

Labeil Cave - Guided Tour Text

- Step 1: Entrance to the Cave

Hello, we are standing here at the natural entrance to Labeil Cave. This natural entrance was carved out by an underground river, which once flowed through this gallery under pressure before emerging outside into this dolomitic cirque.

In 1889, Joseph Vallot mentioned his visit to Labeil Cave in the French Alpine Club records. He noted that prehistoric pottery and human bones covered the floor of the gallery for nearly 500 metres, suggesting that it was a major prehistoric site.

Archaeological excavations were carried out in 1960 by an archaeological club from the Hauts-Cantons.

These excavations revealed evidence of human occupation dating back 7,000 years. During the digging of the tunnel, calcite was fractured, revealing black marks like those you can see on the panel.

Following rhodium-thorium analyses carried out by researchers, we can now confirm that the cave was visited 8,000 years ago.

- Step 2: The Reinforcement Pillar

The masonry around the door, as well as this reinforcement pillar, dates from the period when Roquefort cheese was aged here. The temperature in the cave remains at 12°C all year round. This temperature corresponds to the average annual outdoor temperature.

Labeil Cave was also used for burials. Above this porch, you can see the location where cremation was practised in prehistoric times. I suggest that we go a little farther to see reproductions of funerary urns.

- Step 3: Funerary Urns

You can see the different reproduced urns. They were found in several places throughout the cave and have been brought together here for display. The oldest date from the Bronze Age and the Iron Age. Even the Romans practised cremation outside the cave before placing the urns inside.

- Step 4: Roquefort

Labeil Cave was used as a Roquefort cheese ageing cellar until the 1880s. The earliest known historical reference dates from Roman times. It is mentioned in the writings of Pliny and dates from 75 AD. When the Romans arrived on the Larzac plateau, they discovered a blue-veined cheese that they appreciated. Roquefort was later served at the royal tables of Clovis and Charlemagne. A decree was issued in Toulouse to protect Roquefort.

Roquefort was the first cheese in France to receive an appellation of origin, in 1925. Since then, Roquefort cheese may only be made in Roquefort. Around 80 natural caves were once used as ageing cellars on the Larzac plateau. The last one, the Grotte des Sables at Pas-de-l'Escalette, closed by court decision in 1944.

- Step 5:

You can see a wine amphora dating from the Gauls, as well as tableware for eating and drinking dating from the Iron Age. Roman silver coins were also found in the cave, including sesterces of Julia Soaemias. What we lack are Gallo-Roman and Visigothic ceramics; their decoration is remarkable but difficult to reproduce.

- Step 6: Storage Vessel

This is a reproduction of the vessel that once stood here. The original is in a museum. It allowed prehistoric people to scoop from inside with a bowl in order to drink.

- Step 7:

We now come to the burials and an ossuary. The deceased were first placed in a burial mound outside. Once the bodies had decomposed, the skulls and the long bones - generally the femurs - were collected and brought into the cave. It is thought that this practice was reserved for a certain elite, perhaps shamans or clan leaders, since it concerned only a very small number of people. You can see the burial of a Visigoth, generally interred with his finest clothes, ornaments (jewellery), and weapons, as well as a dish of offerings containing food. In Visigothic beliefs, after death the deceased had a journey to make into the afterlife. For Neolithic and Iron Age burials, people were generally buried in a foetal position, accompanied by a small offering bowl, deer antlers, and ornaments (a necklace made from boar tusks, arrowheads, or spear points). It is thought that these reflected the personality of the deceased. The burial was outlined with basalt pebbles and then covered with stones.

- Step 8: The Underground River

What makes Labeil Cave unique is that it is perched 700 metres above sea level, with a natural entrance and an almost level passage leading to an underground river. The water temperature is 10°C. This river is tapped to supply drinking water to the hamlet of Labeil. A special feature of Labeil Cave is that it is a living cave. Why use this term? Because water flows continuously over the cave formations all year round. When it rains, water seeps into the ground and absorbs carbon dioxide, which is held by plant roots. It then carries this carbon dioxide and infiltrates the cracks in the limestone. On contact with the limestone, the carbon dioxide dissolves the rock. The water becomes loaded with limestone and seeps into fissures, redepositing it underground and giving rise to stalactites and stalagmites. The greater the temperature difference between the surface and the underground, the faster calcium carbonate will precipitate. On average, the formations grow by one centimetre every 100 years. This water therefore allows the cave formations to develop. It also produces oxidation that colours these same crystals. Iron oxide produces the orange colour, and oxidation of manganese carbonate produces black or blue, which, mixed with white, gives grey. All the shades you can see on the cave formations come essentially from the elements I have just explained.

- Step 9:

The underground river is part of the GEMAPI network. You can see a measuring staff in the water. Behind it, there is a probe in the water, connected to the surface, which gives the water levels every...

...hours. This probe is part of the 18 Sources network in Hérault, which monitors river flow. It enables the prefecture's services to stay informed and, in summer, to take restriction measures in the event of water shortages, and in winter, to warn of flooding. The cave river emerges at the foot of the cliffs and gives rise to the Laurounet. The Laurounet then flows into the Lergue at Lodève, before joining the Hérault River, which empties into the Mediterranean Sea at Agde.

- Step 10:

You can see dolomitic sand in the bed of the river. This sand is carried by the water and comes from the erosion of dolomite, the rock that makes up the surface of the plateau. Carried by the water, this sand forms shapes like dunes. As in the desert, these are called ripple marks. Depending on the flow of the river, the dunes are larger or smaller. Around you, on the rock and in the river, you can also see erosion potholes. It looks as though the rock has been hammered. This was formed by the pressure of the water, and two major phenomena play an important role: erosion and corrosion. As I mentioned earlier, the water becomes charged with carbon dioxide, and this carbon dioxide dissolves the limestone. Then, as the flow increases, a phenomenon of mechanical erosion occurs. Because of the power of the water, which carries sand and pebbles, the rock is worn away. If you are ever lost in a cave, you should know that the hollow part of an erosion cupule always faces upstream and the pointed end always faces downstream. This type of passage is called a forced conduit. Proof that the gallery was once completely filled with water is that you can even see erosion cupules on the ceiling. During flood periods - this is a question I am often asked - the water rises to the height of the ramp, since it cannot drain away through the lower parts of the galleries.

- Step 10: Prehistoric Paintings

The rock art you can see in this chamber was created during a film shoot in 2019.

In front of you are reproductions of ceramics found in the cave during the excavations. Also displayed are examples of bone industry and lithic industry - that is to say stones, flint, axes, movable objects, arrowheads, and flint knives - taken from the publication of the 1960 archaeological excavations, along with the stratigraphy representing the different civilizations that occupied Labeil. I would point out that, at the time, the dating indicated an occupation of 7,000 years. In the conclusions of the publication, the archaeologist mentioned that some flints appeared to have a more archaic style of knapping, and he was surprised by the difference in workmanship. This is quite normal, because these flints date from the Mesolithic period. Today this has been confirmed by rhodium-thorium dating. During the Mesolithic, people were hunter-gatherers. During the Neolithic (New Stone Age), people discovered the firing of clay and the making of pottery. Humans also began to settle down, domesticate animals, and practise livestock farming.

- Step 11:

You are standing in front of a map of the cave, which helps explain the different stages in the carving of this river. I would point out that we entered through the natural entrance giving access to the underground river. We are now at the starting point of the Safari, a visit that is offered beyond the guided sections. It is a kind of treasure hunt in which the guiding thread of the visit is a series of numbered panels. You are provided with a helmet, a lamp, and a map.

- Step 12:

We are now entering the crystallised network. This network was discovered in 1976 by the CLPA Speleological Group and was opened to the public in 1994. The cave formations you can see on the ceiling are mainly soda straws. Their special feature is that they are hollow, like a drinking straw, because the water circulates inside the formation, unlike stalactites, where the water runs over the outside of the formation. These drips falling from the ceiling give rise on the ground to stalagmites (a formation that grows upward). The red colour you can see on the walls is simply non-oxidised iron; when it oxidises, it produces yellow-orange colours.

- Step 13:

We arrive here in an artificial tunnel that was dug by human hands. It allows us to reach the surface of the plateau. In this tunnel, at an altitude of 700 metres and with a constant temperature of 12°C, we have placed wine for ageing. It may seem surprising, but I can tell you that wine improves when it is kept in the cave. Every year we hold a tasting with the winegrowers, who keep one bottle of their vintage at home and place another bottle in the cave. During this tasting, the oenologists wrap the bottles in aluminium foil and number them by estate. A blind tasting is then carried out by all the participants. The wines are scored. Nine wines out of ten that come out of the cave are better than the same wine that has not been kept in the cave.