

Little Dome C

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

Situation Report 14, 10. 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

Meteo at DC 5 pm: -20°C, 5.5 knts



Today we're back to where we left off yesterday. We continued processing last year's core (and in the meantime, repairing a part of the horizontal saw, and further insulated the entrance to the scientific trench - the one opposite the drill tent).

After another unsuccessful run without penetration, we tried mounting a slightly more aggressive drill head. Unfortunately, here again we failed to drill. At surface, we found a few chunks of ice in the drill, suggesting that there were others at the bottom of the hole, which would have been the source of our penetration problems. So, we decided to set up "Arnold" to clean the bottom of the hole. Unfortunately, while running this cleaning run, we break the three small plastic pieces at the bottom of the spiral on the core barrel. We prepared everything tonight in order to fish these pieces tomorrow morning.

What we did today at LDC:

- We set up "Arnold" and tried to clean the bottom of the borehole;
- We are machining a piece which will allow us to attached the Danish drill motor section to the AWI drill;
- We set up the weather station;
- We continued processing the last year`s core and finished another 21 m in shifts;





Figure 1: Philippe setting up the conical head "Arnold": photo : O. Alemany



Figure 2: Arnold attached on the drill: photo O. Alemany

End of day statistics at 19h

Driller's depth: 806.5 m

Logger's depth: 809.99 m

Current processing depth: 769 m, daily total: 21 m, season total: 161 m.

OA, MH, JW, and SP, 10.12.2023

