



Mont Terri Project

Underground Rock Laboratory

ANDRA BASE BGR CHEVRON CRIEPI DOE ENRESA ENSI ETH FANC GRS HELMHOLTZ IRSN JAEA NAGRA NWMO OBAYASHI RWM SCK•CEN SWISSTOPO TOTAL

Mont Terri Rock Laboratory

Field report: February 24 to March 1, 2020 (Phase 25)

Distribution

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Project Management

Swisstopo: C. Nussbaum (Project Manager), T. Theurillat (Site Manager), S. Schefer (Dep. Site Manager), D. Jaeggi (Research Associate)
GGT: F. Burrus (Project Engineer), Th. Küttel, R. Daneluzzi

CS-D (CO₂: Studying Caprock and Fault Sealing Integrity) experiment

- On Thursday, A. Rinaldi and U. Weber (ETHZ) performed a mini-ruedi measurement and took some fluid samples. M. Grab (ETHZ) performed active seismic measurements from boreholes BCS-D4 and BCS-D5. They furthermore have re-installed the acoustic emission sensors from GMUG in borehole BCS-D5.

DF (Drilling fluids for Opalinus Clay) experiment

- On Thursday the company Chapuis SA Delemont pumped the remaining borehole fluids out of boreholes BDF-2 to BDF-5 and cleaned them up. The works were supervised by the Site Manager T. Theurillat (swisstopo). Next week the standpipes will be cut and the borehole mouths covered with a steel lid.

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

- Monday to Wednesday, H. Gutgesell and H.W. Sassmannshausen (Schützeichel) continued drilling borehole BFS-B8 to a depth of 57.6 m. The borehole will be finished on Monday to its final depth of 61 m. Afterwards geophysical logging and the installation of a helicoidal cable is planned.

SE-P (Self-sealing processes in old EDZs and breakout zones) experiment

- From February 24 to 28 H. Banert and Z. Radonjic (Schützeichel) drilled boreholes BSE-P22 and BSE-P23 into the invert and BSE-P25 and BSE-P26 into the crown in gallery 08 with triple core barrel and air flushing.
- S. Lüchinger, F. Nägeli and M. Ziegler (ETHZ) were supported by intern M. Sasson (Kantonsschule Wettingen) for documentation and conditioning of core material for structural and laboratory analyses. All boreholes were logged with optical borehole imager (OBI) (**Figure 1**).
- H. Albers, U., Nowak (BGR) conducted borehole interval velocity measurements (IVM) and electrical resistivity tomography (ERT), as well as cross-hole seismic tomography in BSE-P25 and BSE-P26, and borehole ERT in BSE-P23.

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

- On Tuesday S. Sanchez, A. Engelke and D. Nowotny (BGR) finished borehole BSW-B26 (**Figure 2**) at the final depth of 9.7 m. In total 5 hollow cylinders have been produced, which will be back-deformed in the lab at BGR later on (**Figure 3**).

Varia

- On Tuesday there was a visit of 6 journalists from German radio and print media. The group was guided by G. Enste, J. Hesser, D. Rebscher, B. Laurich, M. Furche, H. Albers and A. Beuge (all BGR), O. Leupin and P. Studer (nagra) and P. Bossart and D. Jaeggi (swisstopo) (**Figure 4**).
- Our trainee Maud Galletti has finished her official stay here at Mont Terri. She was strongly involved in the geological documentation of the laboratory extension and supported us for core documentation, sampling on rock and water, etc. We thank her very much for her excellent work and wish her success for the planned bike trip to Cape Nord.

Visits

Tue	25.02.2020	Pressebesuch BGR	12	P. Bossart D. Jaeggi O. Leupin
Sat	29.02.2020	Bevölkerung Gemeinde Stadel	7	L. Oesch



Figure 1: SE-P: The ETH-team logging an ascending borehole (Photo: S. Lüchinger, ETH)



Figure 2: SW-A: D. Novotny and S .Sanchez (BGR) drilling BSW-B26 and photographed by a German journalist (Photo: D. Jaeggi, swisstopo)



Figure 3: SW-A: Image of the hollow cylinder with the strain probes (Photo: D. Jaeggi, swisstopo)



Figure 4: Varia: J. Hesser on the left side (BGR) explaining the SW-A experiment to the audience (Photo: D. Jaeggi, swisstopo)