

Little Dome C

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

Situation Report 17, 13. 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 nice; temp.: -14.8°C; wind: 4.6 m/s



Last night, we made a first run with the 4.5-meter drill and got our first 4.5-meter core of very good quality. This run was made using the Danish motor section and the AWI's 4-meter drill. Unfortunately, we broke the shaft supporting booster during this run. So today we changed the booster and then continued to train the new drillers on this corer. Today, we completed 5 runs averaging 4.5 meters in length, with very good core quality (despite the fact that we are in the brittle zone). We expect to be able to switch to two shifts tomorrow.

In parallel with drilling, processing of the core drilled last year is continuing apace.

What we did today at LDC:

- We started to drill in a stable way with the 4 meters drill, and continued to train new drillers on the different posts in the drill tent (drilling, chips handling, cleaning, use of the pig...);
- We set up a new booster on the 4 meters hollow shaft;
- We are now processing the ice from 222m to 608m, which is left unprocessed from last year. We finished another 44 m in shifts, reaching 316m depth.;
- We put 400 liter of fresh drill liquid in the hole;
- We flew the drone.





Figure 1: Drillers being trained to drive the drill : O. Alemany

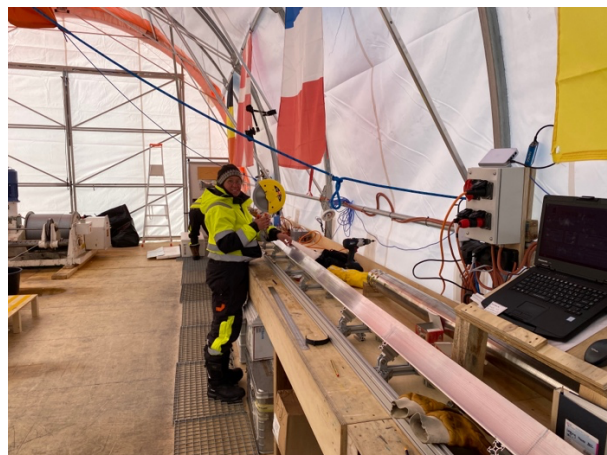


Figure 2: loggers cutting the core in one-meter long sections: photo O. Alemany

End of day statistics at 20h

Driller's depth: 849.08 m, in between yesterday 20h and today 19h we made 6 runs (4.52, 4.57, 4.33, 4.49, 4.5 and 4.46) for a total length of 26.87 meters in 24h

Logger's depth: 852.22 m

Current processing depth: 316 m, daily total: 44 m, season total: 288 m.

OA, MH, JW, and SP, 13.12.2023

