Mont Terri Project
Underground Rock Laboratory

Mont Terri Rock Laboratory

Field report: November 30-December 13, 2020 (Phase 26)

Distribution

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CS-A (Well Leakage Simulation & Remediation) experiment
- On Friday, December 11, O. Zuber and D. Rondez (Zuber sàrl) removed the concrete around BCS-A1 to create more space for the retrieval of the installation (Figure 1).

CS-D (CO2: Studying Caprock and Fault Sealing Integrity) experiment
- On Friday, December 4, A. Zappone (ETHZ) performed miniRuedi measurements, took a fluid sample, and with the help of A. Rinaldi (ETHZ, remote) and S. Schefer (swisstopo) removed the CO2 from the injection tank and flushed it with krypton gas (Figure 2).
- A. Zappone also copied all the data from the GmuG-monitoring system and brought the acquisition system back to ETHZ.

DR-B (Long-Term Diffusion) experiment
- On Thursday, December 10, O. Leupin and R. Wüst (Nagra) together with S. Schefer (swisstopo) controlled the state of the boreholes and planned the future measurement campaigns.

PF (Progressive Rock Mass Failure and Overbreak Sealing) experiment
- On Thursday, December 10, M. Ziegler and S. Bishop (ETHZ) were on site to optimize the photogrammetric system and to configure the remote control of the cameras (Figure 3).
- On Thursday, December 10, M. Furche (BGR) measured ERT between different boreholes (Figure 4). Swisstopo subsequently connected different boreholes to the logging unit after M. Furche went back home and he measured the remaining sections remotely.

SW-A (Large-Scale Sandwich Seal in Opalinus Clay) experiment
- From Monday to Thursday, November 30 to December 3, M. Rey Mazón, O. Ruiz and P. Uceta (Amberg) finished the installation of sand layer ES03 and sensors (2 PP sensors and 1 TDR horizontal) plus the installation of 3 extensometers (for DS03) and their support. DS03 was also completed, with its corresponding sensors (2 PP, 2 RH, 1 TP Glötzl) as well as ES04, including sensors. On Friday, five sublayers of DS04 were installed. In sublayer L3, one PP and one RH were installed.
- Monday to Wednesday, November 30 to December 2, the Amberg crew was joined by J.L. García-Sifireriz.
- From Monday to Wednesday, December 7-11, the Amberg team finished layers DS04 (with two PP, two RH and one TP sensor) and layer ES05 (with 2 PP, one TP and one rock PP sensor).
- The cables were arranged in preparation for the installation of the lid and shaft 1 (BSW-A1) was protected for the winter break (Figure 5).
- On Thursday, December 10, all the installation work was completed and the crew could finally travel back home to Spain and their families. Thank you all for your effort! (Figure 6).

TS (Testing Different Tunneling Support in Sandy Facies) experiment
- On Wednesday, December 9, the PI L. Cantieni (Nagra) supervised the fibre-optic measurements of F. Fischli and M. Gübeli (Marmota) in the three TS-sections in Ga18.
- D. Enz (Comet Photoshopping GmbH) was on site to take pictures for the documentation of the TS-experiment.
Varia

- On Tuesday, December 1st, T. Theurillat and S. Schefer (swisstopo) attended a formation for the safety with high-voltage current. This is needed to get access to the two transformer stations in the lab.
- This week marked the end of S. Chatelain’s civil duty. We thank him for all the support he gave us during the three months in Mont Terri and wish him all the best for his future!
- **Important:** Next week will be the last working week before the winter break. The lab will be closed from December 21 to January 4.

Visits

- This week we had one visit before restrictions will get more severe again next week. This visit marks the end of a turbulent year 2020 for the Visitor Center...

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C. Nussbaum and S. Schefer, December 11, 2020

![Figure 1: CS-A: D. Rondez removing the concrete around BCS-A1 to create more space for the retrieval of the installation (Photo: S. Schefer, swisstopo).](image-url)
Figure 2: **CS-D:** The PI A. Zappone communicating with A. Rinaldi during the flushing of the injection tank (Photo: S. Schefer, swisstopo).

Figure 3: **PF:** S. Bishop (ETHZ) optimizing the power supply of the photogrammetric system (Photo: C. Nicaty, swisstopo).
Figure 4: PF: M. Ziegler and M. Furche discussing the ERT-measurements in BPF-2 (Photo: S. Schefer, swisstopo).

Figure 5: SW-A: O. Ruiz (Amberg) attaching cables inside shaft 1 (Photo: C. Nicaty, swisstopo).
Figure 6: SW-A: P. Uceta, O. Ruiz and M. Rey Mazón (Amberg) after a busy week inside the shaft 1 (Photo: S. Schefer, swisstopo).

Winter time: Sometimes it’s worth to get to work early… (Photo: C. Nicaty, swisstopo).