

Little Dome C

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

Situation Report #24; Monday 26 December 2022

Personnel @LDC:

Saverio Panichi (ENEA, Camp Leader), Frank Wilhelms (AWI, Chief Driller), Robert Mulvaney (BAS, Chief Scientist), Giuditta Celli (ENEA), Romily Harris Stuart (LSCE), Matthias Hüther (AWI), Gunther Lawer (AWI), Johannes Lemburg (AWI), Martin Leonhardt (AWI), Michele Scalet (ENEA), Julian Westhoff (NBI), Andrea de Vito (ENEA)

Personnel @DC: Markus Grimmer (UNIBE), Florian Krauss (UNIBE)

Weather at LDC 5 pm: cloudy, slight snowfall, 3-4 knots, 643 hPa

Meteo at DC 5 pm: T = -32°C, Wind = NW, 5 knots, Wind Chill T = -42°C



Waving goodbye, new barrels, and snowfall

Today we had to wave goodbye to our colleagues from Bern (Florian and Markus) who had been staying with us for Christmas and who must now return to Concordia Station to continue work on the cores that we drill and deliver to them. The Arctic Truck with Vito and Franco arrived soon after breakfast, and after watching a run of the drill, returned to Concordia with Markus and Florian.



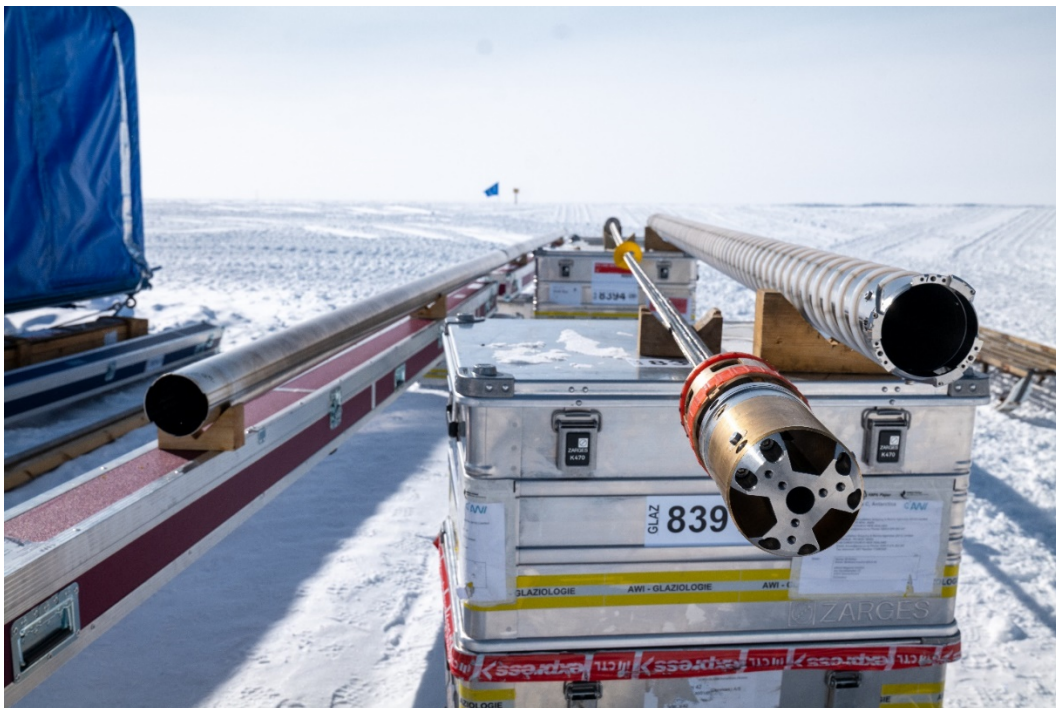
We wave goodbye to Markus (left) and Florian (right) as they head back to Concordia after spending the holiday season with us. Vito looks on in the background. (Photo: Mulvaney, Leica SL2-S, 45mm, 1/500, f8, ISO100)





The Arctic Truck departing the drilling camp, passing our welcome flag and sign, on a cloudy, low-contrast morning. (Photo: Mulvaney, Leica SL2-S, 90mm, 1/600, f8, ISO100)

Drilling began at 0800 – the Christmas holiday is over now. After the first two shifts of the day, it was time to change to the new AWI long barrels, which once tuned and running well have the potential to drill 4 m long ice cores, which would be the longest cores yet drilled by European teams.



The 4-meter core barrel system laid out ready to set up on the drill tower. On the left is the outer barrel, while in the middle is the hollow shaft with the connector and bellows pump towards the camera; mid-way along the hollow shaft there is a short booster pump (the yellow screw half-way up the hollow shaft) to keep the chips moving up the chip chamber. On the right is the core barrel. (Photo: Mulvaney, Leica SL2, 12mm, 1/2500, f2.8, ISO100)



As with all major changes like this, it will take a few runs to get used to the new configuration, and to how hard we can press the drill motor to overcome the greater friction of the longer barrels.

Today was also a day of cloud and very light snowfall – we had a sprinkling of snow inside the drill tent which had fallen through the opening in the roof (for the drill tower). Ice crystals in the atmosphere gave us a nice halo around the sun.



Photographing the halo around the sun. (Photo: Westhoff, GoPro Hero10, 3mm, 1/5400, f2.5, ISO100)

End of day statistics:

Individual runs of the drill were recorded as: 2.39, 2.68, 2.87, 2.95, 3.30, 2.70 /change barrels/ 2.16, 3.52, 2.90 m

Drillers' depth: 354.98 m; daily total 25.56 m

Loggers' depth: 359.82 m; daily total 25.42 m

Processors' depth: 128.0 m; daily total 0.0 m

RM and FW, 28.12.2022

