

Little Dome C

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

Situation Report 16, 12. December 2023

Personnel @LDC:

Saverio Panichi (ENEA, Camp Leader), Olivier Alemany (CNRS), Philippe Possenti (CNRS), Matthias Hüther (AWI), Rémi Dallmayr (AWI), Gunther Lawer (AWI), Johannes Lemburg (AWI), Andrea Ceinini (ENEA), Federico Scoto (CNR), Tamara Gerber (UCPH), Iben Koldtoft (UCPH), Julien Westhoff (UCPH), James Veale (BAS), Michaela Mühl (UNIB), Fortunat Joos (UNIB), and Inès Gay (IPEV)

Weather at LDC 5 pm: sunny and windy

Meteo at LDC 5 pm: temp.: -12C, wind: 11 kts



Last night, we managed to drill a 3.5 meters core and clean up the bottom of the hole. The run was made by mounting the Danish motor section with the AWI's 3-meter drill. We followed this up with three more very positive runs today. To increase efficiency, we decided to fit the 4-meter AWI drill instead of the 3-meter. In addition to the gain in core length on each run, we have two sets of hollow shaft and core barrel for this set. This should save us time on the surface. We tried two runs with the 4 meters long drill. On the first run, anti-torque were sliding, we then increase the strength of the antitorque blades about 0.5 mm.

In parallel with the drilling, we are continuing to process the core drilled last year. We started at 222 m and processed 46 m of core today.

What we did today at LDC:

- We started to drill in a stable way, and started to train new drillers on the different posts in the drill tent (drilling, chips handling, cleaning, use of the pig...);
- We set up the Danish drill motor section on the 4 meters AWI drill;
- We continued processing the last year's core and finished another 46 m in shifts. We are now processing the ice from 222m to 608m, which is left unprocessed from last year;
- We repaired the heaters in both the sleeping tents;
- We fine-tuned the logging table to receive long ice cores.
- We put 400 liter of fresh drill liquid in the hole and moved 600 liter into the tent to prepare the IBC for chip sampling.



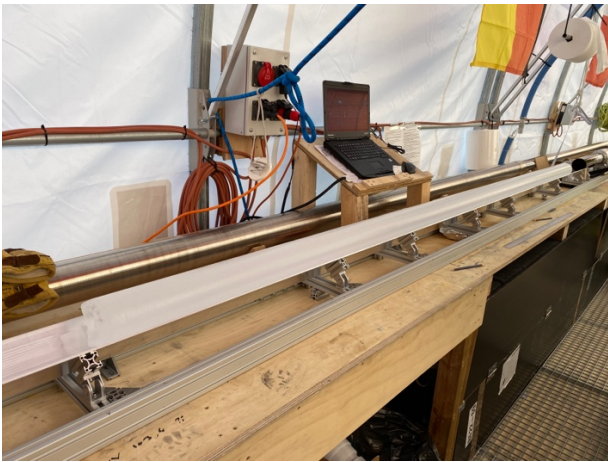


Figure 1: The first 3.5 meters core of the season: photo : O. Alemany



Figure 2: Chips nicely compacted in the chips chamber: photo O. Alemany

End of day statistics at 20h

Driller's depth: 821.8 m

Logger's depth: 825.18 m

Current processing depth: 273 m, daily total: 46 m, season total: 244 m.

OA, MH, JW, and SP, 12.12.2023

