

## Little Dome C

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

### Situation Report #45, 31<sup>st</sup> 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), Philippe Possenti (CNRS), Barbara Seth (UNIBE, PI in the field), Henrique Traeger (UNIBE), Mohammad Vafadarmianvelayat (AWI), Sergio Zannini (ENEA)

#### Personnel @DC:

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**Weather at LDC:** cloudy and snowy, windy, cold

**Meteo at DC 23:30 pm:** T = -23.0 °C, Wind speed = 18.2 kt, Windchill T = -37 °C, Humidity = 80%



Yesterday evening, we could register some success of the long milling process at the new deviation area between 2030 and 2040 m depth: we could rest the whole weight of the drill on a ledge. However, this time we want to make sure that the ledge is deep enough to also hold the drill when turning the motor. Hence, we will keep milling and, within the next days, try out a newly designed drill head with core catchers at the side for more sideward milling.

This morning, we carried out a test run with a modification on the broaching tool as described some days ago (see SitReps #40, 26<sup>th</sup> Dec.). We tested if the assembled skids on the tool would prevent the whole system from rotating while broaching up for 10-20 m (at around 2200 m depth). Our last attempt (when we broached at the deviation area at around 2320 to 2350 m) resulted in a rotation of 110° over 20 m. Today, we still observed rotation in the same direction but, with 12° to 16° over 10 m broaching length, it was much smaller. That is good news and might be of use for our Danish colleagues for their deviation attempt at GRIP in the upcoming season 2026.

After lunch, we switched back to the 2.5 m ice drill system including the heavy dead weight inside the core barrel to keep milling. Additionally, we started filling the bore hole with more drill liquid. The aim is to leave the hole at the end of the season at a higher fluid level (= higher pressure) for future access.

For New Year's Eve we were invited to Concordia Station. However, in the morning we got the message from Concordia that they had a black out... We were wondering if the dinner and the party would take place. It took a while until we figured out that it was a funny misunderstanding and that Concordia was talking about a white out. As weather improved, we started with the Pistenbullies in the afternoon heading for Concordia. We pulled an empty fuel tank and a sledge full of retro material out of Little Dome C.

We wish everybody a good start into 2026 !!!





Mounting the modified broaching tool. Photos by I. Koldtoft



We had to cover the antitorque and motor section from snow. Photo by B. Seth

CB, GBF, BS & MH; LDC, 31.12.2025

