



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

Mont Terri Rock Laboratory

Field report: September 19–25, 2022 (Phase 28)

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

- On Wednesday, J. Gisiger came on site in order to repair the Luna-computer. The computer is now operational and the He-gas injection will presumably start on Monday.

HM-C (Calibration and Validation of a New Constitutive Model for Opalinus Clay) experiment

- On Monday A. Eul and S. Braunschweig (EulGmbH) have arrived and started with the installation of the drill rig for BHM-C2 (131 mm, 30 m). The borehole mouth is located close to Niche DR-A and was drilled parallel to bedding and horizontally (Figure 1).
- From Tuesday to Thursday L. Winhausen and L. Gotzen (RWTH Aachen) took 50 cm long rock samples and conditioned them in aluminium foil. They furthermore acquired data for determination of water content. The samples are dedicated to a next series of mechanical testing at RWTH Aachen (Figure 2).
- On Friday morning P. Mäder and T. Meister (swisstopo) took additional 4 m of samples for the ES experiment. The borehole ended at the final depth of 34.70 m.

SM-C (Permanent Nanoseismic Monitoring) experiment

- From Monday to Friday, D. Rebscher (BGR) was on site for the tiltmeter network in the rock laboratory. On Monday a test with multiple tiltmeters at the Main Fault was continued. Tuesday and Wednesday the tiltmeters in the twin niches were installed and two tiltmeters were installed at FS-B for the upcoming injection campaign in November. The tiltmeters were levelled. On Friday a further tiltmeter was installed in Niche CO₂.

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

- On Wednesday S. Tunon, A. Jimenez, V. Martin and S. Jimenez (AMBERG) came on site in order to start with the installation and backfilling operation at Shaft II (Figure 3).
- They labelled the TP sensors, cleaned up the water chamber and tested the thermocouples before installation in the chamber. The existing flange of the well head of the feeding borehole needs to be extended from 2 ports to 4 ports.
- Thursday the antenna (0.9 m diameter) for the wireless data transmission was prepared. It will be later on installed in equipotential layer ES01. The sensors were marked with a green sticker at the positions, where after the installation the geodetic team needs to target for correct georeferenciation. Furthermore the pressure chamber was closed and the geotextile placed.
- On Friday four vertical TDR-strings were installed. In the morning, the bentonite and sand material of Stephan-Schmidt group arrived at Mont Terri. T. Theurillat transported the big bags with the forklift to niche fracture and Ga18.

Visits

Mon	19.09.2022	TEPCO	4	H. Sager
Tue	20.09.2022	CECG	21	M. Pretalli, C. Boner
Tue	20.09.2022	Echallens	22	C. Boner, P. Mäder
Thu	22.09.2022	IGD-TP	16	C. Nussbaum
Thu	22.09.2022	Decay Days	13	M. Ziegler
Sat	24.09.2022	AROPAC	15	T. Theurillat

D. Jaeggi and S. Schefer, September 25, 2022



Figure 1: HM-C: Drilling BHM-C2 in Ga08 (Photo: M. Ziegler, swisstopo).



Figure 2: HM-C: L. Winhausen documenting the drillcores of BHM-C2 (Photo: M. Ziegler, swisstopo).



Figure 3: SW-A: The team of AMBERG during the first task of SW-A2 shaft installation and backfilling (Photo: M. Ziegler, swisstopo).