

Little Dome C

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

Situation Report #43, 13. January 2022

Personnel @LDC:

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Weather at LDC: sunny, wind, afternoon covered, quite cold

Meteo at DC 8 pm: T = -30°C, Wind = 3 knt, Wind Chill T = -36°C



After final tests in the drilling tent we have now closed the roof opening and made it fit for overwintering. Preparing retro cargo continues and a first transport back to Dome C will be organized tomorrow.



Roof opening of the BEOIC drilling tent now closed for winterover. Photo: C. Barbante (Leica SL2, 26 mm, f 10, 1/640 s, ISO-50).



This morning we witnessed a rare sight: the calm conditions and clear morning sky created a double mirage which permitted us to view Dome Concordia clearly. Dome C, at 34 km distance, is below the horizon. Through the special atmospheric condition, two images of Dome C were visible clearly, one upside down and one upright.



Rare sighting of a double mirage with the skyline of Dome C with the two towers and a row of tents, 34 km away.
Photo: C. Barbante (Leica SL2, 280 mm, f 20, 1/320 s, ISO-200).

At RADIX, we have for the first time achieved deviation drilling. This was necessary because at a depth of 270 m the hole has a curvature that in subsequent runs inhibits penetration with the drill at normal length. We have then carefully reamed a stretch a few meters above this position and succeeded in drilling a new hole of about 2 m deviating from this location. This would have allowed to restart drilling. However, today we have been halted by a blocked motor. Blocking was caused by micrometer sized ice particles that are not captured by our filters, or that only form at the cold temperature of -55°C at depth. To top it off today, the drill decided to remain at 270 m depth. We have now applied a pull and are confident that the drill will soon give in and permit bringing it up to the surface.

RADIX drilling depth: 300.0 m

TS & CB, 13.1.2022

