



# Mont Terri Project

## Underground Rock Laboratory

ANDRA ◦ BASE ◦ BGE ◦ BGR ◦ CHEVRON ◦ CRIEPI ◦ DOE ◦ ENRESA ◦ ENSI ◦ ETHZ/EPFL ◦ FANC ◦ GRS  
HELMHOLTZ ◦ IRSN ◦ JAEA ◦ NAGRA ◦ NWMO ◦ NWS ◦ OBAYASHI ◦ SCK•CEN ◦ SWISSTOPO ◦ TOTALENERGIES

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## Mont Terri Rock Laboratory

### Field report: October 24–30, 2022 (Phase 28)

#### **BN (Bitumen-Nitrate-Clay Interaction) experiment**

- On Thursday, T. Theurillat (swisstopo) took the second sample from interval 2.

#### **CS-E (Mini-Fracturing and Sealing) experiment**

- On Friday, A. Rinaldi (ETHZ) with the help of G. Graf (swisstopo) emptied the water from BCS-D5 used last week for the sparker.
- A. Rinaldi also unclogged a line from the miniRuedi (**Figure 1**) and performed DSS-measurement in boreholes BCS-D1 to BCS-D6.

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

- On Thursday, T. Theurillat and S. Schefer refilled the calibration bath.

#### **FS-B (Imaging the Long-Term Loss of Faulted Host Rock Integrity) experiment**

- From Monday to Thursday, A. Eul and S. Braunschweig (Eul GmbH) drilled borehole BFS-B12 down to 40 m depth. They stopped directly above the Main Fault and will drill the last 8 m on Monday.
- The core documentation and sampling of borehole BFS-B12 was done by PX Meury (GéoEnvironnement) and P. Mäder (swisstopo).

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

- Monday and Tuesday, A. Vinsot, M. Agnel and M. Lundy (ANDRA) together with Y. Lettry (Solexperts) continued the calibration of the Raman spectroscopy, verified the flow on the surface cabinet and filled it with Argon before connecting it to the borehole.
- Final preparations for the Deuterium-injection were done (**Figure 2**), but the injection did not start yet. The concentrations of the different gas phases were not constant after only one night of circulation. The injection can be started remotely.

#### **MR (Moisture Detection using Magnetic Resonance) experiment**

- On Thursday, the PI S. Costabel (BGR) and M. Garcia (Terratec) tested an NMR borehole logging tool inside BES-1. Next Wednesday the tool will be used as well for logging BFS-B12.

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

- A. Jimenez, V. Martin and S. Jimenez (AMBERG) continued with the installation and backfilling operation in Shaft 2 and reached layer 8 of DS2 by Friday afternoon. They will resume the installation of the sandwich layers in two weeks' time.

#### **Varia**

- On Monday we welcomed our new civil servant Gabriel Graf. He is a geologist from Uni Bern and

stays with us until the winter break (**Figure 3**).

- On **Tuesday, November 1<sup>st</sup>**, the lab will be closed due to a public holiday in the Canton of Jura.

## Visits

Mo	24.10.2022	Czech geologists CGS + SGG	8	R. Nicol
Tue	25.10.2022	NTS Gruppe 1 – Lehrgang für Techniker HF-T-49	14	D. Jaeggi
Wed	26.10.2022	Numo Delegation (Japan)	9	H. Müller
Wed	26.10.2022	ETV Bern-Mittelland	32	H. Hauser, R. Nicol
Thu	27.10.2022	Innovage	16	R. Nicol
Fri	28.10.2022	Université de Franche-Comté – C. Bertrand	22	S. Schefer
Fri	28.10.2022	Donatoren FC Reinach	18	H. Hauser
Sat	29.10.2022	Besuchtag Nagra	7	H. Sager

D. Jaeggi and S. Schefer, October 29, 2022



**Figure 1: CS-E:** A. Rinaldi heating the gas line for the miniRuedi to evaporate the water trapped inside (Photo: S. Schefer, swisstopo).





**Figure 2: HT:** The HT-team after a successful intervention (Photo: S. Schefer, swisstopo).



**Figure 3: Varia:** Welcome Gabriel Graf! (Photo: S. Schefer, swisstopo).