Little Dome C

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

Situation Report #58, 13th January 2026

Personnel @LDC:
Gianluca Bianchi Fasani (ENEA, Camp Leader), Katrin Ederer (AWI), Matthias Hüther (AWI, Chief Driller), Iben Koldtoft (UCPH), Gunther Lawer (AWI), Johannes Lemburg (AWI), Barbara Seth (UNIBE, PI in the field), Henrique Traeger (UNIBE), Mohammad Vafadarmianvelayat (AWI), Sergio Zannini (ENEA)

Personnel @DC:
Marion Lahuec (IPEV), Philippe Possenti (CNRS)

Weather at LDC: sunny, less windy, cold
Meteo at DC 6:20 pm: T = −29.9 °C, Wind speed = 3.0 kt, Windchill T = -36 °C, Humidity = 67 %

Yesterday's report was just finished and sent off, when we finally managed to drill into the laboriously produced ledge with the drill head on the deviation tool. Since for technical reasons this head has only room for a few centimetres of ice inside, we came up to the surface at around 10 pm and switched to the 'normal' 2.5 m ice core drill setup still with the heavy dead weight in the upper part of the core barrel. The dead weight will still help us to use gravity for drilling – as it has obviously helped us to orientate the spring of the deviation tool to the up-side of the bore hole wall, and, hence, to produce the ledge on the down-side. The tiny core was able to guide the drill without core-catchers into the wall and we penetrated approximately 1.3 m.

Our limping tower gave us another surprise in the morning. One of the actuators had another broken pin, which we are currently unable to remove. However, the following catching run was an absolute success, and we retrieved our first core of the season, which is also the start of our deviation hole. The following drill run was surprisingly easy, and we could continue the drilling with the same setup as in the evening.

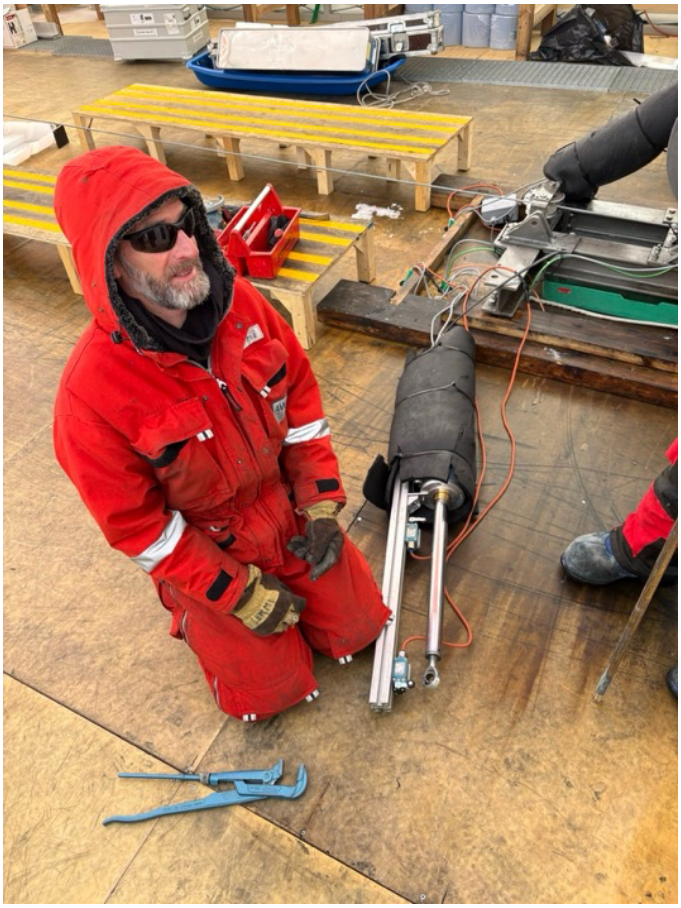
In the third run of the day, we attempted to continue drilling the standing core with core-catcher mounted head and a removed dead weight. This run brought two cores to the surface with lower half moon shaped core covering over half of the area. We hope we can continue the drilling in the next run even if the last break was at the bottom leaving no guiding core.

This sudden success is a welcome change, mixing up our plans for the coming days. However, we had to rush a 'primitive' logging setup as we already disassembled and packed away the logging table and the Swiss circular saw.

Late morning, Riccardo, Marion and Juliette (Jolivet) from Concordia arrived with the BEOI Arctic truck. Before lunch, Riccardo, Gianluca and Philippe went back to Concordia, where Philippe will stay for the rest of the season to pack the shallow drill he used earlier in the season in Concordia. Additionally, he will help to organise the arrival of our cargo. Over the day, Marion and Juliette sorted and packed the medical equipment and took most of it back to Concordia, leaving us with a first aid kit for the last week. Gianluca was brought back to LDC late afternoon, and the Arctic truck took Marion and Juliette back to Concordia.

During the day, there were more and more readily packed boxes loaded onto the Sfusi sledge, which will be transported to Concordia within the next days.

Since both our chefs were in Concordia today, Sergio with the help of Katrin prepared our lunch, and it was delicious pasta all'Amatriciana and all'pomodoro, and fruit salade for dessert. As we had drilled our first ice core and managed to deviate from the old bore hole into a second one, we opened our last bottle of sparkling wine to celebrate this remarkable moment !!!



Broken pin again. Photo by I. Koldtoft

The first half-moon shaped ice core of the deviated bore hole. Photo by B. Seth

Logging and cutting the core without Swiss circular saw and proper logging table. Photos by B. Seth

Gianluca and Sergio loading boxes on the Sfusi sledge. Photo by I. Koldtoft

Happy field team with the first ice core of the season. Photo by J. Jolivet

End of day statistics at 7pm:

- We did 3 runs between 7pm yesterday and 7pm today. We got 3 cores up to the surface: 1.34 m, 1.27 m, 0.88 m (driller length, last run #3), for a total of 3.49 m;
- Driller's end depth: 2045.81 m;
- Logger's end depth: 3.53 m;
- Half-moon core thickness: first core top 14 mm, last core bottom 47.6 mm
- Scraping: 3 samples (à 1 m = scrap A) for water isotopes (bags #2801-R, #2802-R, #2803-R);