

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: September 3rd – September 9th 2018 (Phase 24)

Distribution

Authorities

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EC: Ch. Davies

Delegates of the Project Partners

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

Principal Investigators and Experiment Delegates of Phase 24 experiments

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Supporting Research Organisations

Paul Scherrer Institute PSI: S. Churakov, M. Glaus, Th. Gimmi, L. van Loon
ETHZ: S. Löw, M. Ziegler, S. Wiemer, A. Zappone
EPFL: L. Laloui, R. Bernier-Latmani, M. Violay, B. Lecampion

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 excavation reached GM58.5 on Friday evening, September 07th. The gallery proceeding at the Niche 2 crossing. The excavation will proceed along Gallery 18 until the end of Niche 2 crossing and then Niche 2 will be excavated.
- In the Opalinus Clay, several large calcite concretions could be observed (**Figure 1**). On 5th of September at a GM of 54.2 a nodule with a spectacular diameter of about 40 cm length and an open vuggy pore with mineral precipitations was observed and sampled by C. Nussbaum (**Figure 2**). The sample will be analyzed in the framework of the FI (Fluid-mineral interactions in Opalinus Clay during natural faulting & heating tests) experiment.

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

- From Monday to Friday, September 3rd – 7th, the drilling company GeoSonic proceeded with the drilling of borehole BCS-D6. They encountered the top of Main Fault at a depth of 28.4 m. (**Figure 3**). The borehole is currently at 30.6 m and will be continued next week. Next week after geophysical logging, fiber optic DTS sensors and a seismic string will be grouted into this borehole. The geological documentation of the drill cores has been performed by Q. Wenning and M. Lukovic (ETHZ) with the assistance of D. Jaeggi and C. Nussbaum (swisstopo).

HT (Hydrogen Transfer) experiment

- On Tuesday, September 4, Y. Lettry (Solexperts) came for preparing the new injection into borehole BHT-1 starting this month. He also took a water sample from BHT-1, which will be sent to Hydroisotop for analysis.

GD (Analysis of Geochemical Data) experiment

- On Tuesday, September 4, Y. Lettry (Solexperts) took a water sample from BPC-C1. This sample will be analyzed by Hydroisotop.

Varia

- On Monday, September 3rd, M. Ringeisen and M. Bracher (swisstopo) started their civil service at the Mon Terri Rock Laboratory. M. Ringeisen will stay until the end of December, M. Bracher will stay until the end of October (**Figure 4**).

Visits

Day	Date	Name of the Group	Visitors	Guides
Tue	04.09.2018	Amicale retraités gardes frontières	9	L. Oesch, M. Alig
Tue	04.09.2018	Studentenverbund Helvetia	25	M. Pretalli
Wed	05.09.2018	Karlsruher Institut für Technologie KIT	17	O. Moser, G. Fiedler
Wed	05.09.2018	KKW Gösgen	9	P. Bossart
Thu	06.09.2018	Company Dr. von Moos AG	28	D. Jaeggi, A. Lambert
Thu	06.09.2018	Sekundarschule Schönholzerswilten	36	H. Hauser, A. Lambert
Thu	06.09.2018	Kantonsschule Hohe Promenade	20	G. Fiedler, A. Lambert
Sat	08.09.2018	Feuerwehr Basel	12	G. Fiedler
Sat	08.09.2018	Studierendengruppe der RWTH Aachen	26	S. Schefer



Figure 1: Ga18: D. Jaeggi (swisstopo) working his way around the roadheader to create a model of the tunnelfront. On top of the roadheader the theodolite, which is used to set up the coordinates of the model, can be observed (Photo: S. Schefer, swisstopo).



Figure 2: Ga18: Several calciferous nodules have been observed in the sandy facies of the OPA. This particular example has a diameter of almost 40 cm and shelters a hollow core filled with a calcite-crystal-crust similar to the interior of a geode (Photo: S. Schefer, swisstopo).

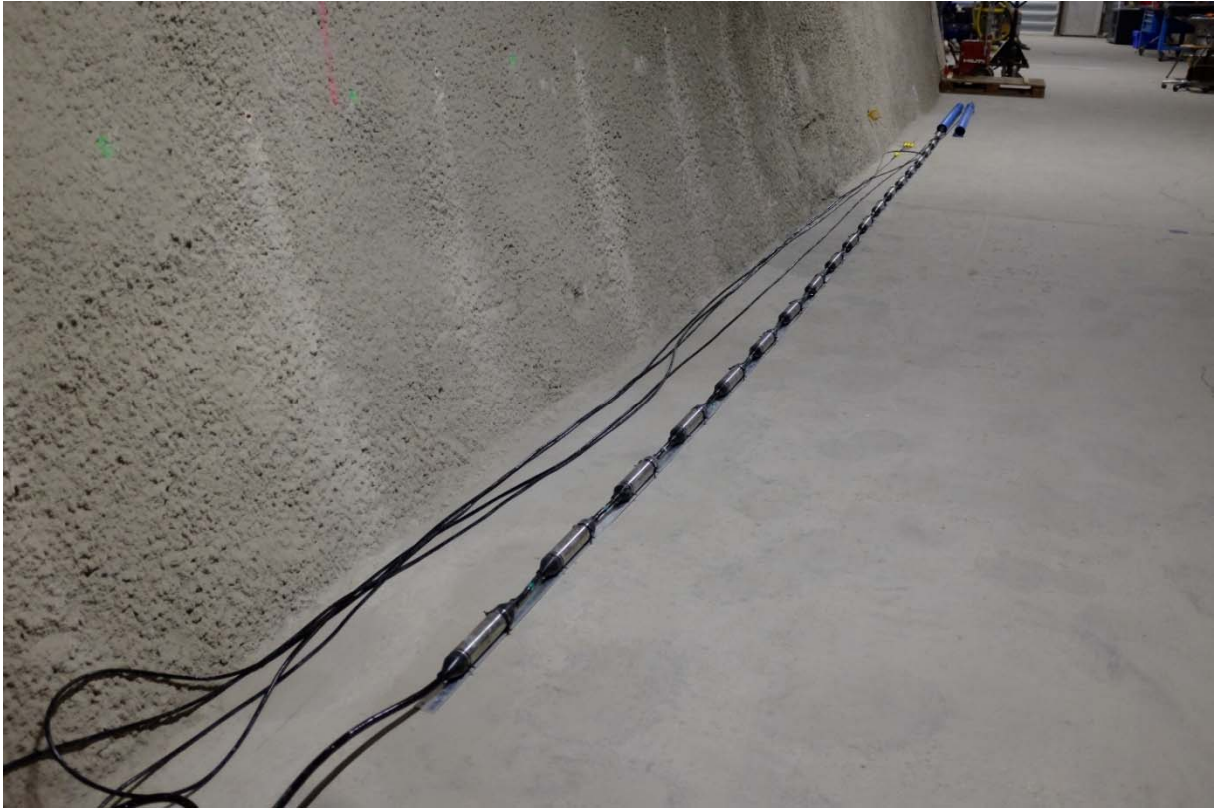


Figure 3: CS-D Experiment: The seismic string of ETH which will be inserted in to borehole BCS-D6 (Photo: D. Jaeggi, swisstopo).



Figure 4: Varia: M. Ringeisen (left) and M. Bracher (right) (swisstopo). They began their civil service at the Mont Terri Rock Lab. (Photo: R. Raselli, swisstopo).