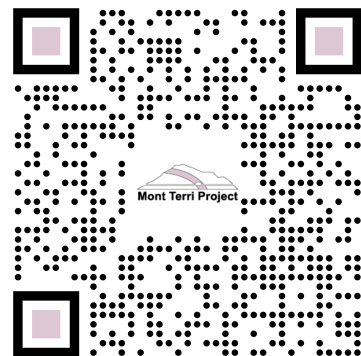


Mont Terri Project Underground Rock Laboratory

Report period: February 26, 2024 – March 3, 2024

Assembled and edited by swisstopo, St-Ursanne



Spotlight of the week: The imposing structure designed to store the crates containing the drill core samples is now being assembled. The entire space of the former lime production hall will be fitted out to house drill cores from all over Switzerland that are of national geological interest. This will be the "national drill core facility", managed by swisstopo. It's an innovative project that follows the rules of sustainable development. It is a unique system with vertical wooden supports. Solar panels will be installed on the roof to provide the energy needed for the building. Pallet management will be entirely automated. The dimensions of the storage are about 40 m x 60 m in surface with a height of 11 m. Around 2800 one-tonne pallets will be stored.

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

- On Friday, March 1, S. Schefer (swisstopo) re-installed the three platform tiltmeters in the Twin Niches and D. Rebscher remotely restarted the measurements.

CL (CO₂LPIE-CO₂ Long-Term Periodic Injection) experiment

- On Monday, February 26, S. Schefer and T. Theurillat (swisstopo) measured position, orientation and inclination of BCL-8.
- On Monday, February 26, M. Frädrieh and S. Lenius (terratec) performed the logging of BCL-8 (OBI, DEV, SPEC. GAMMA, DIL).
- From Wednesday to Thursday, February 28–29, T. Fritsche (ZHAW Winterthur), D. Jaeggi, J. Windisch, T. Theurillat and M. Ziegler (swisstopo) installed the third MMMS into the 17.48 m long monitoring borehole BCL-8. A. Eul (Eul GmbH) helped pushing the MMMS modules gently and stepwise into the borehole using the drill rig (**Figure 1**).
- On Wednesday, February 28, T. Theurillat (swisstopo) adapted the steel lines to the packer with different fittings. He also drilled the sinter filter to adapt it to the packer and grinded the lower part of the filter to fit more easily into the borehole.
- On Thursday, February 29, A. Rinaldi (ETHZ) connected BCL-8 to the fiber optics interrogator and started the measurements.
- On Friday, March 1, J. Windisch and M. Ziegler (swisstopo) filled the annulus space of BCL-8 with resin (57 l). The injection was stopped prematurely due to a leak into the MMMS. The rest will be filled next week. Furthermore, the annulus space of BCL-7 was filled with additional 4 l and the annulus space of BCL-5 was filled with additional 2.5 l.
- On Friday, March 1, J. Windisch and T. Theurillat (swisstopo) repaired the injection pump, which was clogged after the last resin injection.

DR-D (Heterogeneity of Sandy Facies by Geophysical Characterization and Diffusion Studies) experiment

- From Monday to Wednesday, February 26–28, A. Eul and F. Durulan (Eul GmbH) drilled the first four meters of borehole BDR-D3 with a diameter of 400 mm. The base was ground and is ready for the rest of the borehole in a smaller diameter (**Figure 2**).

FE-M (Long-Term Monitoring of the Full-Scale Emplacement Experiment) experiment

- On Thursday, February 29, S. Schefer (swisstopo) performed moisture measurements in BFE-B49 and thermal conductivity measurements with the KD2 probe. He also refilled the calibration bath with 25 l of demineralized water.

HS (Hydrogeological Survey of the Mont Terri Anticline) experiment

- From Wednesday to Friday, February 28 to March 1, D. Jaeggi (swisstopo) performed three pulse withdrawal interference tests between BHS-3 (extraction) and BHS-1 (intervals 3&4). Withdrawal was 0.5, 8,8 and 58.5 l, respectively, with shut-in after 10 s, 3 min and 30 min, respectively.

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

- On Tuesday, February 27, S. Schefer (swisstopo) restarted the Radwag scale of the HPT of shaft 2 and the data acquisition computer in cooperation with S. Tunon (Amberg). Measurements are online again.
- On Wednesday, February 28, T. Theurillat (swisstopo) refilled the HPT of BSW-A1 and replaced the gas bottle of BSW-A2.

Visits

Day	Date	Group Name	Group Size	Visitors Guide
Mon	26.2.2024	Collegium 60+	13	O. Moser (Nagra)
Wed	28.2.2024	ANDRA Delegation	9	H. Sager (Nagra)
Sat	2.3.2024	Nagra Besuchstag	14	O. Moser (Nagra)

Figures



Figure 1: CL: Inserting the MMMS is a team effort! (S. Schefer, swisstopo).



Figure 2: DR-D: The core barrel (400 mm) for the first 4 m of BDR-D3 (S. Schefer, swisstopo).