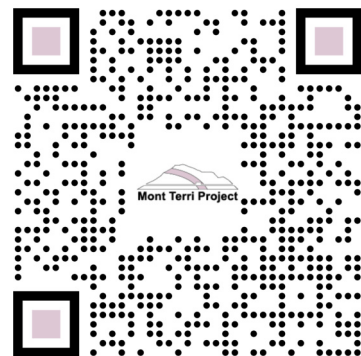


Mont Terri Project Underground Rock Laboratory

Report period: March 11–17, 2024

Assembled and edited by swisstopo, St-Ursanne



Spotlight of the week: Three times a year the delegates of the Mont Terri Project partners meet at so called steering meetings in order to get firsthand information about the experiments and activities at Mont Terri and to plan the experimental program of the following phase. This week the steering meeting was hosted by the partner BGE (Bundesgesellschaft für Endlagerung) in Peine, Germany, and the partners had the opportunity to visit the Konrad site, which will be ready presumably in 2027 for the future disposal of approximately 300'000 m³ of low and intermediate level radioactive waste. The image shows a part of the 22 delegates in a huge cavern close to the 1'000 m deep shaft Konrad 2.

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

- On Wednesday, March 13, A. Ammon (Solexperts) checked the DAS interfaces for the connections of the mini-piezometers.

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

- On Monday, March 11, S. Lenius and J.-P. Bischoff (terratec GmbH) measured multiple parameters (OBI, DIL, Spectr. Gamma, DEV) in borehole BCL-6.
- On Monday, March 11, S. Schefer and J. Windisch (swisstopo) measured position, orientation and inclination of BCL-6.
- From Tuesday to Wednesday, March 12–13, H. Albers and T. Tietz (BGR) connected the electrical cables of boreholes BCL-6, BCL-7 and BCL-8 to the acquisition system for electrical resistivity measurements (**Figure 1**).
- From Wednesday to Thursday, March 13–14, T. Fritsche (ZHAW), together with M. Ziegler, T. Theurillat and J. Windisch (swisstopo), installed the last MMMS into borehole BCL-6 to a final depth of 17.5 m. The acoustic and temperature sensors of the MMMS were connected. The team success was pre-celebrated with on-site handshaking and affirmative nodding (**Figure 2**, **Figure 3**).
- On Friday, March 15, S. Schefer (swisstopo) connected the fibers from BCL-6 to the rest of the loop inside the CL experiment and A. Rinaldi (ETHZ) remotely started the first measurements.
- On Friday, March 15, J. Windisch and M. Ziegler (swisstopo) filled the annulus gap of BCL-6 with 68.5 l and BCL-8 with additional 22 l of resin. BCL-8 resin injection is now completed and the remaining gap of BCL-6 will be filled later (**Figure 4**).
- On Friday, March 15, T. Theurillat (swisstopo) connected the hydraulic lines and pressurized the hydraulic packer of BCL-6.

DR-C (Diffusion in a Thermal Gradient) experiment

- From Monday to Tuesday, March 11–12, Y. Lettry and A. Jakupi (Solexperts) removed the installation inside BDR-C2. Unfortunately the system broke above the deepest packer and only the upper part could be removed. The PI G. Pochet (FANC) was on site for the operation and decisions will be taken soon whether to drill a new borehole instead of trying to fix the existing one.

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

- On Monday, March 11, A. Eul and S. Braunschweig (Eul GmbH) finished BDR-D3 to its final depth of 11.65 m.
- From Monday to Wednesday, March 11–13, Y. Lettry and A. Jakupi (Solexperts) installed the downhole equipment inside BDR-D3, connected it to the system and started saturation of intervals and circulation module.
- From Tuesday to Wednesday, March 12–13, P. X. Meury (Géo&Environnement), F. Heberling (KIT) and J. Windisch (swisstopo) did the core mapping and sealed the entire drill core in aluminium bags for later chemical, diffusion, microscopic and mineralogical analyses.
- On Tuesday, March 12, S. Lenius and J.-P. Bischoff (terratec GmbH) measured multiple parameters (OBI, DIL, Spectr. Gamma, DEV) in borehole BDR-D3.

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

- On Wednesday, March 13, A. Ammon (Solexperts) replaced the circulation pump of BDR-E2 again.

FE (Full Scale Emplacement Demonstration) experiment

- On Wednesday, March 13, A. Ammon (Solexperts) measured TDR cables 1, 2 and 3.

HS (Hydrogeological Survey of the Mont Terri Anticline) experiment

- On Wednesday, March 13, A. Ammon (Solexperts) removed the mobile DAS for BHS-1.
- On Friday, March 15, D. Jaeggi (swisstopo) removed the automatic pressure data logger at BHS-3 and cleaned up the site.

MA-A (Modular Platform for Microbial Studies) experiment

- On Monday, March 11, C. Rolland and E. Occelli (EPFL) took water samples for chemical analysis and to start a batch experiment at EPFL, investigating hydrogen consumption in sand-bentonite (**Figure 5**).

Visits

Day	Date	Group Name	Group Size	Visitors Guide
Fri	15.3.2024	Etudiants En Master EPFL	9	C. Nussbaum (swisstopo)
Sat	16.3.2024	Nagra Besuchstag	40	H. Sager (Nagra) O. Moser (Nagra)

Figures



Figure 1: CL: Despite the very tedious work of preparing and connecting hundreds of small cables, H. Albers and T. Tietz seem to be happy! (R. Nicol, swisstopo).



Figure 2: CL: Installation of the last MMMS into BCL-6 by the ZHAW/swisstopo team (M. Ziegler, swisstopo).



Figure 3: CL: M. Ziegler carefully pushing the MMMS into the borehole (R. Nicol, swisstopo).



Figure 4: CL: Resin injection in the CL niche (J. Windisch, swisstopo).



Figure 5: MA-A: C. Rolland and E. Occelli are sampling water inside the glovebox (S. Schefer, swisstopo).