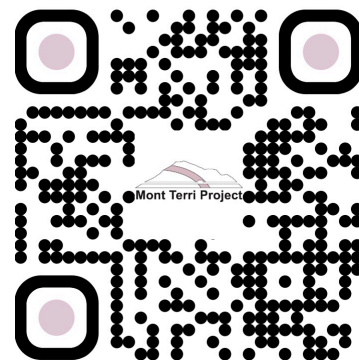


# Mont Terri Project Underground Rock Laboratory



Report period: October 28, 2024 – November 10, 2024

Assembled and edited by swisstopo, St-Ursanne



**Spotlight of the week:** On Friday 8 November, a lorry arrived with 11 pallets (photo). This was the first of around fifteen deliveries of pallets to be stored at the swisstopo drill core storage facility. This week's delivery contained samples from two exploratory boreholes drilled by Nagra in the 1980s: Schafisheim and Leuggern. Other pallets will contain, for example, samples from the construction sites for the new Alpine rail links (Gotthard, Lötschberg, Ceneri tunnels). These samples are therefore important witnesses to our knowledge of Switzerland's geological subsoil.

## **CD-A (Influence of Humidity on Cyclic and Long-Term Deformations) experiment**

- On Monday, November 4, S. Schefer (swisstopo) exchanged the ERT measuring device (4 Point light Lippmann) provided by M. Furche (BGR).

## **CL (CO<sub>2</sub>LPIE-CO<sub>2</sub> Long-Term Periodic Injection) experiment**

- On Thursday, November 7, M. Ziegler (swisstopo) moved the seismic DAS from PF-A to CL to continue the active seismic transmission monitoring.
- On Thursday, November 7, T. Theurillat (swisstopo) constructed a box for the acoustic cables.

## **DR-C (Diffusion in a Thermal Gradient) experiment**

- On Tuesday, October 29, Y. Lettry (Solexperts) stopped the HI test in BDR-C6 and started a HIS test. He also adjusted the temperature in BDR-C1 heating module and circulation module to 50 °C and dismantled the test equipment.

## **DR-E (Long-Term Diffusion Experiment in the Main Fault-Zone) experiment**

- On Monday, October 28, T. Theurillat (swisstopo) took samples #4 from the injection fluid out of both boreholes BDR-E1 and BDR-E2.
- On Thursday, November 7, T. Theurillat (swisstopo) took samples #5 from the injection fluid out of both boreholes BDR-E1 and BDR-E2.

## **GT (Gas Transport Models and the Behavior of OPA to Gas Pressure) experiment**

- On Tuesday, November 5, J. Gisiger (Solexperts) refilled the helium tank and performed leaking tests on the injection pump (**Figure 1**).

## **HT (Hydrogen Transfer in Opalinus Clay) experiment**

- On Thursday, October 31, T. Theurillat (swisstopo) emptied the Tedlar bag for BHT-1.

## **MH (Long-Term Monitoring of Heaves and Displacement) experiment**

- On Monday, October 28, N. Ritter and H. Laasch (ETHZ) measured vertical and horizontal temperature gradients in the security gallery. This will help to assess the meteorologic influences on geodetical measurements (**Figure 2**).

## **PF-A (Progressive Evolution of Structurally-Controlled Overbreaks: Long-term monitoring, hydromechanical simulation and rock testing) experiment**

- On Thursday, October 31, M. Ziegler (swisstopo) moved the seismic DAS from CL to PF-A to conduct another active seismic transmission survey.

## **SI-C (Seismic Imaging of the Mont Terri Anticline) experiment**

- On Friday, November 8, T. Theurillat (swisstopo) contacted all the land owners and the cantonal and communal authorities for the upcoming seismic survey.

## **SW-A (Large-Scale Sandwich Seal in Opalinus Clay) experiment**

- On Saturday, November 2, T. Theurillat (swisstopo) refilled the HPT of shaft 1.
- From Tuesday to Friday, November 5–8, S. Tuñón and M. Martínez (Amphos21) exchanged the data loggers for the RH measurements in both shafts and performed maintenance work.
- From Wednesday to Thursday, November 6–7, the PI of the experiment, M Hintze (GRS), was onsite to overview the work on the data loggers.

## **Varia**

- On Friday, November 1, we said Good-bye to Micha Richard, who spent three months of his civil duty in Mont Terri. He was a big help and contributed a lot to the BIM implementation in the rock lab. We thank Micha very much for his work and wish him a bright future.



## Visits

Day	Date	Group Name	Group Size	Visitors Guide
Wed	30.10.2024	Video Shooting For RBG, Nagra	5	H. Sager (Nagra)
Sat	2.11.2024	Besuchstag STADELaktiv, Nagra	16	O. Moser (Nagra)
Tue	5.11.2024	Rotary-Club Augusta-Raurica	25	P. Senn (Nagra)

## Figures



**Figure 1: GT:** J. Gisiger performing another leaking test (S. Schefer, swisstopo).



**Figure 2: MH:** Horizontal temperature gradient measurements in the security gallery (M. Richard, swisstopo).