

Little Dome C

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

Situation Report #30; Sunday 01 January 2023

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), Julien Westhoff (NBI), Andrea de Vito (ENEA)

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

Weather at LDC 5 pm: sunny, 3-5 knots, 642 hPa

Meteo at DC 5 pm: T = -33°C, Wind = W, 5 knots, Wind Chill T = -43°C

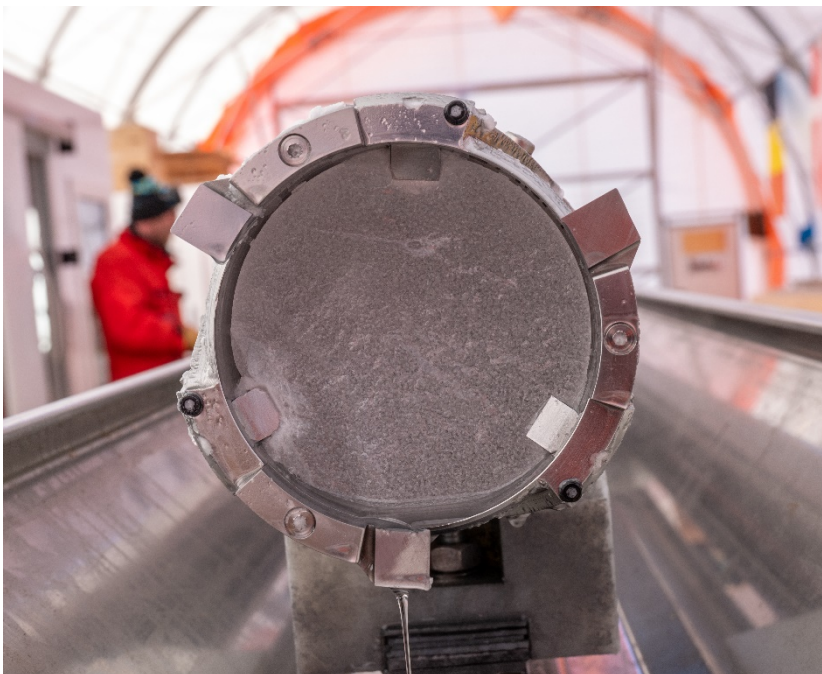


Happy New Year to you all!

A slow start for most of us today after the evening's celebration of the New Year.

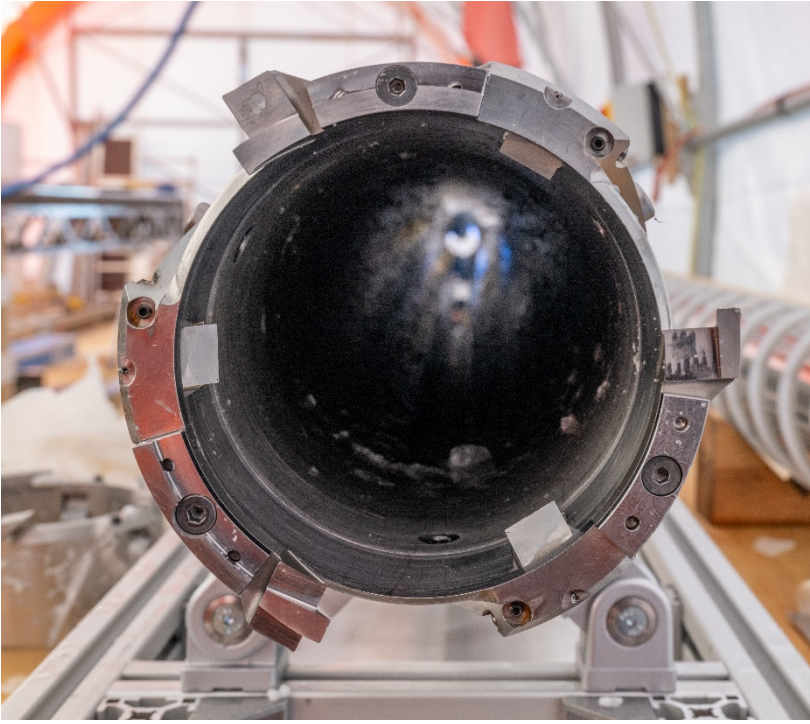
Those that made the journey over to Concordia for the festivities travelled back to Little Dome C in the afternoon.

The gallant few that had stayed behind at Little Dome C carefully tuned the drill anti-torque skates and the drill head and cutters, and finally we have begun to make progress again with some good length cores today.



The drill head with flat cutters. The three outer cutters are razor sharp knives that cut an annulus in the ice, with the ice core sliding up the inside of the inner barrel, and the ice chips and drilling fluid slurry passes up spirals on the outside of the core barrel. The core catchers inside the drill head break off the core and hold it in the barrel when the drill is brought back to the surface.
(Photo: Mulvaney. Leica SL2, 35mm, 1/60, f9, ISO320)





The drill head with staggered cutters. Each cutter is designed to cut only one third of the kerf of the normal flat cutters. We find this drill head more aggressive with its cutting action and, so far, has proved the more reliable for drilling. (Photo: Mulvaney, Leica SL2, 35mm, 1/60, F11, ISO500)





Gunther carefully sharpens the cutters for the drill head using a series of coarse to fine carborundum stones. (Photo: Mulvaney, Leica SL2, 25mm, 1/50, F8, ISO500)

End of day statistics:

Individual runs of the drill were recorded as: 2.64, 2.96, 3.25, 0.28, 3.02 m

Drillers' depth: 404.10 m; daily total 12.17 m

Loggers' depth: 408.78 m; daily total 12.41 m

RM and FW, 03 Jan 2023

