

Mont Terri Project

Underground Rock Laboratory

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

Mont Terri Rock Laboratory

Field report: August 20th – August 26th 2018 (Phase 24)

Distribution

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Obayashi: M. Fukaya
RWM: S. Thompson
SCK•CEN: C. Bruggeman
Swisstopo: A. Möri
TOTAL: A. Brisset

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ETHZ: S. Löw, M. Ziegler, S. Wiemer, A. Zappone
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Project Management

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

Construction of Gallery 18

- The construction of Ga18 proceeded at the transition of Passwang Formation and Opalinus Clay.
- The excavation reached GM 37.5 on Wednesday evening, August 22. This is a progress of 4 m in week 34. On Thursday and Friday, the company Rothpletz, Lienhard & Cie concreted the invert up to -0.30, where 0.00 is the final base (**Figure 1**).

DR-B (Long-term diffusion) experiment

- On Tuesday, August 21, the PI V. Cloet, L. Camesi and M. Jaqueroud (Nagra) together with D. Zerva and T. Gimmi (PSI) calibrated the XRF-probe and did some testing. With the help of S. Schefer (swisstopo) they inserted the probe into BDR-B8 and started a scan.

GC-A (Characterization of EDZ development (focus “sandy facies”)) experiment

- On Friday, August 24, M. Pesendorfer (Polymetra) installed a new stand-alone data logger (SIGEO) in the DR-niche.

MB-A (Hydromechanical Characterization of the Sandy Facies before and during Excavation) experiment

- On Monday, August 20, the contractor company Zuber dismantled the drilling platform which was installed on August 6.
- This week, the BGR drilling team finalized the borehole BMB-A20 down to a depth of 15.2 m. The four boreholes BMB-A18 to BMB-A21 are dedicated to the installation of stress monitoring cells (**Figure 2**).
- From Monday to Friday, August 20–24, R. Gubig, T. Kostrewa and W. Wotschal (Glöttzl Baumesstechnik) started with the installation of the four stress monitoring stations (**Figure 3**). These stations consist of several thin hollow steel discs, which are pressurized with oil and connected to a pressure transducer. Since the discs are oriented in different well defined directions, the changes of the in-situ stress field in the rock mass can be monitored during gallery excavation. The grouting of the systems started on Friday, August 24, 2018.
- On Tuesday, August 21, the PI J. Hesser and C. Blume (BGR) visited the drilling site of the MB-A experiment.
- On Wednesday, August 22, Borehole BMB-A18 was not accessible for Glöttzl, due to breakouts in the 14 days old borehole. On Thursday, August 23, the drilling team of BGR re-installed the rig at this borehole and performed a reaming of the borehole. Despite the reaming, some dust accumulation has been detected with the borehole camera and subsequently D. Jaeggi, S. Schefer and T. Theurillat (swisstopo) cleaned up the borehole with a large vacuum cleaner down to the depth of 15.2 m (**Figure 4**). On Thursday afternoon the team of Glöttzl installed the system into borehole BMB-A18.
- Geosonic continued with the drilling of borehole BMB-A9. In the second half of the week the problems with vibrations on the drill stem and very low drilling performance could be solved (**Figure 5**).

Varia

- On Friday, August 20th, Yannick Biedermann (swisstopo) had his last day of civil service in Mont Terri. He will return to the University of Basel to continue his studies of English language and Geography. We thank him for all the wonderful work he did and wish him all the best!

Visits

Day	Date	Name of the Group	Visitors	Guides
Mon	20.08.2018	ERFA Group III, schweiz. Baumeisterverband	10	L. Oesch (Nagra) G. Fiedler (swisstopo)
Tue	21.08.2018	President's Staff of the Federal Institute for Geosciences and Natural Resources (BGR)	2	P. Bossart (swisstopo) D. Jaeggi (swisstopo)
Tue	21.08.2018	Swiss society for earthquake engineering and structural dynamics (SGEB)	40	H.-P. Weber (Nagra) D. Jaeggi (swisstopo) H. Sager (Nagra) P. Blaser (Nagra)
Thu	23.08.2018	Swiss association of elder lieutenant colonels (SVäO)	7	G. Fiedler (swisstopo)
Fri	24.08.2018	Commission for Nuclear Safety (KNS)	13	P. Bossart (swisstopo)
Sat	25.08.2018	Kiwanis Club Sihltal-Zurich	12	L. Oesch (Nagra)
Sat	25.08.2018	Male choirs Arlesheim/Pfeffingen	31	H. Hauser (freelance) G. Fiedler (swisstopo)

C. Nussbaum, S. Schefer, D. Jaeggi and R. Raselli, August 26th, 2018



Figure 1: GA18: Gallery 18 is ready for the concrete floor until GM 33.6 (Photo: S. Schefer, swisstopo)



Figure 2: MB-A experiment: The team from the company Glötzl viewing onto the drilling works from BGR to plan their next steps on the spot (Photo: R. Raselli, swisstopo).

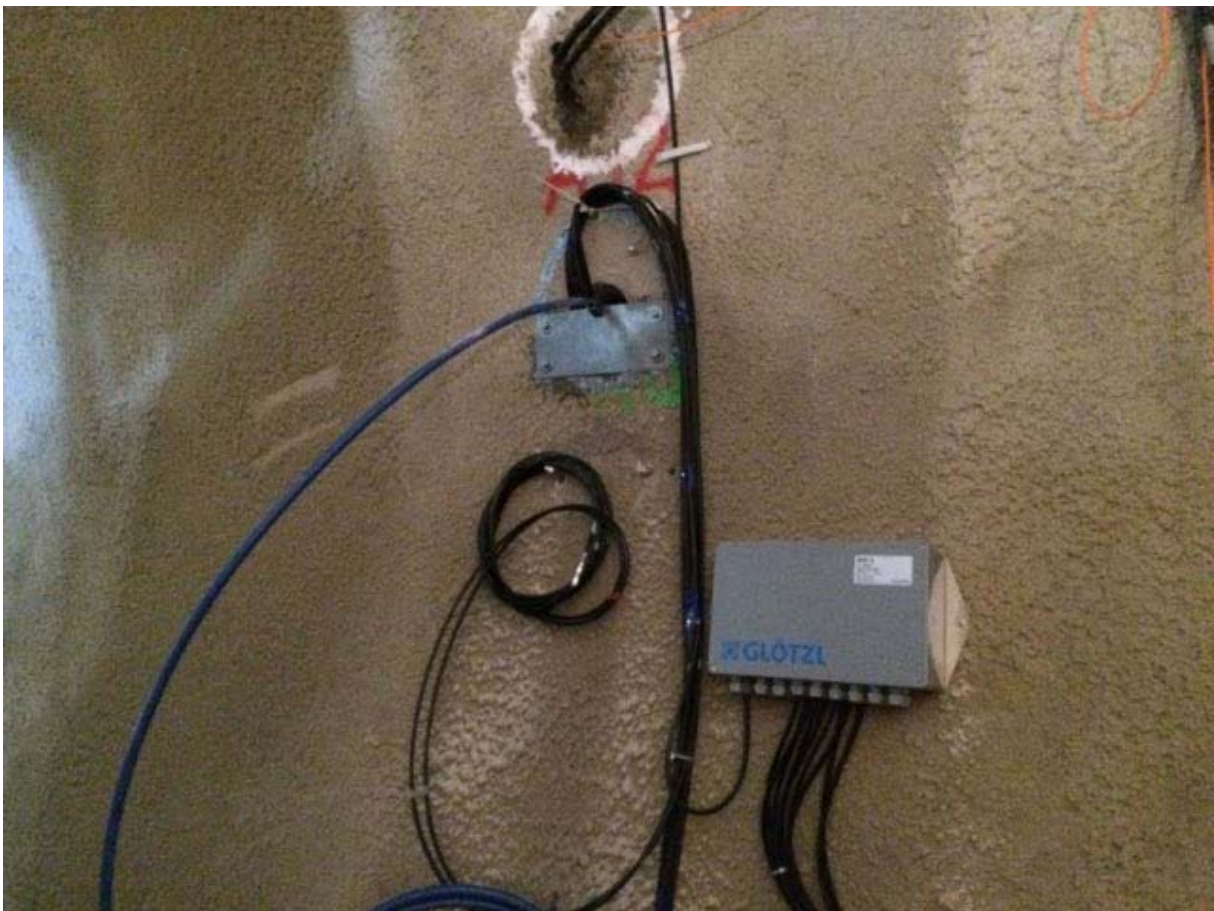


Figure 3: MB-A: A quick overview of the installation Glötzl set up (Photo: D. Jaeggi, swisstopo).



Figure 4: MB-A experiment: D. Jaeggi (swisstopo) and xx (Gloetzi) vacuum-cleaning borehole BMB-A18 before installing the probe (Photo: S. Schefer, swisstopo).



Figure 5: MB-A experiment: Geosonic drilling BMB-A9 with the help of a podium (Photo: R. Raselli, swisstopo).