

Oron

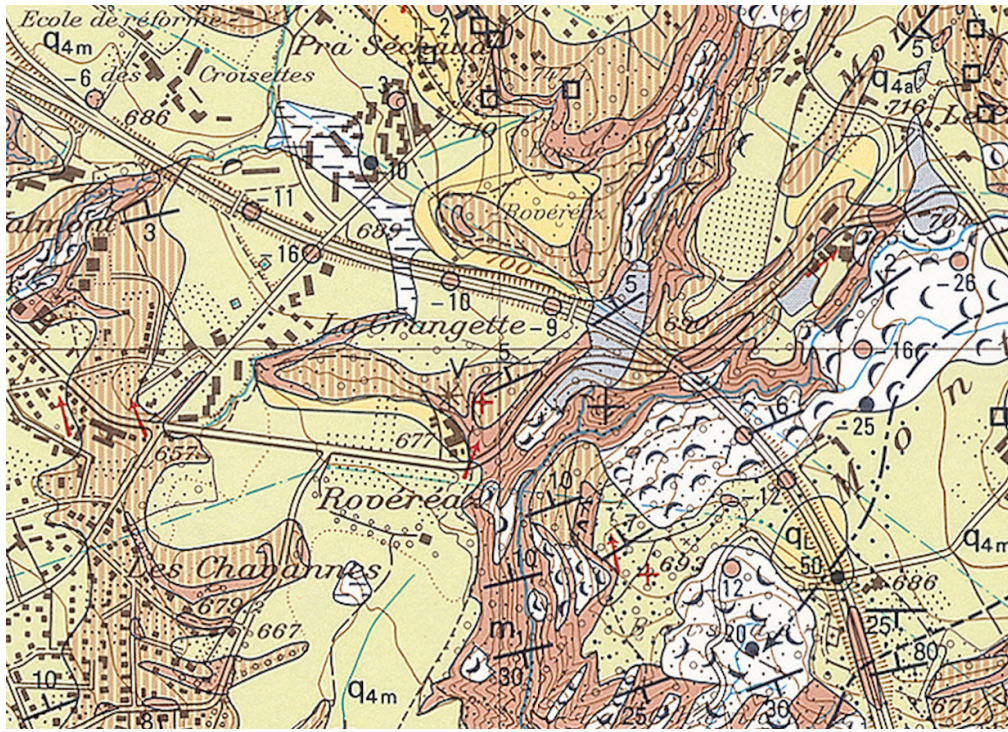
La route d’Oron is located between the municipality of Epalinges and Belmont sur Lausanne. Its course hasn’t changed for hundreds of years, running along the hillside and avoiding the Flon Morand river. However, in 1973, taking advantage of the nearby A9 highway’s construction, the river was buried and the road took a more direct path. A ~20m high molasse cliff now dominates a segment of it. The fragility of this exposed rock has already caused rockfalls in 1999, 2014 and especially in 2021. The cliff has now been secured using anchors, metal mesh & geotextile fabrics, and rockfall barriers. Its top can be reached from behind and overlooks the forest, the highway and the lake. This type of sedimentary rock has been used over centuries to build Lausanne (the cathedral is still an existing example). However, nowadays, the extracted molasse from construction sites is considered unusable and mainly evacuated (counterexample in 1992, for a gymnasium in La rue de la Mercerie).



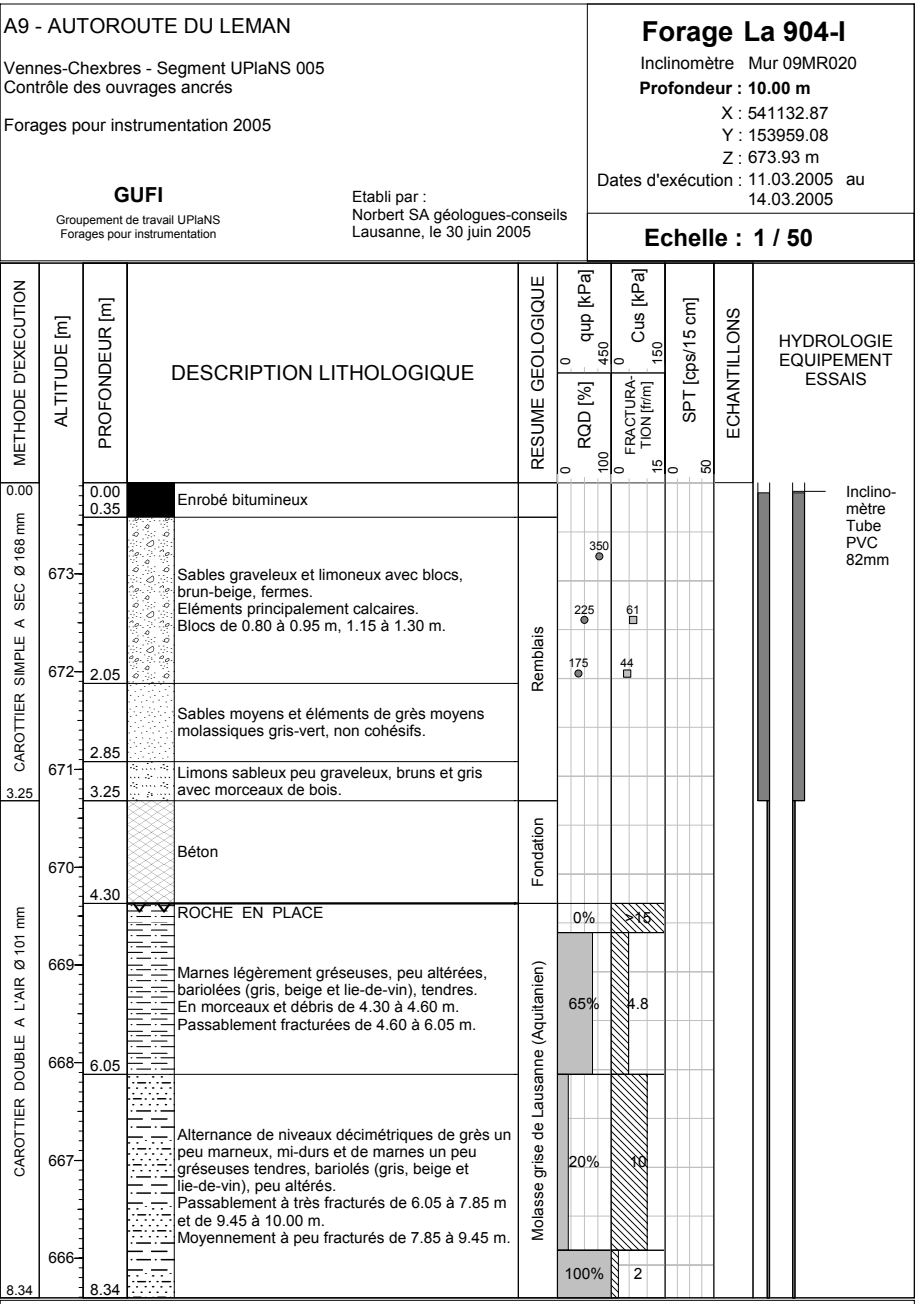
La Molasse

The Swiss Plateau alternated between marine and continental environments. These sediments slowly accumulated and then sank to the depths where they dried out, compacted, and gradually cemented together to form the Molasse. In the region of Lausanne, we can find la Molasse grise de Lausanne, which was formed in the Aquitaine period (20-23 million years ago) by accumulation on a vast swampy floodplain.

This rock formation consists of alternating layers of sandstone cemented with limestone (often several meters thick) and various layers of marl-clay of varying thickness. The different layers that can be found are as follows: Medium to coarse sandstone (soft rock) Marly sandstone and marly siltstone (slightly harder rock) Marl (very soft rock) To conclude, the Molasse grise de Lausanne is a relatively soft stone which does not withstand atmospheric changes well.



Geological Atlas of Lausanne, swisstopo.admin.ch



Drilling on the route d’Oron, geocad1.vd.ch

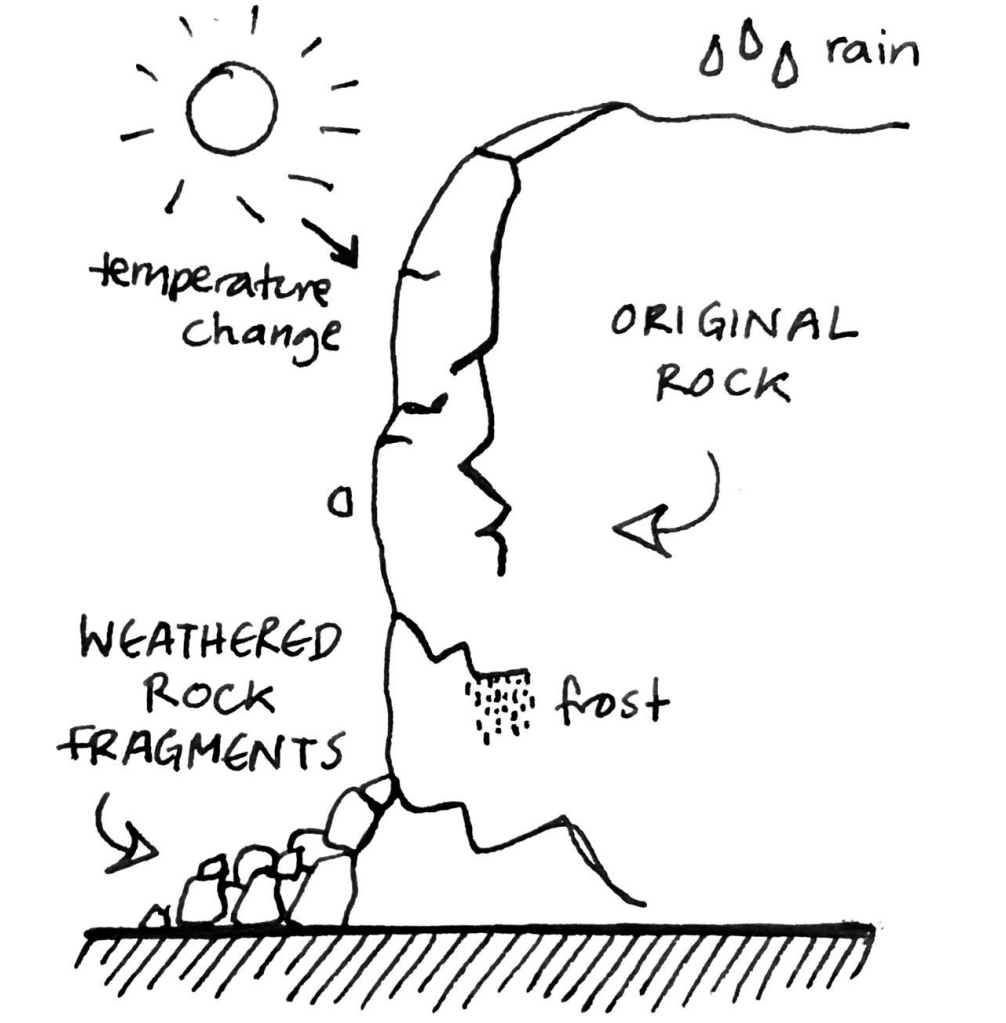


Diagram adapted from « Weathering and gradation diagram » Licchavi Lyceum.

Weathering

is a process in which rocks are breaking down and decaying in situ. Often confused with erosion, weathering does not consist of a movement; the fragments are not transported by a moving agent (wind, water..). It can be a very slow and elongated procedure, but can also be surprisingly quick, and cause damage to roads or pavements. Even though it is a natural process, human activity can accelerate it, mainly due to air pollution. It is divided in multiple processes such as mechanical weathering or chemical weathering. Mechanical weathering causes rocks to crumble because of a liquid agent that seep into cracks and crevices, that would expand during freezing weather, widening the cracks and splitting the rocks. Chemical weathering is a change in the molecular structure of rocks, for instance carbon dioxide, causing carbonation, dissolution or other kinds of chemical reactions.



« Un bloc de molasse entraîne la fermeture de la route d’Oron » Journal 24heures. Picture from Florian Cella.



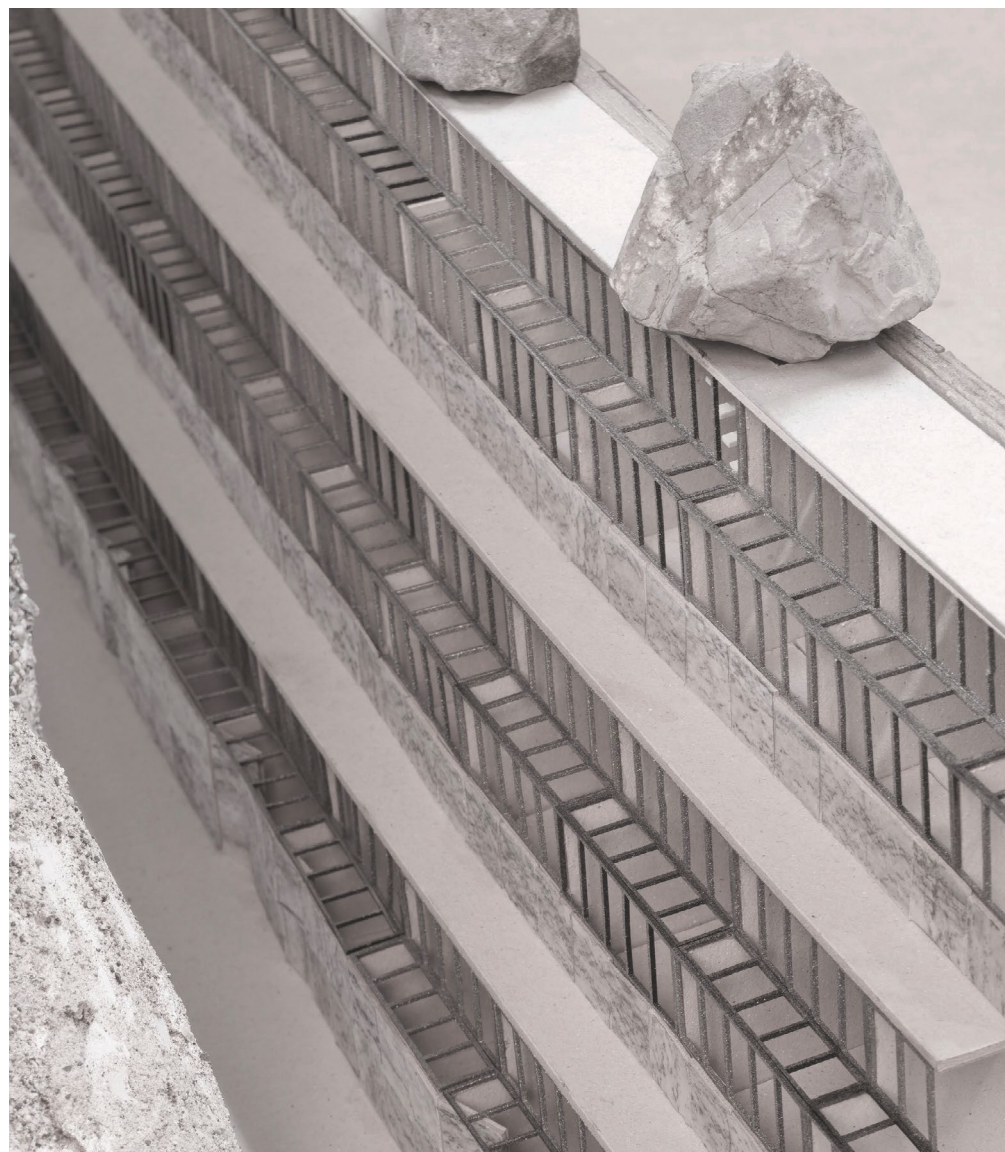
G.Gollogly - K. Matheu - A. Soh Model picture - Summacumfemmer studio 2025



Sébastien Hasler & Achille Pidoux, REPENSER LES PIERRES exploration sensible d’une ressource, master thesis, 2023-2024

Fragility of a site in erosion

Is it possible today to work with the fragility of the site and the matter rather than against it? Accepting the limitations of local resources, designing with geological reality, and embracing repair, reuse, and the temporal dimension of materials. Living with the falling rock becomes a form of symbol or responsibility, a way to think about how to make architecture work with a collapsing environment.



Charline Hugues, Camille Rossillon, Exuberance-Invasion phase III, studio SUMMACUMFEMMER, winter semester 2025

Extraction and ecology

This perspective opens a debate about extraction and ecology: where do the materials of our building come from ? Today, the violence of extraction is often invisible, displaced to distant quarries and industrial sites. However, the ecological cost of removing rocks, displacing soils and destroying ecosystems is directly embedded in our constructions. The falling rock becomes a symbol of this erosion in the landscapes whether it is mechanical or natural.



Sébastien Hasler & Achille Pidoux, REPENSER LES PIERRES exploration sensible d’une ressource, master thesis, 2023-2024

Living next to the molasse cliff

To live in this terrace building is to inhabit a slow, continuous fall of matter day by day. Every stone and every layer of earth carries a memory of erosion. Experiencing the falling rock through living in our unconventional building means acknowledging that this building is not an inert shelter but that we need to cohabit with it. Through centuries, we imagine this architecture to evolve with the cliff .



Sébastien Hasler & Achille Pidoux, REPENSER LES PIERRES exploration sensible d’une ressource, master thesis, 2023-2024



atelier le balto faire carrière, 2017

Terrasse and muret

in their project atelier le balto rearranged the stones that fell from the cliff so that it could create a terrasse. Through this project they used the material that was on site and made something with it. Dry stone wall in the jura is a traditional way of building walls without any mortar or lime that were created to delimit different pasturage or to contain the cows.



Circulation

Like the cliff, it is possible to walk around the building both at its base and at its summit. The interior layout has been modified to enlarge the private spaces. Shared internal staircases allow access to all floors, from the garden to the roof. This access to the rooftop walkway means that the view is now accessible from all apartments. From there, residents can admire the cliff and enjoy the view it offers, like the lake. Individual access points leading directly from the garden to the kitchen floor give residents the option of a private entrance to their apartments.

