

Little Dome C

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

Situation Report #21, 22. December 2021

Personnel @LDC:

Saverio Panichi (ENEA, Camp Leader), Carlo Barbante (ISP-CNR, PI), Olivier Alemany (IGE), Giacomo Bonanno (ENEA), Matthias Hüther (AWI), Calogero Monaco (ENEA), Philippe Possenti (IGE), Michele Scalet (ENEA), Jakob Schwander (unibe), Thomas Stocker (unibe), Remo Walther (unibe)

Personnel @DC:

Gregory Teste (IGE), Romain Duphil (IGE)

Weather at LDC: morning: covered, visibility reduced, snow drift, afternoon: sunny, few clouds

Meteo at DC 6 pm: T = -28°C, Wind = 15 knt, Wind Chill T = -34°C



It seems that we can celebrate every evening an important event: Today the first 26 meters of the BEOIC casing have been lowered into the hole. This operation required several practice runs until the procedure was approved safe and efficient by everyone. Putting in the casing tubes requires all hands: Philippe, Olivier, Carlo, Calogero, Michele. During the connection of the tubes, Philippe and Olivier were working at the bottom of the trench in the narrow and most extreme environments at about -55°C (no wind).

BEOIC drilling depth at the end of the day: 130.0 m



In the preparation of the casing operation at the BEOIC drilling trench.

Photo: C. Barbante (Leica SL2-S, 30 mm, f7.1, 1/125, ISO 200)





Olivier working in the most extreme working conditions available at Little Dome C.
Photo: T. Stocker (Leica SL2, 26 mm, f3.7, 1/1000, ISO 100).

Also at RADIX this 22nd of December was memorable. After two days of preparation and thorough testing, we have lowered the RADIX drill into the casing and started with the serious ice drilling. Careful monitoring of the hydraulic pressure, the delivery of the drilling fluid and the progress of the drill was required in this critical phase. The first 8 meters in the ice were successfully drilled by the end of the day. A very regular delivery of ice chips was brought to the surface where the drilling liquid separation system was put into operation for the first time. With a multi-stage filtering, and a dedicated barrel to melt the ice flurries and let the water separate from the silicone oil, we are able to achieve very high recycling rates.

Radix drilling depth: 115.6 m

TS & CB, 22.12.2021

