

Little Dome C

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

Situation Report #13, 29th November 2025

Personnel @LDC:

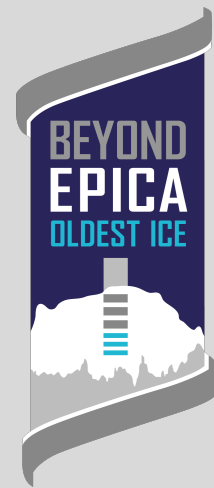
Carlo Barbante (UNIVE, CNR-ISP, PI in the field), Gianluca Bianchi Fasani (ENEA, Camp Leader), Katrin Ederer (AWI), Matthias Hüther (AWI, Chief Driller), Marion Lahuec (IPEV), Gunther Lawer (AWI), Johannes Lemburg (AWI), Barbara Seth (UNIBE), Mohammad Vafadarmianvelayat (AWI), Chiara Venier (CNR-ISP), Sergio Zannini (ENEA)

Personnel @DC:

Philippe Possenti (CNRS)

Weather at LDC: sunny and cold

Meteo at DC 09 pm: T = -35.2 °C, Wind speed = 5.3 kt, Windchill T = -45°C, Humidity = 66 %



The atmosphere here at Little Dome C is buzzing! We've successfully wrapped up another highly productive week in the relentless pursuit of ancient ice, culminating in a slightly earlier finish today, Saturday, in anticipation of our well-deserved weekend tradition: Pizza and Movie Night!

Our drilling team continues to display amazing skills, focusing heavily on **instrumentation improvements** for the deep ice drilling system. This isn't just routine maintenance; it's a dynamic phase of rigorous **testing** and experimentation with various new **drilling configurations**. We are constantly tweaking, optimizing, and fine-tuning the components to ensure maximum efficiency and reliability as we hope for the next phase of rock retrieval.

Despite the ongoing configuration tests, we've achieved a significant scientific milestone this week: the successful extraction of basal material!

This material isn't the clear, layered ice we find higher up the core. Instead, it consists primarily of recompacted ice, which is ice that has been subjected to incredible pressure at the very bottom of the ice sheet, effectively crushing its original structure. Mixed within this basal ice, we found some very fine intrusions and even a few minute rock particles.

This tiny rock dust offers a tantalizing glimpse into the geological history beneath the ice, providing crucial clues about the composition of the bedrock that the Antarctic ice sheet has rested upon for millions of years. It represents the interface between Earth's frozen layer and the solid landmass below, a primary target of the Beyond EPICA project!

In parallel with our drilling efforts, the Core Processing Line is undergoing continuous implementation. Setting up a controlled environment to handle, analyze, and store these invaluable ice cores is a massive logistical and technical undertaking, and the team is making excellent progress.

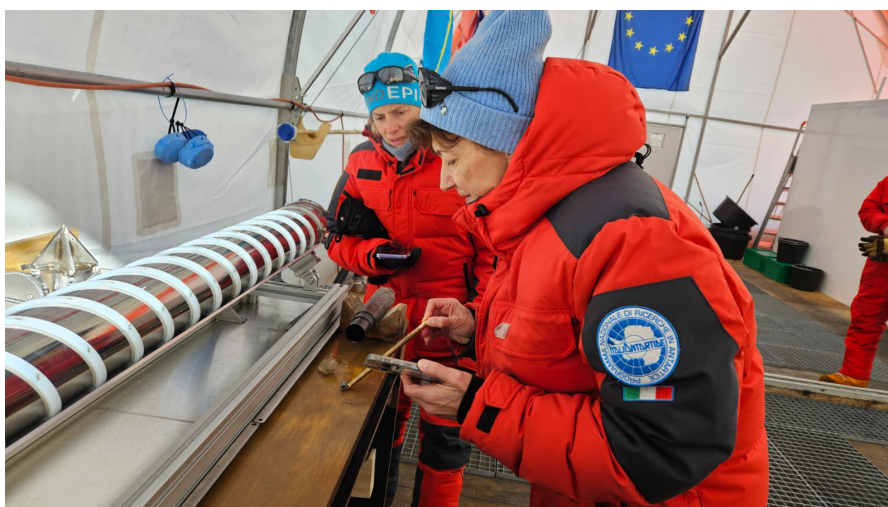
Today, as Saturday dawned on the plateau, the workday concluded a little ahead of schedule. There's a palpable sense of community and excitement as we transition from intense scientific work to weekend relaxation. Tonight's highly anticipated social event is, of course, the traditional Saturday night pizza and film screening. We fired up the projector tonight for a Danish treat: the movie "Old Man New Cars." It's the



perfect way for the international team to unwind, share a laugh, and recharge for the challenges of the week ahead.



A little tiny pebble (5x3 mm) extracted from the rock drill head. Some little inclusions are visible. Photo macro, C. Barbante



Chiara and Barbara examining the “catch of the day”; BTW, the bolt is not included. Photo M. Lahuec





Barbara, Chiara and Gianluca surveying the Saturday night pizza preparation. Photo M. Lahuec

CB, GBF, BS & MH; LDC, 29.11.2025

