

Little Dome C

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

Situation Report #18, 4th December 2025

Personnel @LDC:

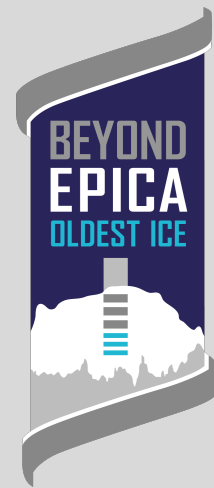
Carlo Barbante (UNIVE, CNR-ISP, PI in the field), Gianluca Bianchi Fasani (ENEA, Camp Leader), Katrin Ederer (AWI), Matthias Hüther (AWI, Chief Driller), Marion Lahuec (IPEV), Gunther Lawer (AWI), Johannes Lemburg (AWI), Barbara Seth (UNIBE), Philippe Possenti (CNRS), Chiara Venier (CNR-ISP), Sergio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

Personnel @DC:

NN

Weather at LDC: sunny and cold

Meteo at DC 09 pm: T = -29,3 °C, Wind speed = 3.4 kt, Windchill T = -36°C, Humidity = 69 %



It's another day at Little Dome C, and while the spirit is high, we remain squarely in the trenches of problem-solving.

Today's main event, as ever, revolved around the stubborn boundary between the ice and the underlying bedrock. We're fighting a tough battle against the ice-rock interface, which is proving highly resistant to penetration. The drilling tower is performing its duty admirably, even if the conditions are less than ideal. It's a solid workhorse doing exactly what we need it to do.

On the drilling front, we pulled out all the stops, deploying four different strategies today, including a filtering technique, in a bid to crack the interface. We only managed to score a partial victory in two of those attempts, bringing up small sections of ice and, crucially, a few very tiny rock particles. Every single particle is a trophy in this deep-field ice quest!

Tomorrow will be a critical day. We face a pivotal decision: do we press on with more attempts to penetrate the ice-rock interface using our current configuration, or do we set up the ice core drilling to start the deviation of the borehole.

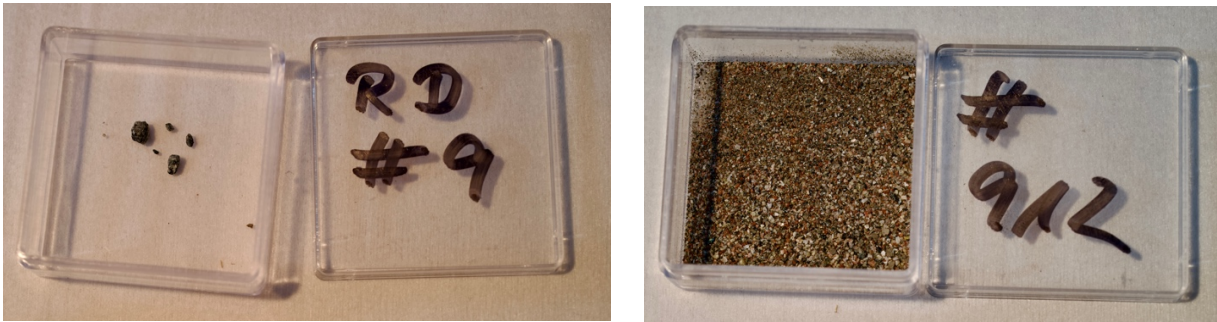
It wasn't just the borehole giving us trouble. A small logistical gremlin crept into the field camp: the boiler burner in the bathroom module decided to stop, forcing us to juggle resources to keep things running smoothly. The problem is not totally solved, yet

We were delighted to host visitors from Concordia Station: Riccardo Scipinotti (Expedition Leader at Concordia), Marco Potenza (astronomer), and Gaetano Macri (videomaker from the CNR). Gaetano made the most of his visit, capturing essential scenes of field life and conducting interviews, documenting the challenging reality of deep Antarctic science for those following the project back home.

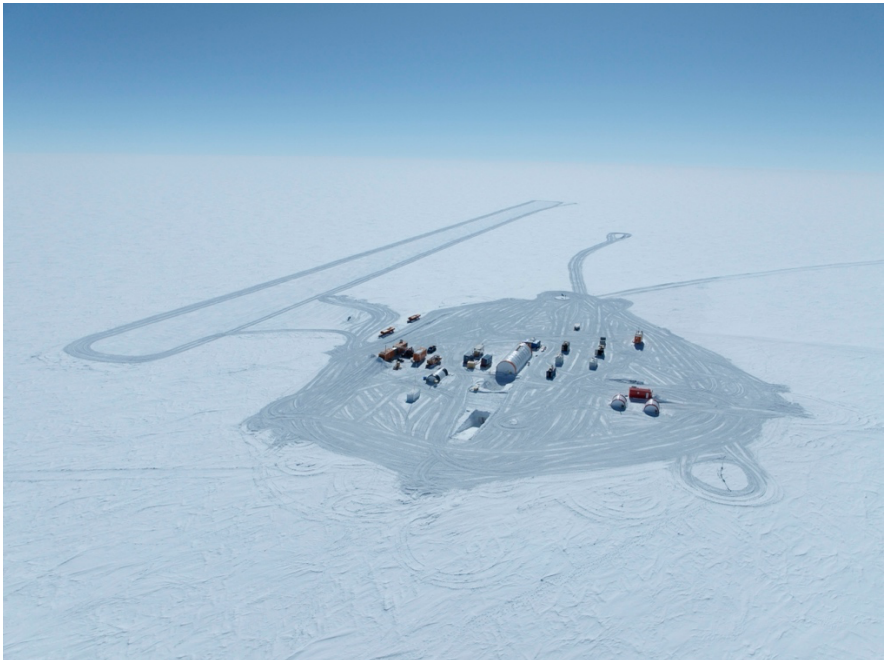
In the afternoon, the Arctic Truck made its return journey to Concordia, taking Carlo with them for a couple of necessary meetings. The day concluded with the truck's return, bringing Carlo back, along with the much-anticipated arrival of Mohammad! After a brief but intense struggle with back



pain over the past few days, Mohammad is back in splendid form, bringing our full field camp complement up to 12 people. The team is complete and ready to tackle whatever tomorrow brings!



Little tiny pebbles stuck on the drill head (left). Sandy material collected from chips chamber on rock drilling run #9 (right). Photo B. Seth



Aerial view of the LDC Camp. Photo, R. Scipinotti

CB, GBF, BS & MH; LDC, 04.12.2025

