

PRACTICAL TEST : ALONG THE BOUILLIDE

"La Bouillide" is a small river that crosses the plateau of Sophia Antipolis. Its journey is mysterious. Indeed, the flow of the watercourse can vary strongly over a few hundred meters to the point that it disappears at times.

Keep in mind : What are the indices of ground that explain this significant variation in flow?

Figures 1 and 2 provide general information on the topography and geology of « La Bouillide ». The points of interest that you are working on are shown on the maps (A to D).

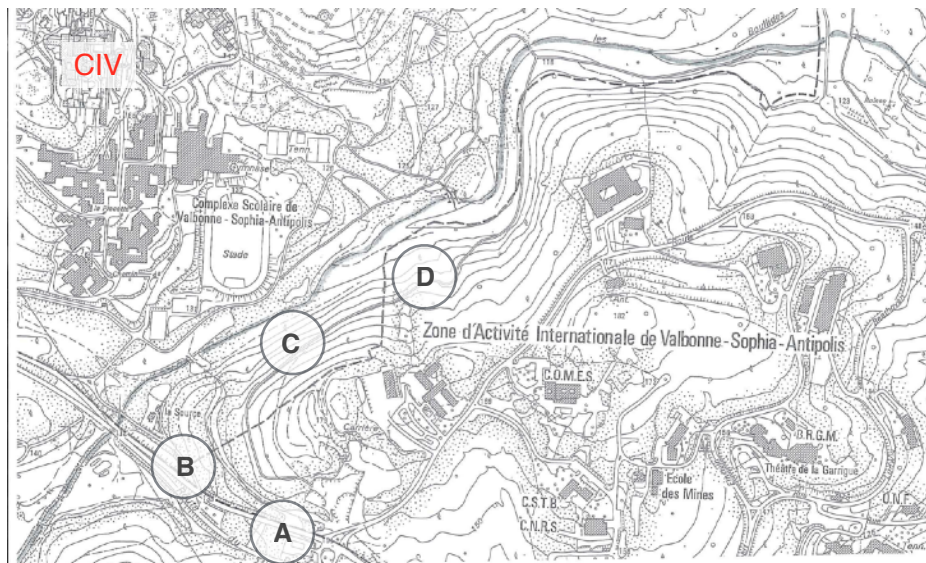


FIGURE 1 : Topographic map of 1/10000th of the Bouillide valley.

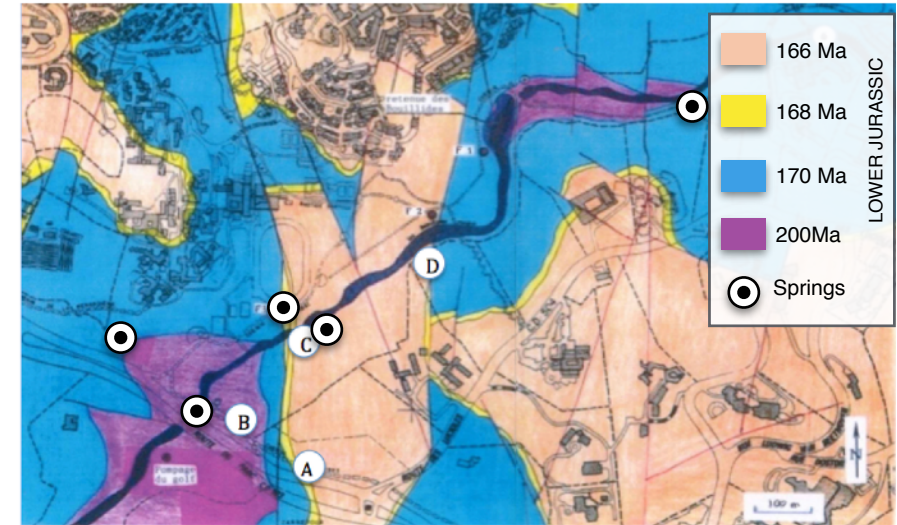


FIGURE 2 : Geological map of the area shown in Figure 1 (from the thesis « Geology and karstic hydrogeology of the basin of the Brague and its edge » by Christian Mangan, 1982).

INSTRUCTIONS

The observations made at the four sites (A to D) will allow you to answer the question. The question sheet will be distributed in the classroom after your fieldwork.

You have a notebook to describe your observations and measurements at each of the four sites. Each site is supervised by referees. They will ensure smooth progress, but will not answer any content questions. You will be provided with a set of tools to perform your investigations.

SITE A

Equipment provided :

A compass and clinometer.

Hydrochloric acid, pipette and watch glass.

Sample of glass and steel.

Instructions for observation :

- Determine the rock category (e.g. sedimentary, metamorphic, magmatic)
- Accurately identify the rock (e.g. limestone, granite, schist, etc...).
- Take notes and draw a labeled outcrop diagram.

Drawing of the site :



Your notes :

SITE B

Equipment provided :

A board on mobile support at two axes.

A compass and clinometer.

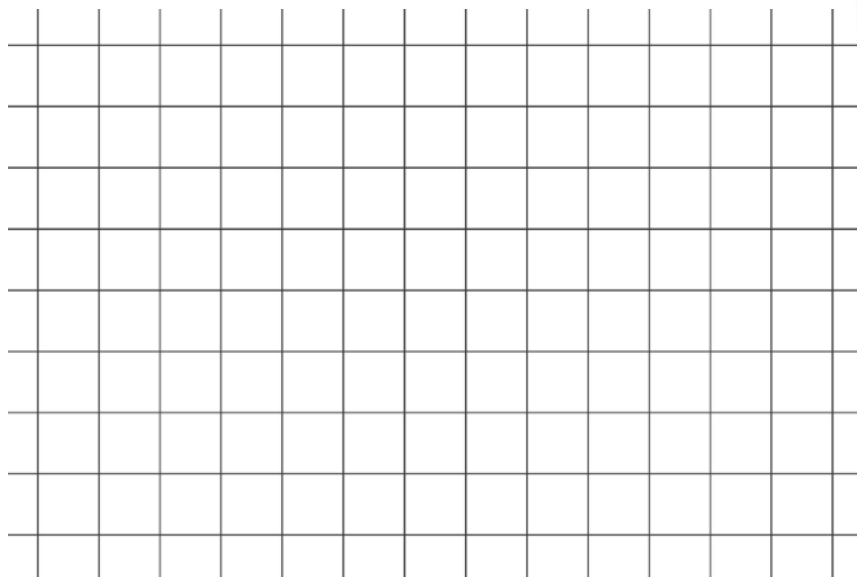
Hydrochloric acid, pipette and watch glass.

Sample of glass and steel.

Instructions for observation :

- Determine the rock category (e.g. sedimentary, metamorphic or magmatic)
- Accurately identify the rock (e.g. limestone, granite, schist, etc...).
- Measure the outcrop geometry (follow on-site instructions).

Drawing of the site :



Your notes :

TECHNICAL
EVALUATION 1
BY REFEREE

SITE C

Equipment provided :

Thermometer and gloves.

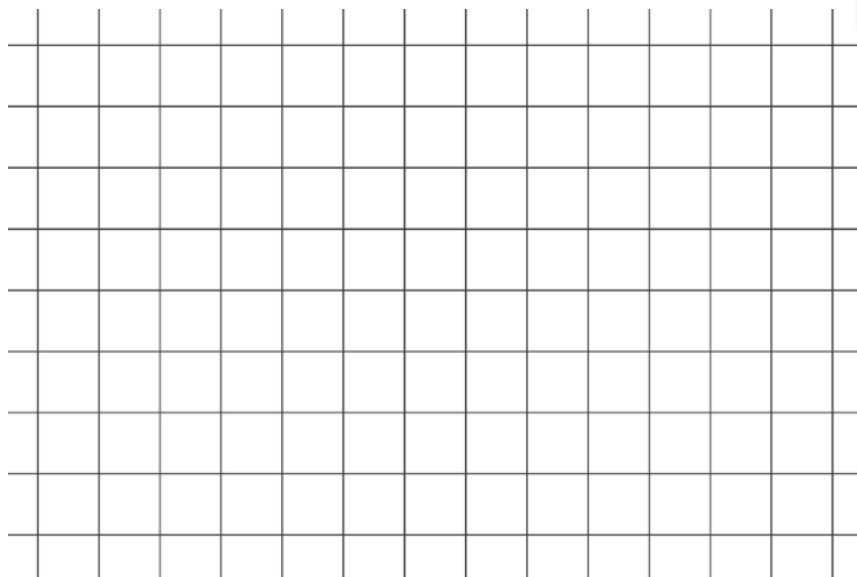
Strips for indication of hardness, pH, nitrate concentration.

Measuring tape.

Some instructions for the observation :

- Determine the temperature of water in the river and the spring.
- Estimate the difference in altitude between the river and the spring.
- Depending on the context, measure the water flow at several points.

Drawing of the site :



Your notes :

TECHNICAL
EVALUATION 2
BY JURY

SITE D

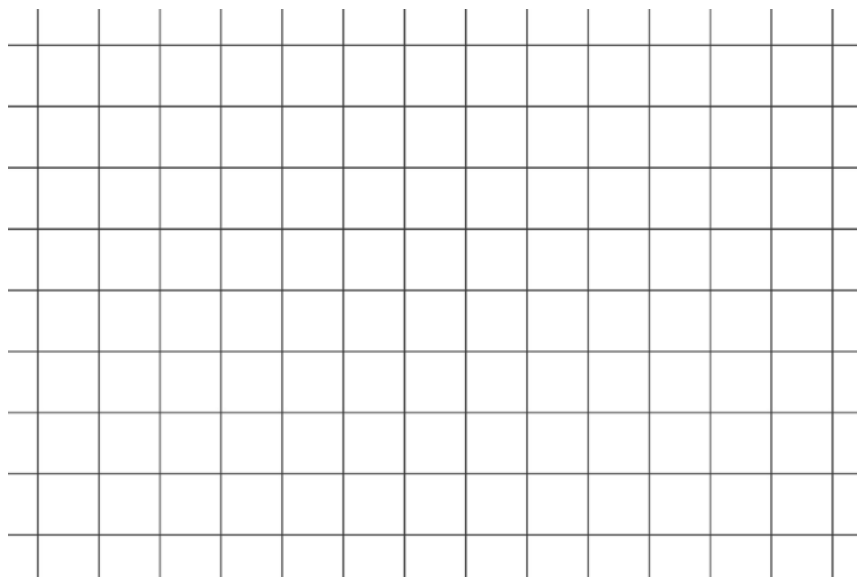
Necessary Informations :

The rock at this outcrop is dated to the lower Bathonian (168Ma). It has been known since antiquity and extracted for works of art.

Some instructions for the observation :

- Determine the rock category (e.g. sedimentary, metamorphic, magmatic)
- Accurately identify the rock (e.g. limestone, granite, schist, etc...).
- Take notes and draw a labeled outcrop diagram.

Drawing of the site :



Your notes :



*From the Museum of Ceramic of Biot.
Artwork dated to the 18th century*



What are the Cargneules ?

Sedimentary rock carbonated with vacuolar aspect, from yellow tint to rust, due to the dissolution of dolomites or limestones under the action of copper sulphate waters. These rocks are breccias. They are formed by liquid injection under pressure that cracks the rock. This water results from gypsums dissolution of Trias and is expelled from it because of tectonic efforts.