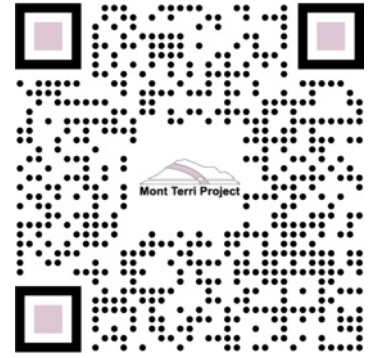


Mont Terri Project Underground Rock Laboratory



Report period: December 4–10, 2023

Assembled and edited by swisstopo, St-Ursanne

Distribution of iron among the clay minerals

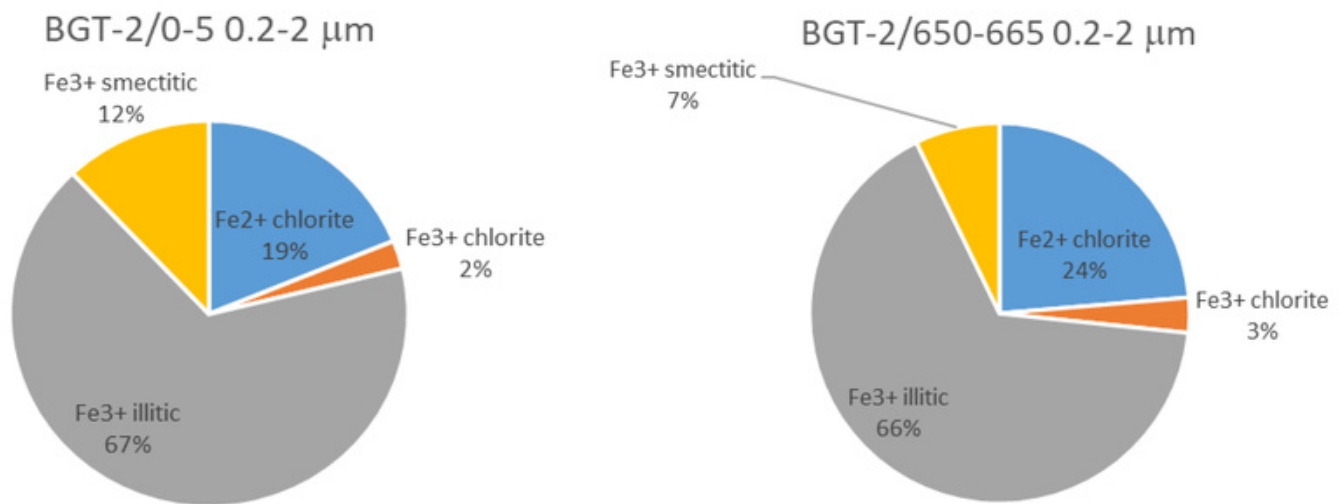


Figure: Courtesy M. Honty, SCK.CEN

Spotlight of the week: GD-Experiment: The abbreviation GD stands for geochemical data. GD is a platform to discuss, interpret, advance and share the knowledge of the geochemistry of Opalinus Clay at Mont Terri, with a focus on porewater chemistry. Open questions and shortcomings of the porewater models are addressed by (e.g.) lab investigations, modelling or (rarely) in-situ measurements. Past activities focused on methodological questions to derive major element concentrations. Currently, the focus of work changes towards trace elements in porewater such as iron.

CI-D (Diffusion Across 10-Year-Old Concrete/Claystone Interface) experiment

- On Tuesday, December 5, U. Mäder (RWC) cut three slabs of 15 cm thickness from the core that overcored BCI-D1. Radio protection measures were in place and the measurements never exceeded background values of 0.1 micro Sieverts/hour.
- On Friday, December 8, U. Mäder (RWC) cut another three slabs and with the help of J. Windisch (swisstopo) vacuumed and prepared them for transport.

DM-A (Long-Term Deformation Measurement) experiment

- From Monday to Friday, December 4–8, A. Eul and S. Braunschweig (Eul GmbH) installed the rig and drilled BDM-A8, A9, A10 and installed the rig on BDM-A7 that will be drilled on Tuesday (**Figure 1**).
- From Tuesday to Friday, December 5–8, PX Meury (GeoEnvironnement) performed the mapping of the cores before sampling.
- From Tuesday to Saturday, December 5–9, M. Middelhoff, K. Jantschik and B. Zehle (GRS) prepared the drill core samples to be put into special transport and storage containers. These samples will be characterized in Braunschweig for their THM-behavior (**Figure 2**).

LT (Long-Term Monitoring) experiment

- On Wednesday, December 6, J. Windisch (swisstopo) measured the changes of the x/y/z axis of the joint meter in Niche EZ-B and at the main fault in Ga98.

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

- From Monday to Thursday, December 4–7, A. Baeriswil, L. Chen and R. Rajkumar (swisstopo) performed the leveling survey in the lab and the southern part of the safety gallery. The first two days they were introduced and supported by A. Schlatter (swisstopo) (**Figure 3**).

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

- On Monday, December 4, T. Theurillat (swisstopo) refilled the HPT on shaft 1 and exchanged both nitrogen bottles.

Varia

- On Monday, December 4, after their quarterly meeting, the whole team of the Swiss geological survey visited the lab and celebrated St. Barbara - patron of the engineers, miners and geologists (**Figure 4**).
- On Tuesday, December 5, the swisstopo team and the visitor center's drivers were trained in first aid skills and cpr (cardiopulmonary resuscitation).

Visits

Day	Date	Group Name	Group Size	Visitors Guide
Mon	4.12.2023	Swisstopo - Landesgeologie	34	C. Nussbaum (swisstopo) D. Jaeggi (swisstopo) M. Ziegler (swisstopo) S. Schefer (swisstopo)
Fri	8.12.2023	Nukleartechnikerschule Baden	8	H. Sager (Nagra)

Figures



Figure 1: DM-A: Another core is ready for mapping and sampling (J. Windisch, swisstopo).



Figure 2: DM-A: The team from GRS during sample preparation (S. Schefer, swisstopo).



Figure 3: MH: Leveling inside Ga08 (J. Windisch, swisstopo).



Figure 4: Varia: The smiling team of the Swiss geological survey (J. Windisch, swisstopo).