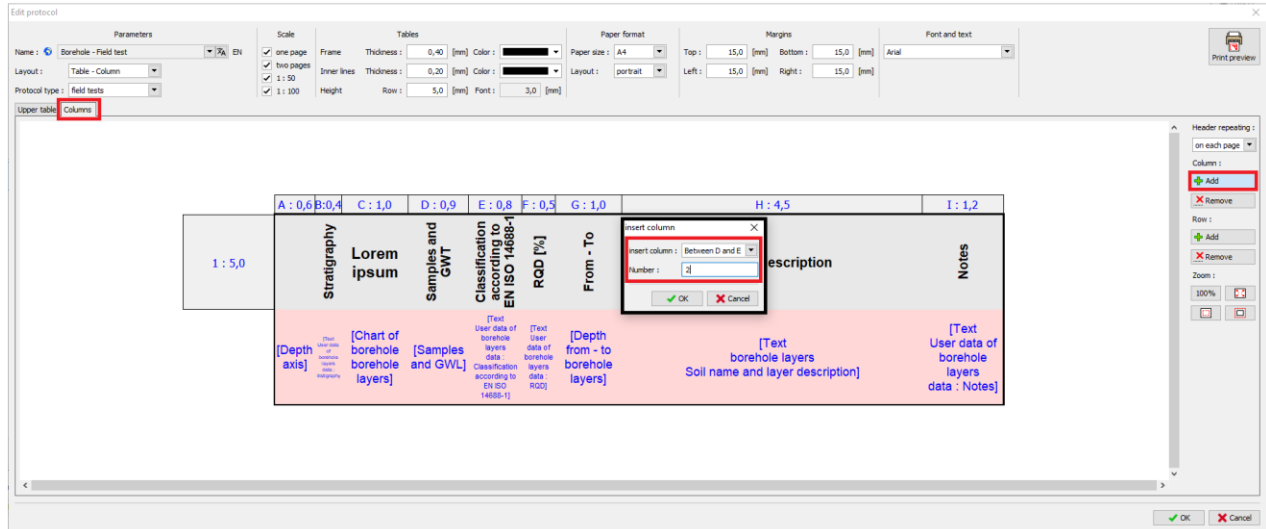


Implement the same change into “NORTH =” (I5 cell), “EAST =” (I6 cell) and “ALTITUDE =” (I7 cell). Texts are located on the right side of the cells. Table will look like this.

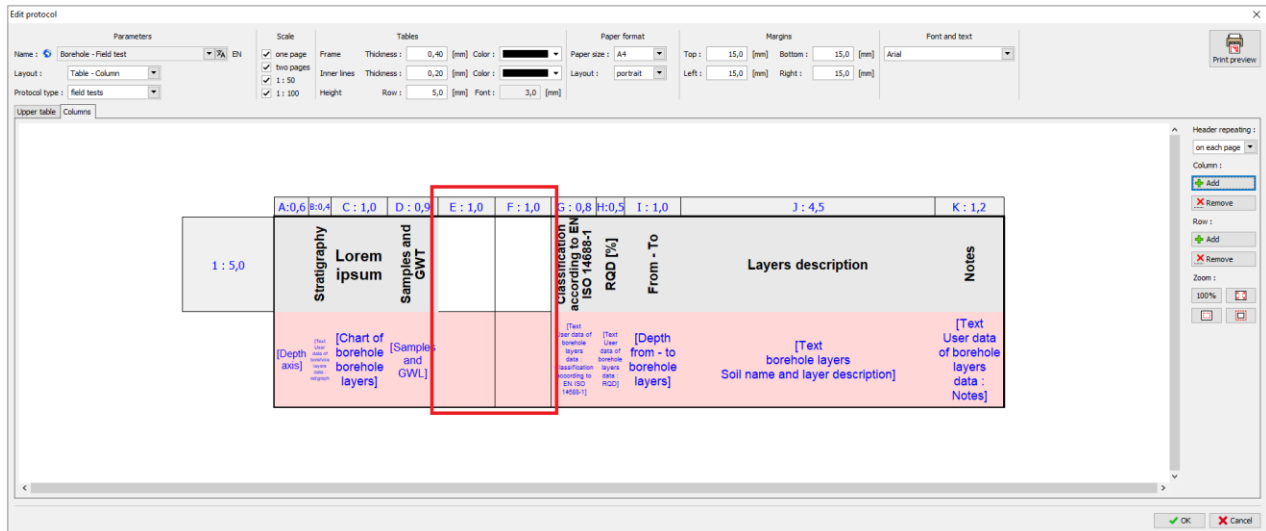


Columns

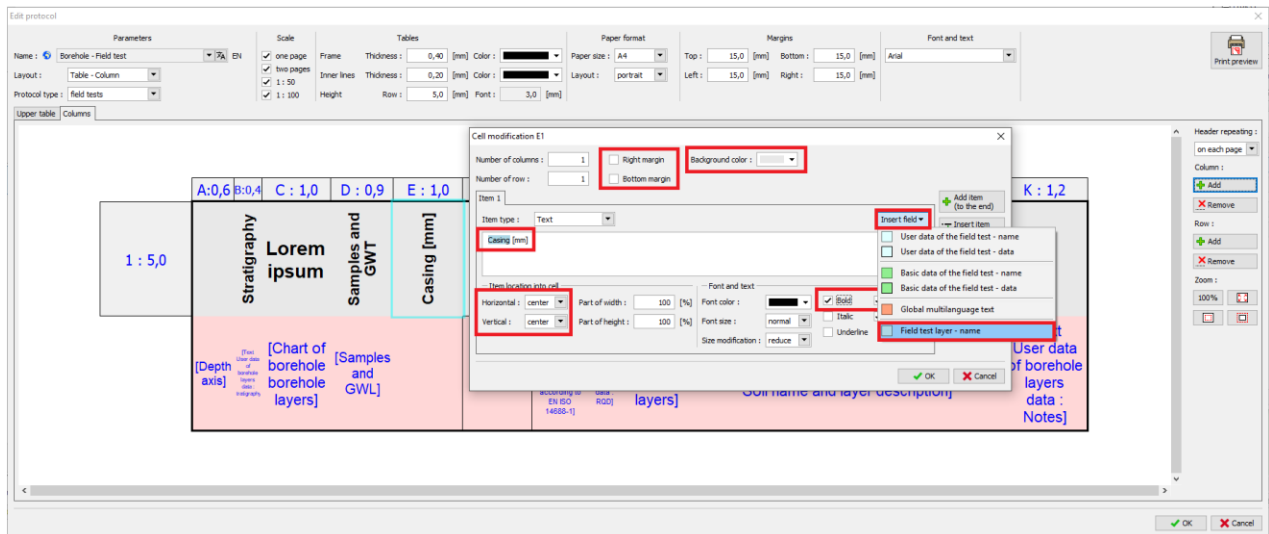
All changes in the upper table are done and we can switch to the “**columns**” tab. Define **2** new columns here between the columns **D** and **E**.



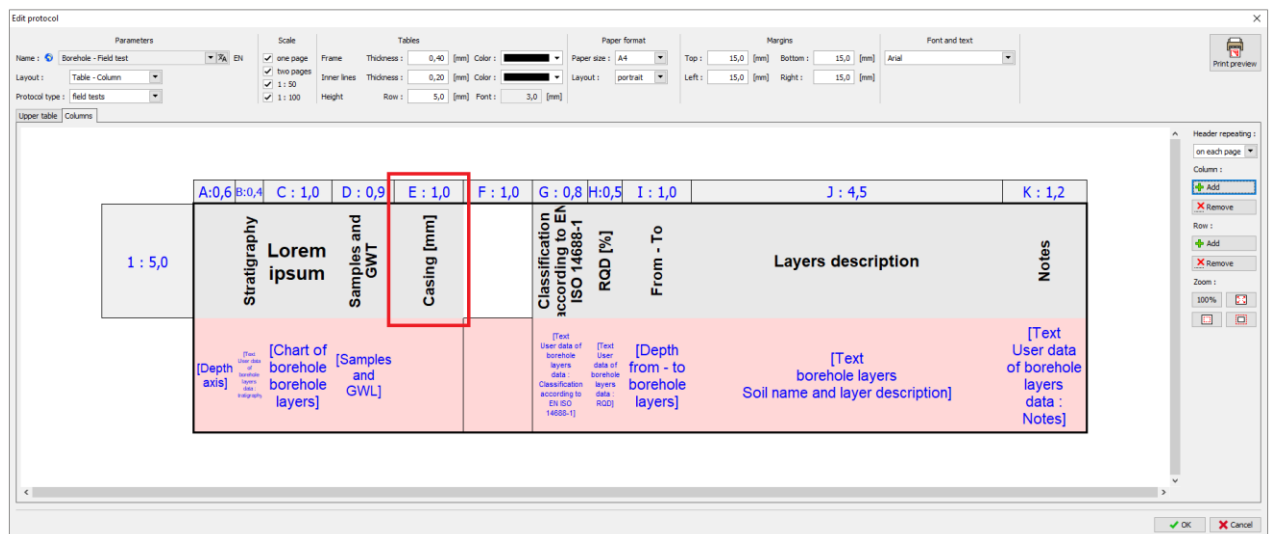
Confirm by the “OK” button and columns will look as follows:



In the E column, define information on “**Casing**” through “**Insert field**” and “**Field test layer-name**”. Switch off margins, change the background colour and text properties (bold and vertically). Next to “**Casing**”, add information about units [mm] manually.

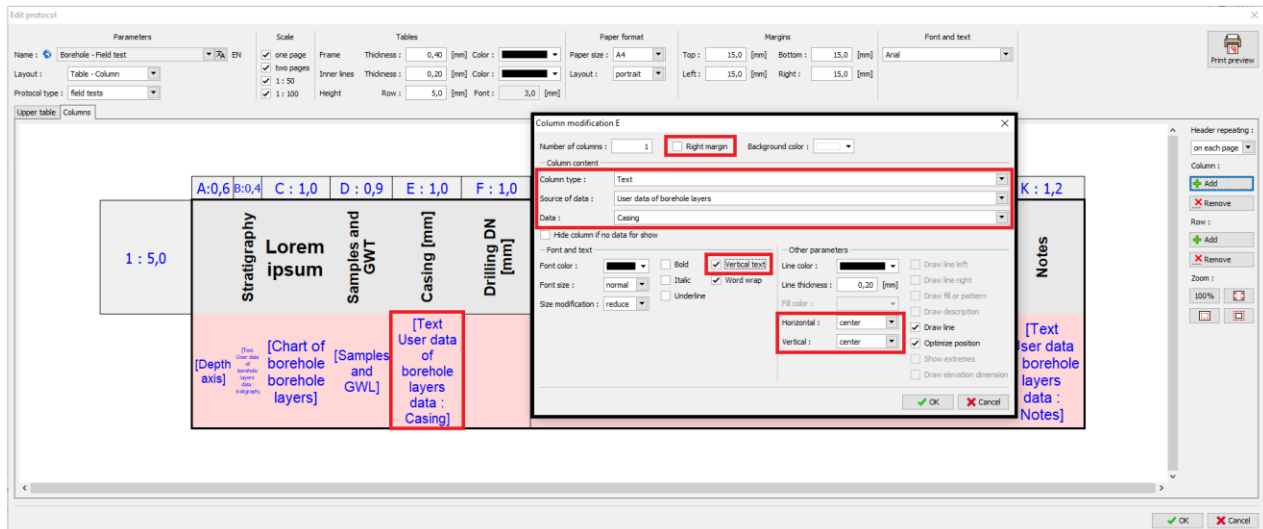


The columns look like the following.

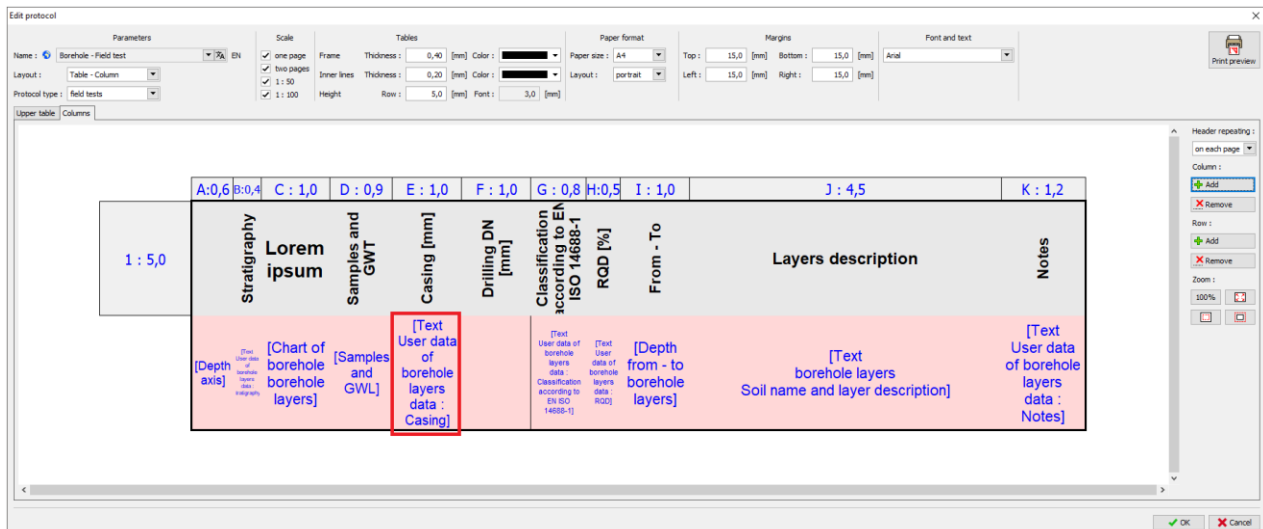


Carry out the same changes for the “Drilling” in the **F** column and add information about the diameter “**DN [mm]**”.

Move to the pink part of the **E** column and define the data for Casing. This data will be loaded from user data specified for each profile layer. Switch right margin off, the column type will be “**Text**”, source of data - “**User data of borehole layers**” and data for “**Casing**”. Text is vertical and in the middle.



Now it looks as follows:



The output protocol looks as follows:

Name Street, City, 000 00		Log of Boring		BH1
Project: Geological Survey - "Deer House"				
Project ID: 2018_A-017		Annex no.: A.1G	Drilling equipment: Hütte 202 TF	
Location: Prague 12			Overall depth: 24,00 m	Coordinates:
Date start: 22.11.2017	Foreman: Mr. Young		Ground water table: GWT bored: 15,80 m GWT steady: 12,50 m	NORTH = 1039757,71
Date end: 23.11.2017	Documented: Mr. Smith			EAST = 745144,86
Scale: one page			Method of drilling:	ALTITUDE = 209,05 m

Stratigraphy	BH1	Samples and GWT	Casing [mm]	Drilling DN [mm]	Classification according to EN ISO 14688-1	RQD [%]	From - To	Layers description	Notes
Recent	Fill	2086			saCl		0,00 - 4,90	Fill: fine grained SAND with some silt, dense, mixed with cobbles of concrete and pieces of bricks partly the size is larger than the borehole diameter, black colour of the soil	Easy drilling
							4,90 - 6,40	Fill: coarse GRAVEL with some silt (clayey shale) and fresh angular cobbles up to 15 cm, dark grey colour	
Quaternary	Sand with trace of fines, Gravelly clay, Sandy clay	2087			Sa	-	6,40 - 8,60	Sand with trace of fines: medium grained with some fine soil, dense, rust-brown	
							8,60 - 9,60	Gravelly clay: hard, gravel particles up to 10 mm (weathered shale), brown	
							9,60 - 10,50	Sandy clay: hard, with some pieces of gravel (quartz) up to 50 mm dia., brown	
							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	
							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	
							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	
Ordovician	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	Loosing of drilling fluid
							19,30 - 24,00	Shale, slightly weathered: moderate strong, fine layered, steeply inclined, wet (saturated – under water table), dark grey	

As you can see the information about the Casing, Drilling and Method of drilling are not shown, because this data has not been entered yet.

The last step is to define the method of drilling and diameters for casing and drilling in BH1 borehole. Go to the Field tests frame, open BH1 test and define method of drilling in the log data.

Edit field test properties (borehole)

— Test parameters

Test name: BH1

Coordinate: x = 1039757,71 [m] y = 745144,86 [m]

Height: input z = 209,05 [m]

Depth of the 1st point from original terrain: d₁ = 0,00 [m]

Overall depth: d_{tot} = 24,00 [m]

☒ Field test generates test profile

Layers Samples Table GWT

Layer Number	Thickness t [m]	Depth d [m]	Soil name
1	4,90	0,00 .. 4,90	Fill
2	1,50	4,90 .. 6,40	Fill
3	2,20	6,40 .. 8,60	Sand with trace of fines
4	1,00	8,60 .. 9,60	Gravelly clay
5	0,90	9,60 .. 10,50	Sandy clay
6	1,50	10,50 .. 12,00	Sandy clay
7	2,80	12,00 .. 14,80	Shale, fully weathered
8	1,00	14,80 .. 15,80	Shale, weathered
9	3,50	15,80 .. 19,30	Shale, moderately weathered

Soil profile

Drilling equipment: Hütte 202 TF

Method of drilling: Rotary core drilling

Print log Import OK Cancel

Then edit the first layer of this test and input Casing and Drilling diameters in ALL layers.

Edit field test properties (borehole)

— Test parameters

Test name: BH1

Coordinate: x = 1039757,71 [m] y = 745144,86 [m]

Height: input z = 209,05 [m]

Depth of the 1st point from original terrain: d₁ = 0,00 [m]

Overall depth: d_{tot} = 24,00 [m]

☒ Field test generates test profile

Layers Samples Table GWT

Layer Number	Thickness t [m]	Depth d [m]	Soil name
1	4,90	0,00 .. 4,90	Fill
2	1,50	4,90 .. 6,40	Fill
3	2,20	6,40 .. 8,60	Sand with trace of fines
4	1,00	8,60 .. 9,60	Gravelly clay
5	0,90	9,60 .. 10,50	Sandy clay
6	1,50	10,50 .. 12,00	Sandy clay
7	2,80	12,00 .. 14,80	Shale, fully weathered
8	1,00	14,80 .. 15,80	Shale, weathered
9	3,50	15,80 .. 19,30	Shale, moderately weathered

Edit layer

Thickness: t = 4,90 [m]

Depth: od = 0,00 [m] do = 4,90 [m]

Soil name: Fill

Pattern category: GEPRODO Color: Background: enter color

Subcategory: enter color

Surficial deposits (1 - 83)

Pattern: 1 Made-up ground

Layer description: fine grained SAND with some silt, dense, mixed with cobbles of concrete and pieces of bricks partly the size is larger than the borehole diameter, black colour of the soil

Casing: 178,0

Drilling: 195,0

OK Cancel

Now the new template is ready.

Name Street, City, 000 00		Log of Boring		BH1
Project: Geological Survey - "Deer House"				
Project ID: 2018_A-017	Annex no.: A.1G	Drilling equipment: Hütte 202 TF		
Location: Prague 12	Overall depth: 24,00 m		Coordinates:	
Date start: 22.11.2017	Foreman: Mr. Young	Ground water table:	NORTH = 1039757,71	
Date end: 23.11.2017	Documented: Mr. Smith	GWT bored: 15,80 m	EAST = 745144,86	
Scale: one page		GWT steady: 12,50 m	ALTITUDE = 209,05 m	
Method of drilling: Rotary core drilling				

Stratigraphy	BH1	Samples and GWT	Casing [mm]	Drilling DN [mm]	Classification according to EN ISO 14688-1	RQD [%]	From - To	Layers description	Notes
Recent	209.05								
Quaternary	2086		178.0	195.0	saCl		0,00 - 4,90	Fill: fine grained SAND with some silt, dense, mixed with cobbles of concrete and pieces of bricks partly the size is larger than the borehole diameter, black colour of the soil	Easy drilling
					Gr		4,90 - 6,40	Fill: coarse GRAVEL with some silt (clayey shale) and fresh angular cobbles up to 15 cm, dark grey colour	
					Sa		6,40 - 8,60	Sand with trace of fines: medium grained with some fine soil, dense, rust-brown	
					grCl		8,60 - 9,60	Gravelly clay: hard, gravel particles up to 10 mm (weathered shale), brown	
					sasiCl		9,60 - 10,50	Sandy clay: hard, with some pieces of gravel (quartz) up to 50 mm dia., brown	
					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	
					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	Loosing of drilling fluid
Ordovician	2087	12.50				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	
		15.80				35	15,80 - 19,30	Shale, moderately weathered: layered, drill sharp fragments 10-50 mm, gently inclines, weak/moderately strong, wet, dark grey	
				156.0		87	19,30 - 24,00	Shale, slightly weathered: moderate strong, fine layered, steeply inclined, wet (saturated – under water table), dark grey	
	2095								