Little Dome C

Beyond EPICA Oldest Ice Drilling Site (75.29917 °S, 122.44516 °E)

Situation Report #34, 4. January 2022

Personnel @LDC:
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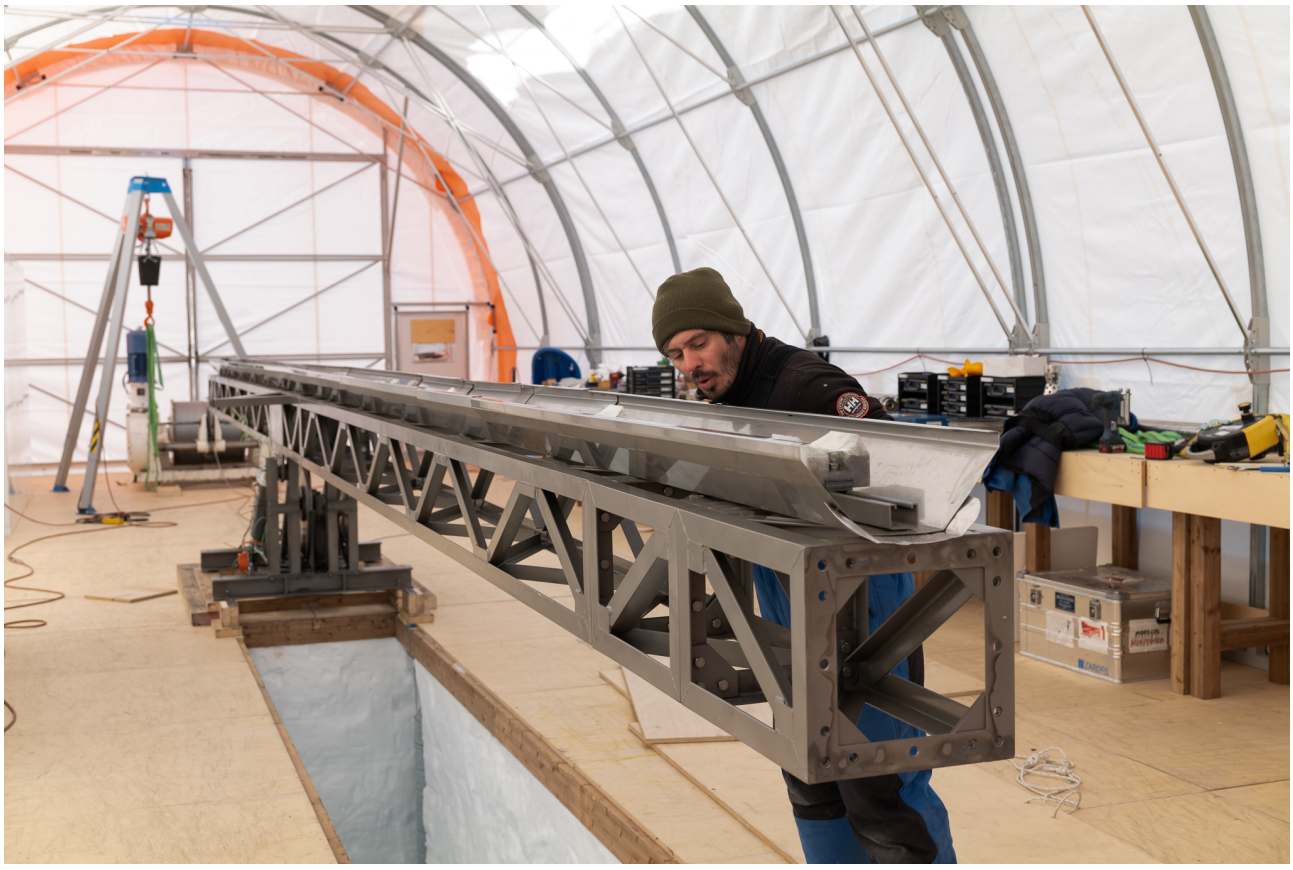
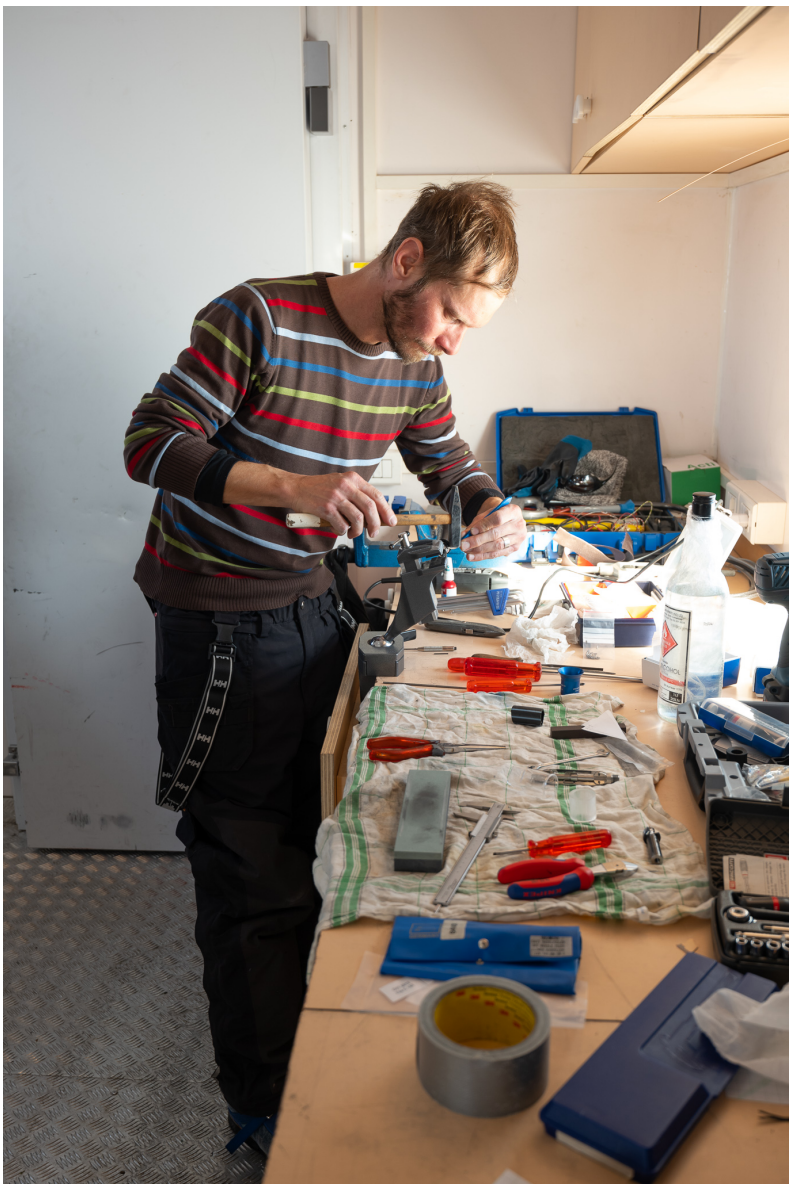
Weather at LDC: sunny, low wind – pleasant day.
Meteo at DC 6 pm: T = −35°C, Wind = 5 knt, Wind Chill T = −44°C

Work on assembling the BEOIC drill continues. Today the drip channel has been mounted on the tower. Also, work on the ventilation system for the BEOIC drill tent was started. This is needed to keep the air free of possible drilling fluid vapour during core extraction. Matthias implemented software that will control and monitor the drill.



Romain working on the drip channel of the BEOIC drill. Photo: C. Barbante (Leica SL2, 44 mm, f 5.6, 1/320 s, ISO-400).



Remo adjusting the anti-torque unit of RADIX. Photo: T. Stocker (Leica SL2-S, 34 mm, f 4.5, 1/60 s, ISO-400).

At RADIX, we have made significant progress. Jakob tried out a new, more aggressive blade profile of the anti-torque. This required very careful sharpening of all blades on a special grinding stone. This work was carried out in the heated module next to the RADIX tent which serves as a convenient workshop. This lead to notably better anti-torque action. We have also replaced the drill tip with a version that has a higher pull. These improvements, in combination, have enabled us to start drilling again, and at the time of writing we have reached 270 m depth. Although this seems slow progress during the past week, this has enabled us to optimize RADIX under realistic conditions, i.e. very cold temperatures and hard ice.

Radix drilling depth: 270.0 m

TS & CB, 4.1.2022