Conducting Geological Surveys - Data Collector Mobile App

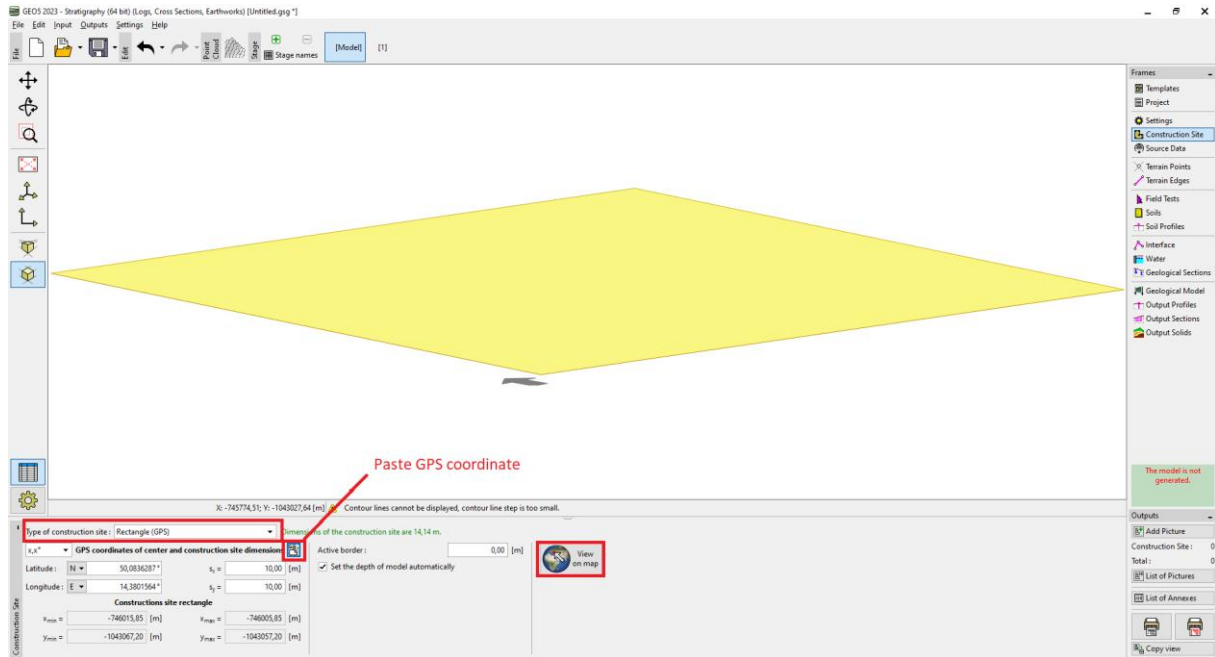Program: Stratigraphy, Geo5-Data Collector

Data preparation for the survey

It is possible to start the survey on-site directly with the mobile app, but it is more convenient to prepare the survey in Stratigraphy, enter the points of interest and upload them to the mobile app.
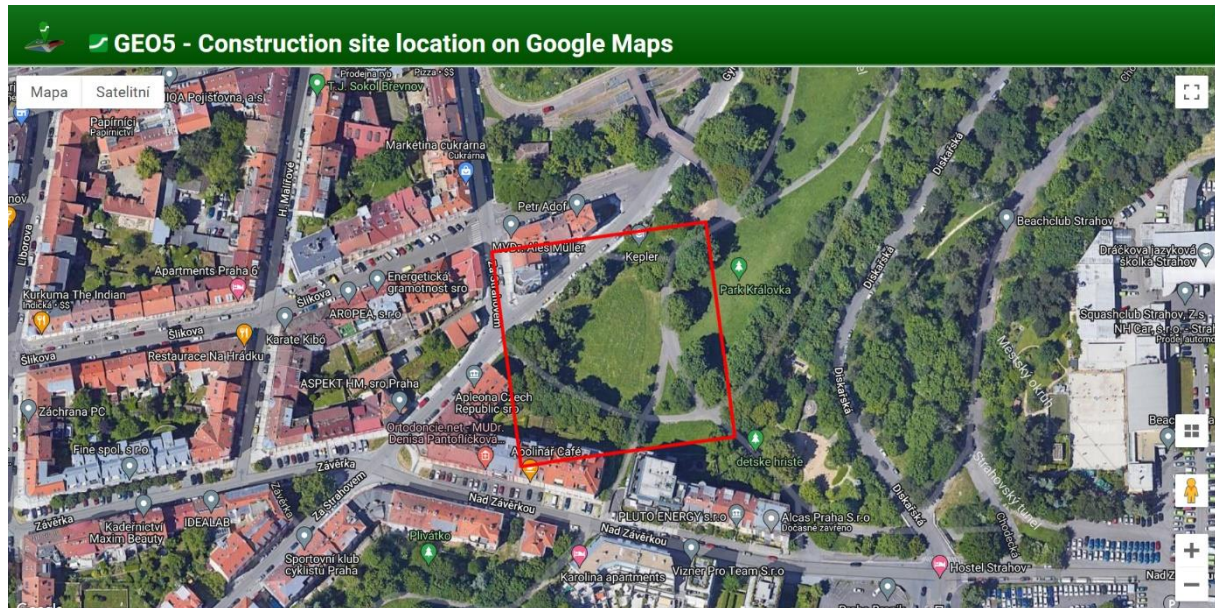
If we don't have exact information about the construction site, we find its center on Google maps and copy the GPS coordinates.
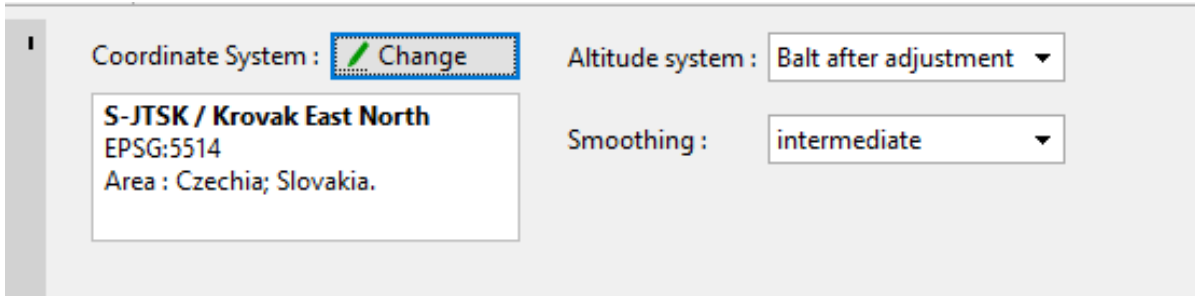
In the Stratigraphy program, in the Construction Site frame, we switch to the "Rectangle (GPS)" option and use the small button in the middle of the frame to enter the coordinates. We enter the dimensions of the site and check the correctness of the input by pressing the "Show on map" button.
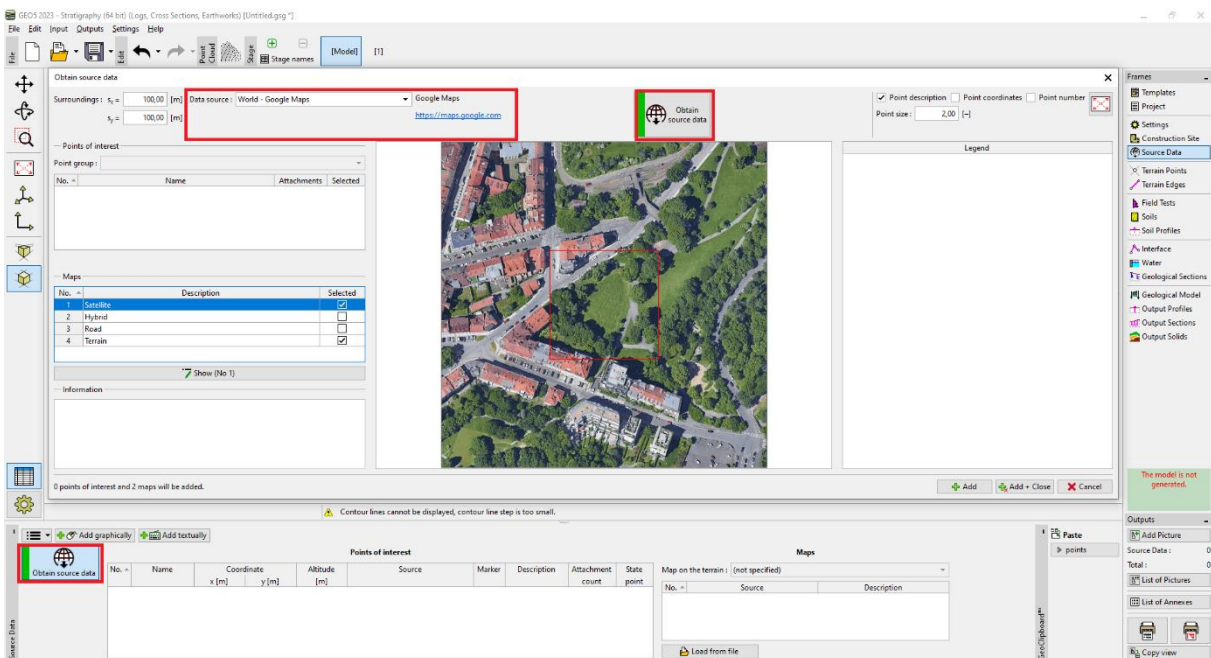

If the input is correct, the selected rectangle is displayed in "Google Maps".
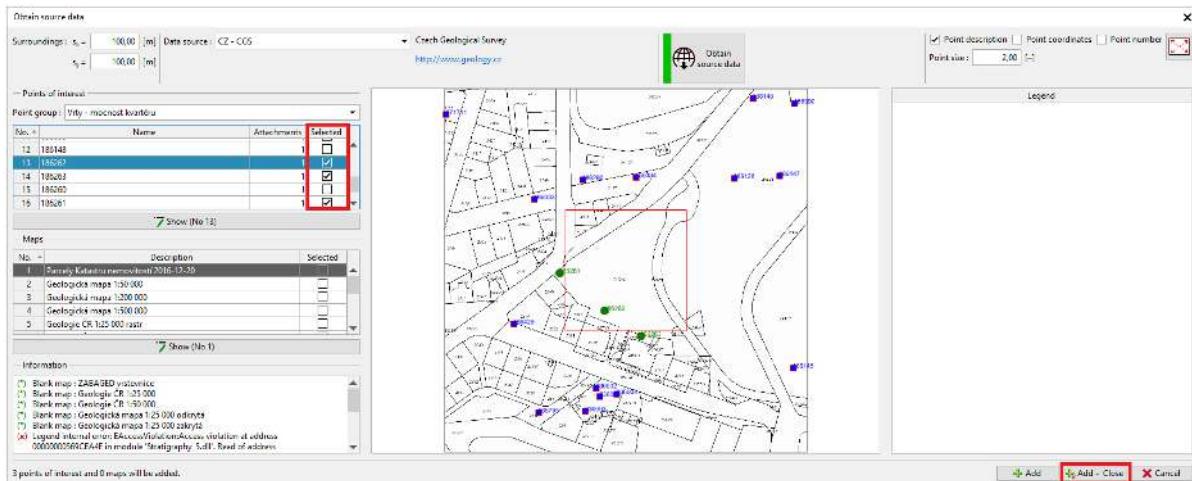
If a completely different location is displayed, it is due to a poorly chosen coordinate system. In this case, we have to select the coordinate system corresponding to the entered GPS coordinates in the "Settings" frame.
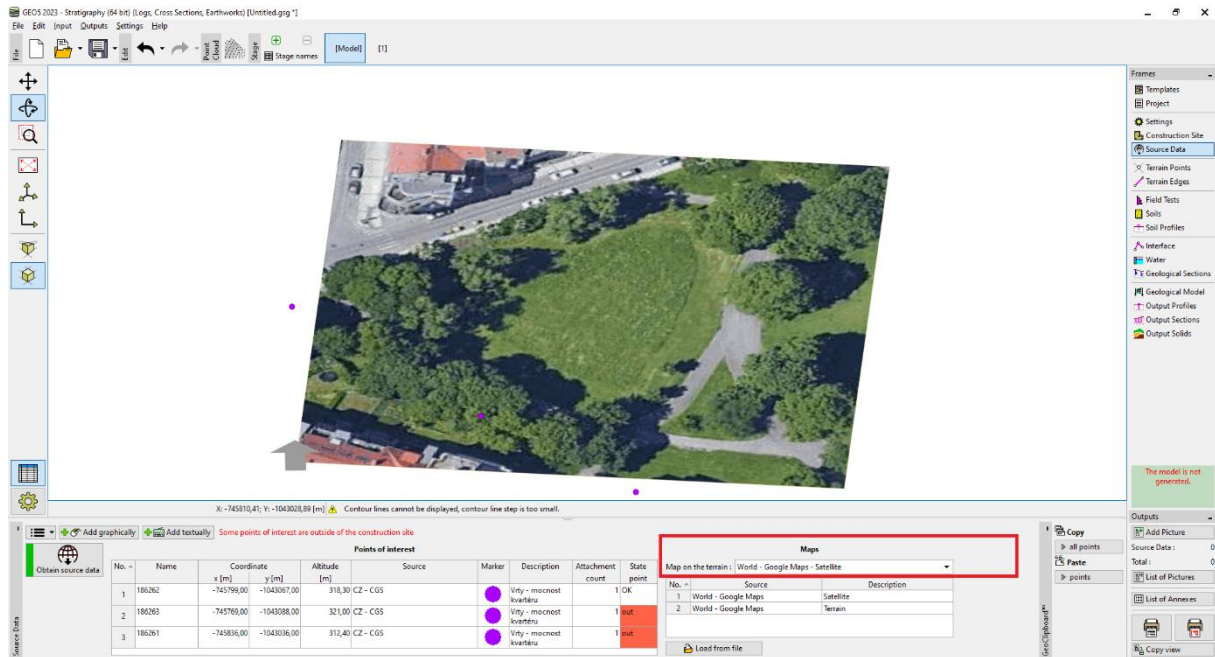

We go to the "Source Data" frame and load the available data. Google Maps and OpenStreetMaps work for the whole world.
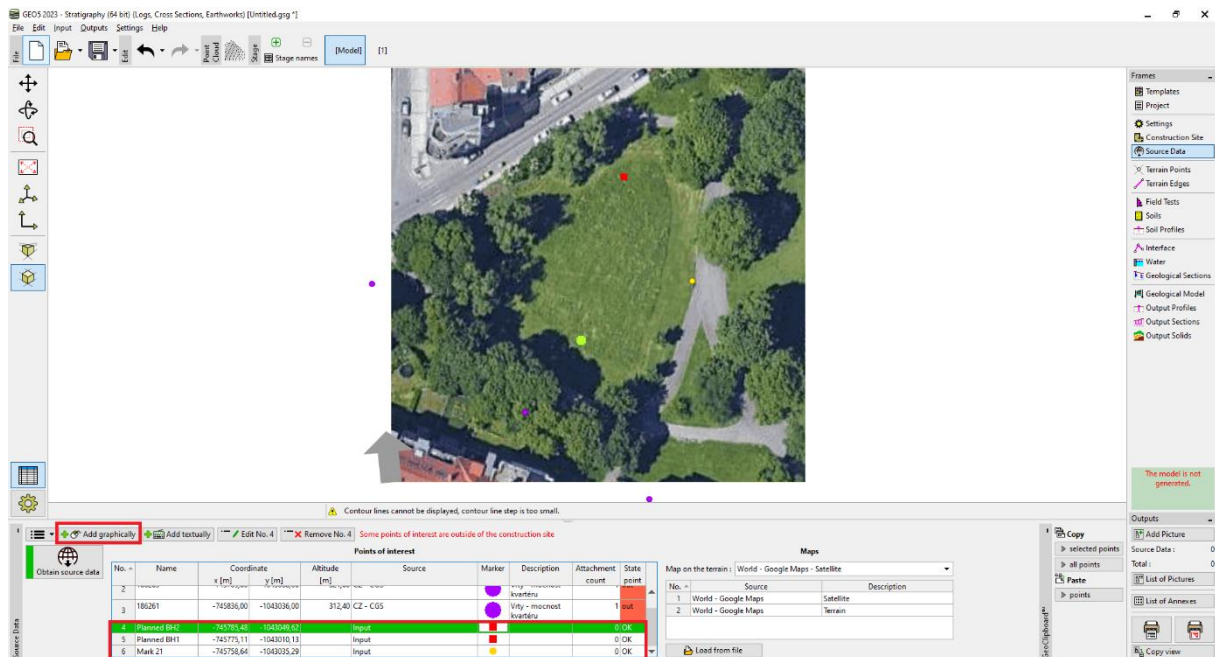

Further information is then available in individual countries - as in the Czech Republic from the Czech Geological Survey (CGS). We can upload geological maps and borehole survey data.

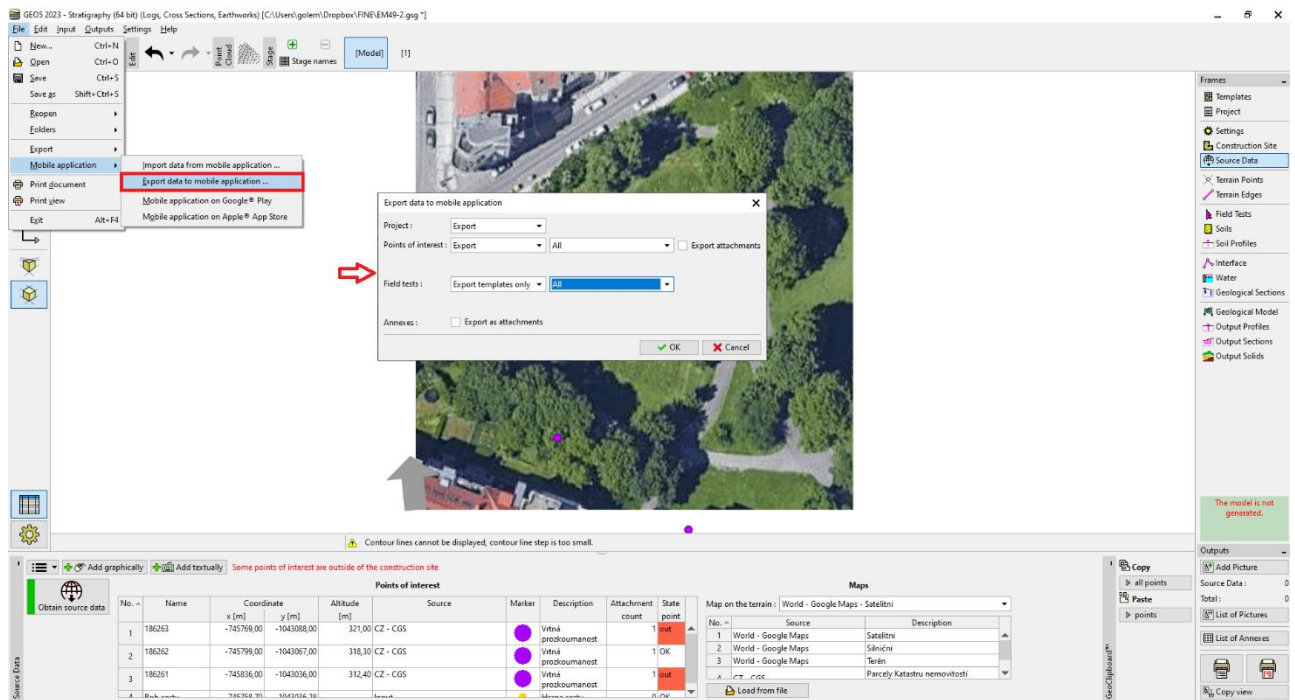We move the points from the borehole survey to the Points of Interest.

With the "Add graphically" button, we can enter additional points of interest to simplify the survey. For example, assumed positions of wells, landmarks, locations of leveling marks, pipelines, masts, etc.
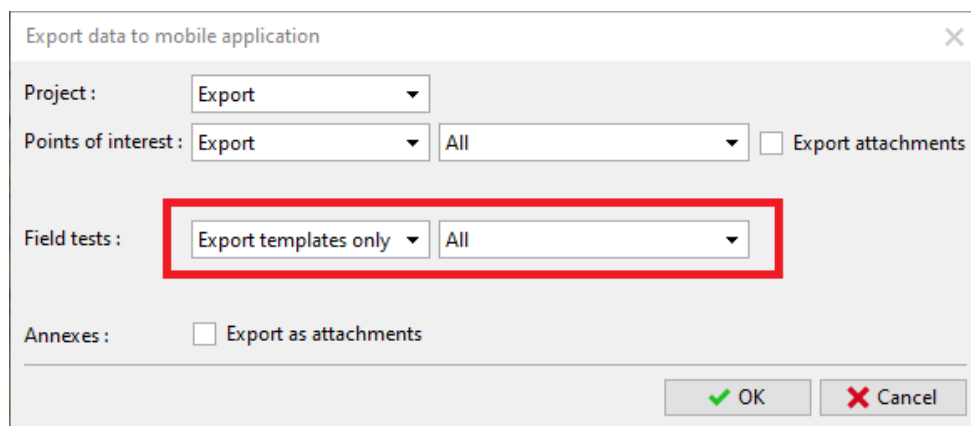
Data export to mobile app

The next step is to upload the data to the mobile app. We select "Export to mobile app" in the menu and choose what data we want to export.
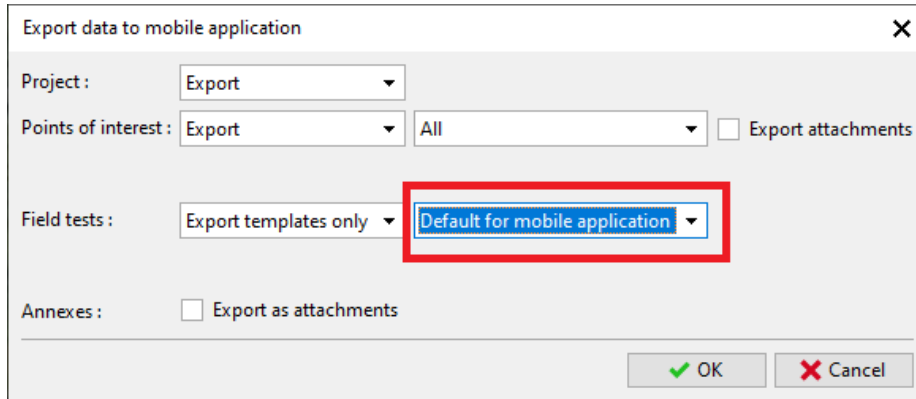

We have two basic choices on how to proceed.

By default, we export data about the Project, Points of Interest, and all field test templates currently used in the "Stratigraphy" program. This option allows us to enter **all the data** in the mobile app that we enter on the PC.

The second option is to export the borehole template created for the mobile app. Its advantage is the **simplicity of entering on a mobile device**. It is also the same for all countries and settings. We will use this option in our example.

Choose a file name and storage location that our mobile device can access (Google Drive, One Drive, Dropbox).

Note: Storage and working with data clouds are in preparation for the 2024 edition (November 2023).
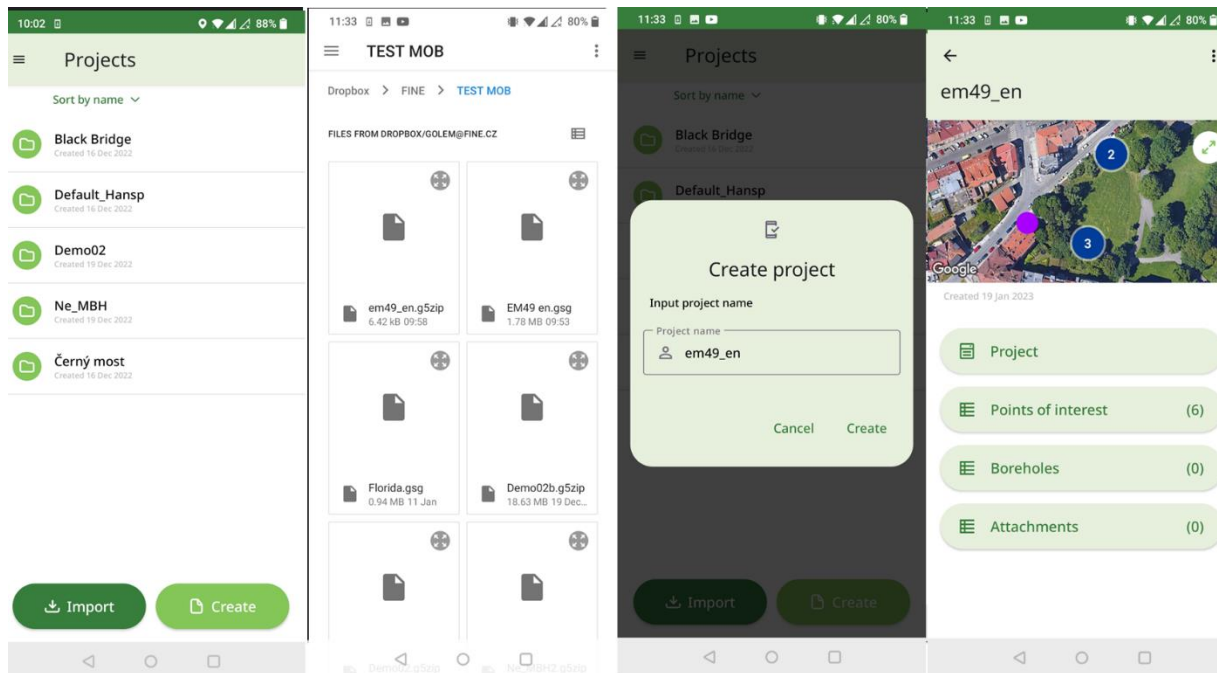
Work with the Geo5 Data Collector mobile app

We will now launch the GEO5 Data Collector mobile app.

Fig. 1, 2: Use the "Import" button to upload the exported file

Fig. 3: Create a new project "EM49".

Fig. 4: Home screen - at the top we can see a map with the imported points of interest

We will now carry out a geological survey of the site.

Fig. 1: The map shows the points of interest, the blue circle shows our location

Fig. 2: Zoom in on the map to maximum magnification to get as close as possible to the point of interest

Fig. 3: Add the first borehole and load its GPS coordinates

Fig. 4: Enter the layers, hatches, color, name, soil description, and other information. We also enter the elevation of the borehole - for later terrain generation.
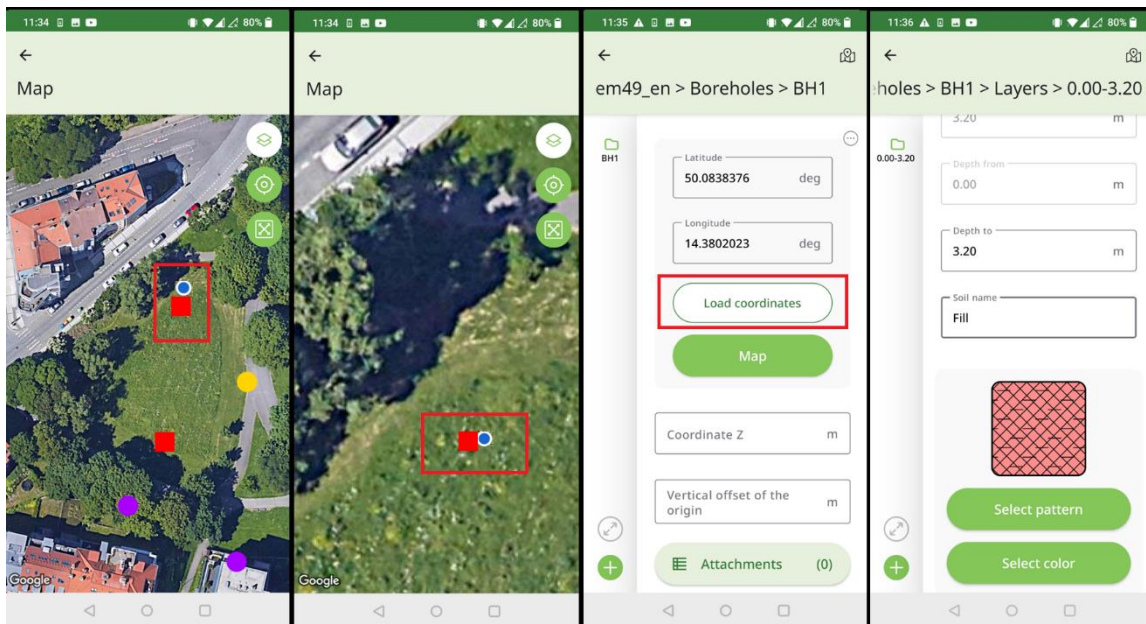

Fig. 1: Using the speech-to-text option, especially for soil description

Fig. 2, 3: Add attachments - photos, videos, audio records

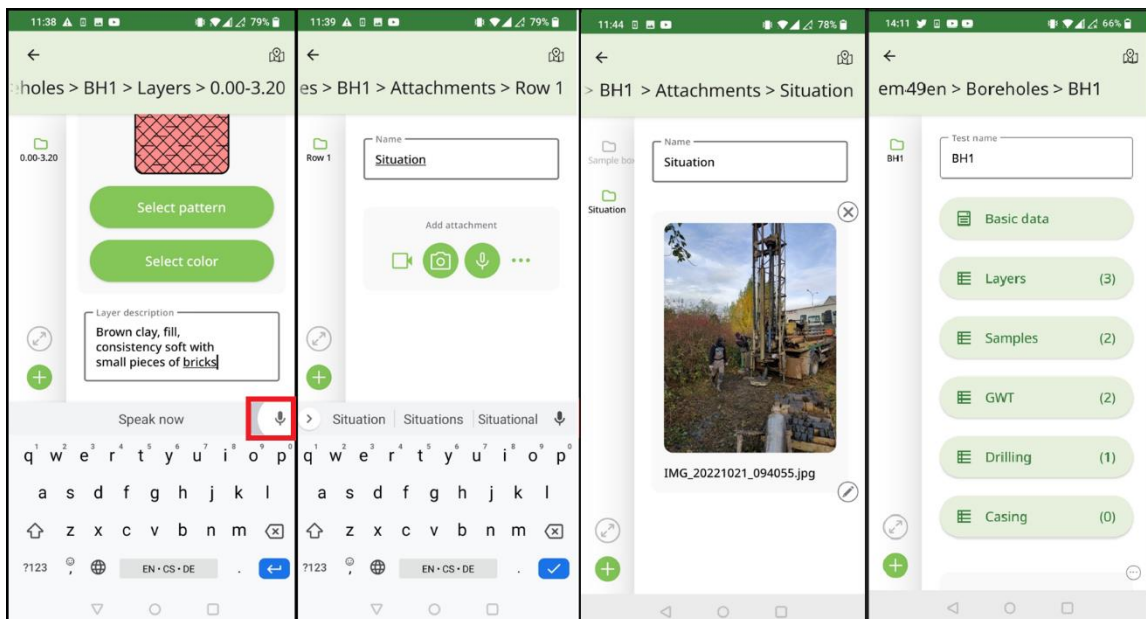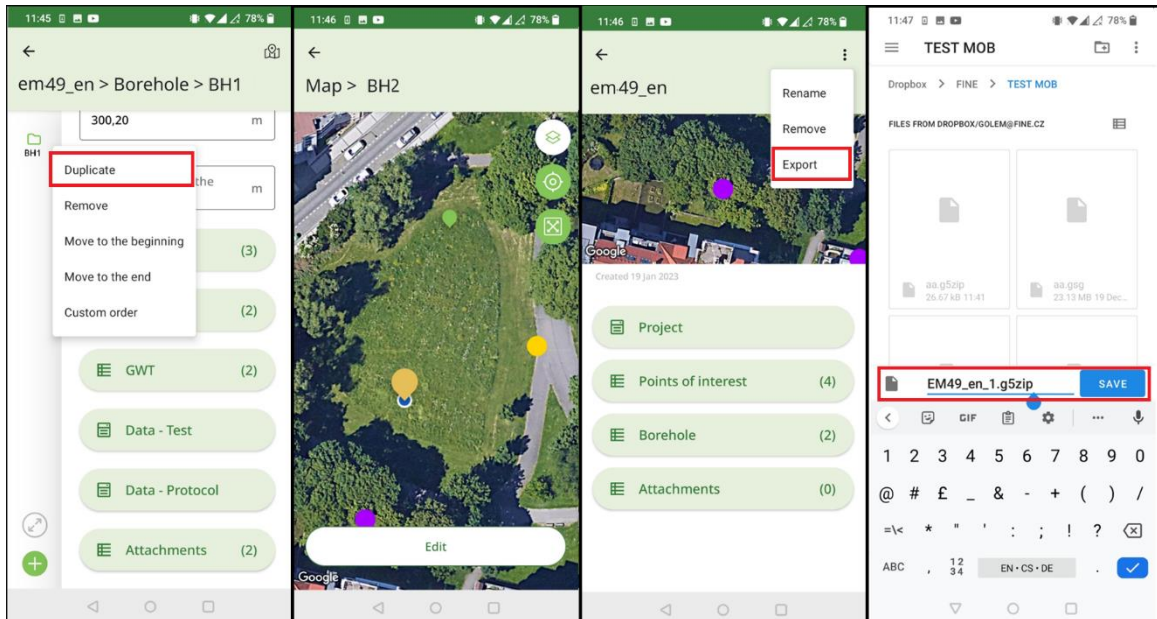Fig. 4: Overview of the specified borehole

Fig. 1: The next borehole can be created by copying (duplicating) the previous one and modifying the already entered values. Attachments (photos, videos, audio) are not duplicated.

Fig. 2: Adjust the position of the borehole by moving it on the map. Next, edit the data of borehole 2 - layers, samples, GWT...
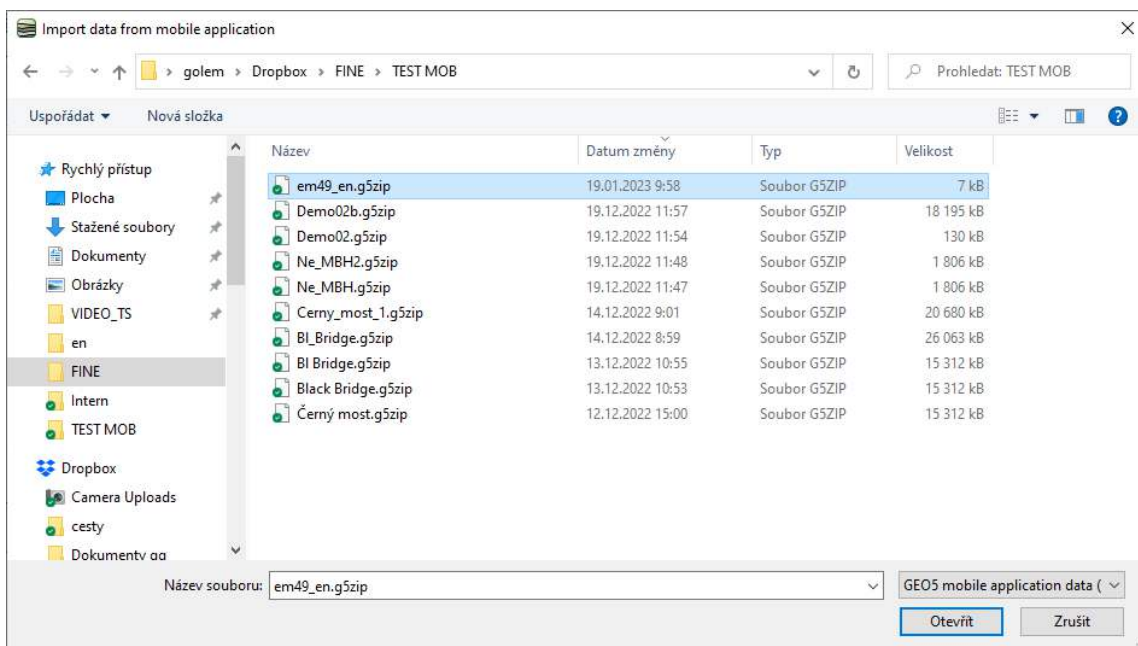
Fig. 3: Export the finished survey to the repository.

Fig. 4: The program will offer to name the file according to the project name. Since Android does not allow overwriting files and each device behaves differently, the file name is composed of the project name + its save sequence number.

Processing of survey results

After returning to the office, we import the data into the Stratigraphy program.

The import window allows you to load all or part of the data. In our case, we just confirm with the "OK" button.

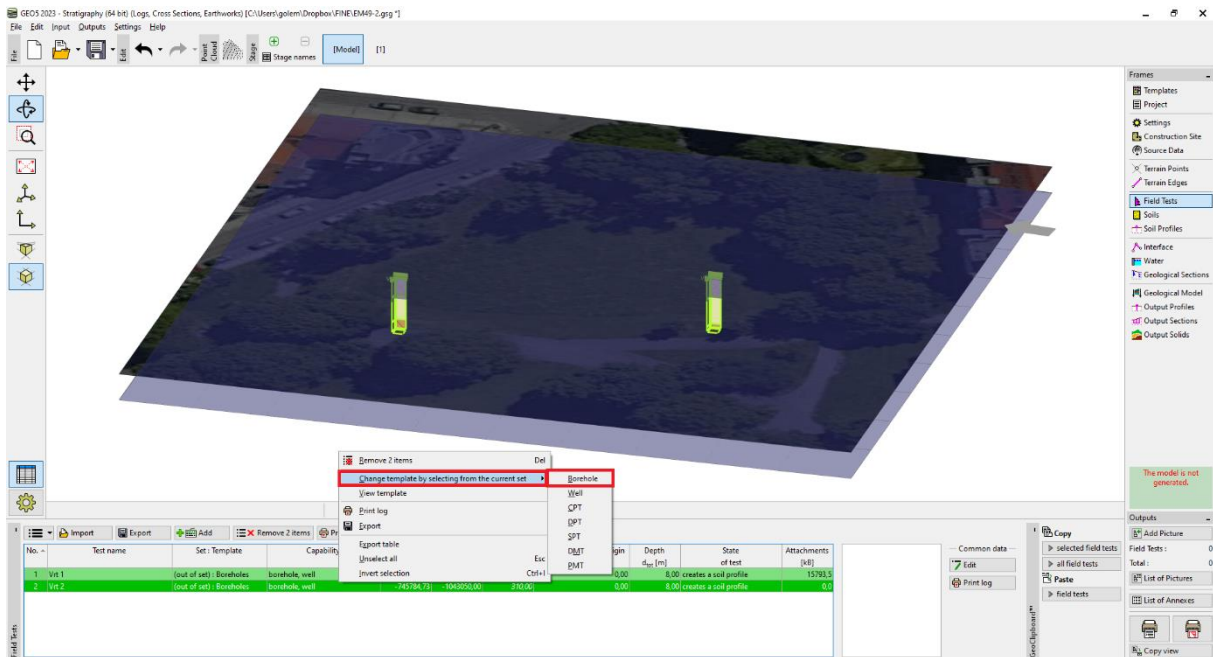We can see the imported boreholes displayed on the screen.

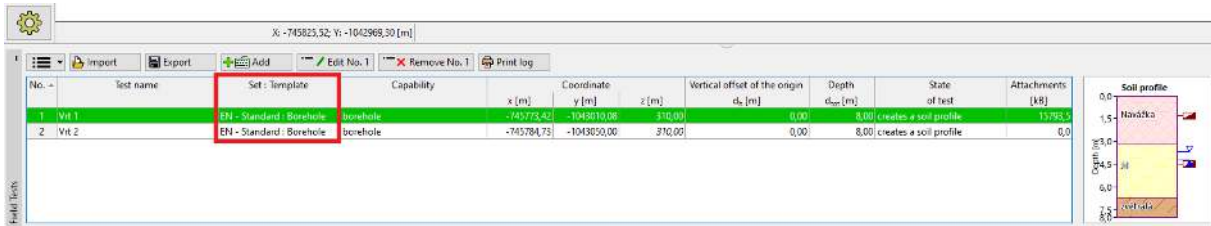The boreholes can be viewed in the print log. The print log corresponds to the default mobile template.

For further modifications of the entered data and for printing the template, we will want to use our standard template. The imported boreholes have a template called "Outside Template - Boreholes". So, we will convert them to our standard template.

Select the boreholes and right-click to change the template type.

The borehole template was changed and the data was transferred from the mobile template to the current, standard template.

Note: If you use a template where some data is not defined (or is defined differently), some information may be lost. In the spring 2023 update, we are preparing a template mapping feature to make this process more transparent.

Now we can complete and modify the boreholes as we need, create IG sections and a 3D model of the subsoil.