

Little Dome C

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

Situation Report #31, 17th December 2025

Personnel @LDC:

Gianluca Bianchi Fasani (ENEA, Camp Leader), Katrin Ederer (AWI), Matthias Hüther (AWI, Chief Driller), Iben Koldtoft (UCPH), Marion Lahuec (IPEV), Gunther Lawer (AWI), Johannes Lemburg (AWI), Barbara Seth (UNIBE, PI in the field), Philippe Possenti (CNRS), Mohammad Vafadarmianvelayat (AWI), Sergio Zannini (ENEA)

Personnel @CHC:

Carlo Barbante (UNIVE, CNR-ISP), Henrique Träger (UNIBE), Chiara Venier (CNR-ISP)

Weather at LDC: overcast, quite windy and cold

Meteo at DC 6:20 pm: T = -26.7 °C, Wind speed = 17.5 kt, Windchill T = -42°C, Humidity = 72%



Diamond dust was in the air today and we had a beautiful halo.

After Sergio and Gianluca brought a new tank of fuel from Concordia yesterday, Sergio filled the tanks of our sleeping tents today to feed our ovens and to keep our tents warm and cosy. This is one of the many, rarely mentioned tasks, that Sergio and Gianluca are carrying out routinely to keep the LDC camp running.

Last night we attempted to drill into the ledge using the deviation tool. We were able to penetrate into the ledge with a little higher current as idle, suggesting that we actually were cutting ice with the bottom of the cutters for few cm until the current and the load started to decrease. Our interpretation is that a piece of ice was standing inside the drill head blocking further penetration. We expected to see this kind of pattern much earlier and took this as a good sign for further progress.

In the morning, we tried to access this special ledge again using the 2.5 m ice drill setup with a normal drill head (stepped cutters), but we were not able to enter nor to stay on the ledge. Hence, we assume that our created deviation is too steep to follow it by gravitation alone (without the support of the spring of the deviation tool) or that the deviation is slightly misaligned. Therefore, we went back to the deviation tool to improve the geometry of the curve in the hole over the full deviation length to create more space for the drill.

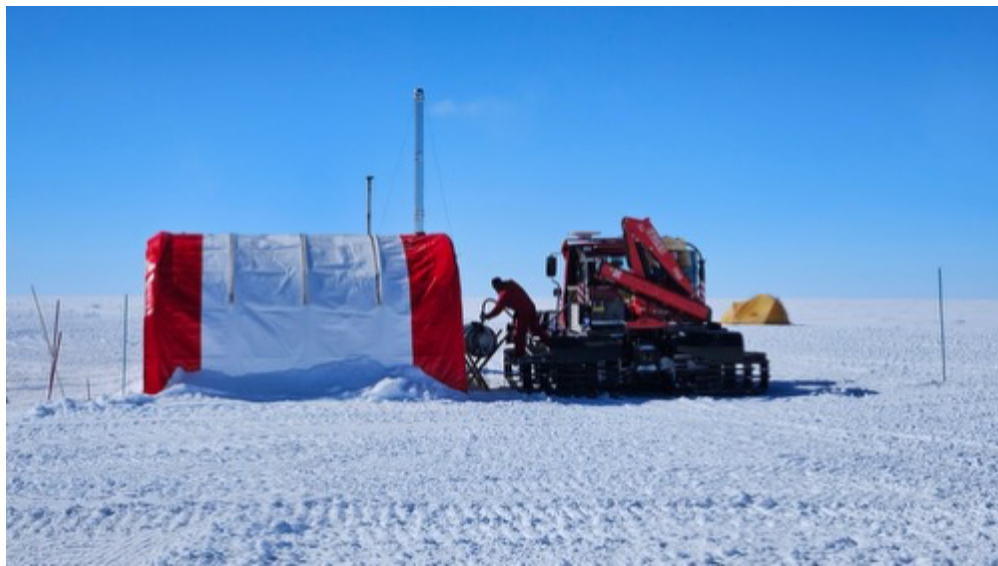
Meanwhile our drilling team started discussing core catching options for catching half moon shaped ice cores from the upper meters of the deviation hole. In addition, Lemmi is working on an optional drill head based on chainsaw-chains. So, we still come up with crazy ideas to keep our spirit high.

For dinner we had a warming soup, some left-overs and some PIZZA !!! Katrin's experiment was successful! And Marion seems to be in a cookies-baking mood these days; we don't want to stop her...





A beautiful halo above the LDC camp. Photo by B. Seth.

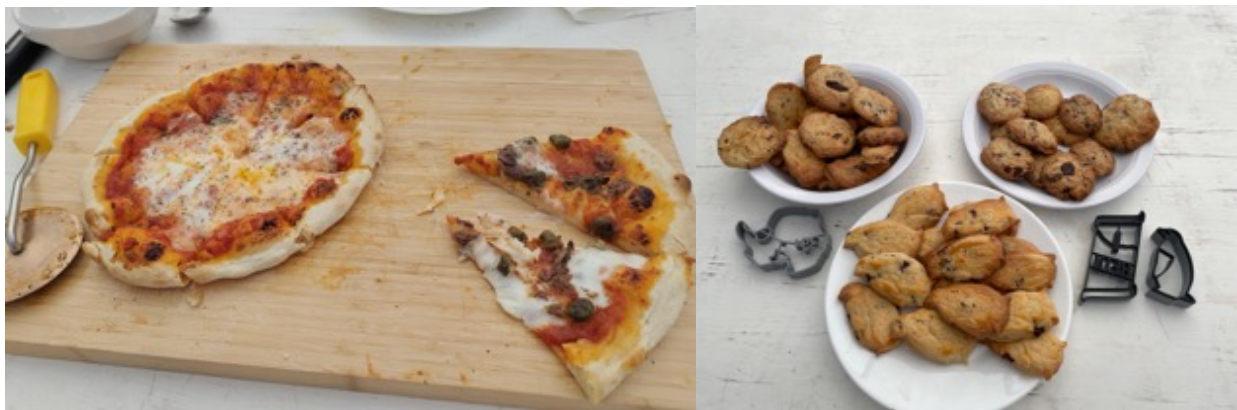


Sergio filling the tank of our sleeping tents. Photo by M. Lahuec.





The normal ice drill head with stepped cutters resting on the logging table. Photo by B. Seth.



Katrin's successful Pizza experiment and Marion's choc-penguin cookies. Photos by K. Ederer and B. Seth.

CB, GBF, BS & MH; LDC, 17.12.2025

